

Current Status in the Consideration of the Integration of the Terrestrial, Maritime, Built, and Cadastral Domains

Why, What, Who and How?

Led by Expert Group on Land Administration and Management

Supported by Working Group on Marine Geospatial Information, Working Group on Policy and Legal Framework, and UN-Global Geodetic Centre of Excellence

6 August 2024



UN-GGIM

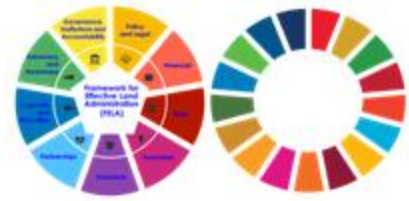
United Nations Committee of Experts on
Global Geospatial Information Management

EXPERT GROUP ON
LAND ADMINISTRATION AND MANAGEMENT

Positioning geospatial information to address global challenges

ggim.un.org

Thirteenth Session - Decision 13/109 and 13/111



Decision 13/109

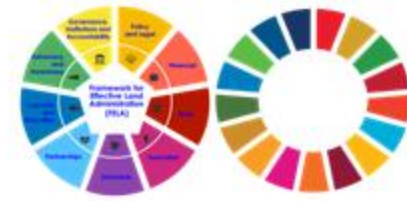
(e) Also noted the intended considerations on the **integration of terrestrial, maritime, built and cadastral domains**, and encouraged the expert group to collaborate with relevant international organizations as well as functional groups of the Committee of Experts, including the working group on marine geospatial information, and to include consideration for the land/sea interface and its technical complexities;

Decision 13/111

(e) Welcomed the updated workplan for the period 2023–2024, encouraged the working group to raise awareness and promote the implementation of the Operational Framework for Integrated Marine Geospatial Information Management at the country level and ensure that the Framework remains relevant through regular review and updates as necessary, and noted the action to work with the expert group on land administration and management and the Singapore-International Hydrographic Organization Innovation and Technology Laboratory **to advance the work of integrating activities related to the terrestrial and marine domains**;

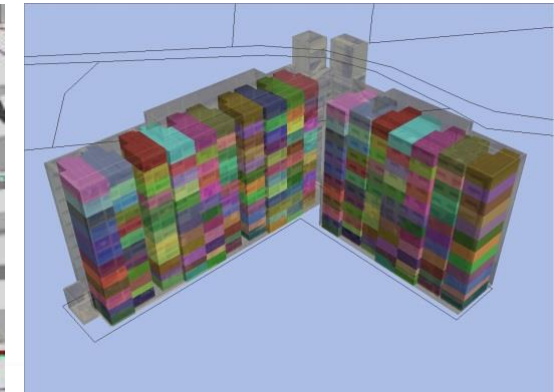
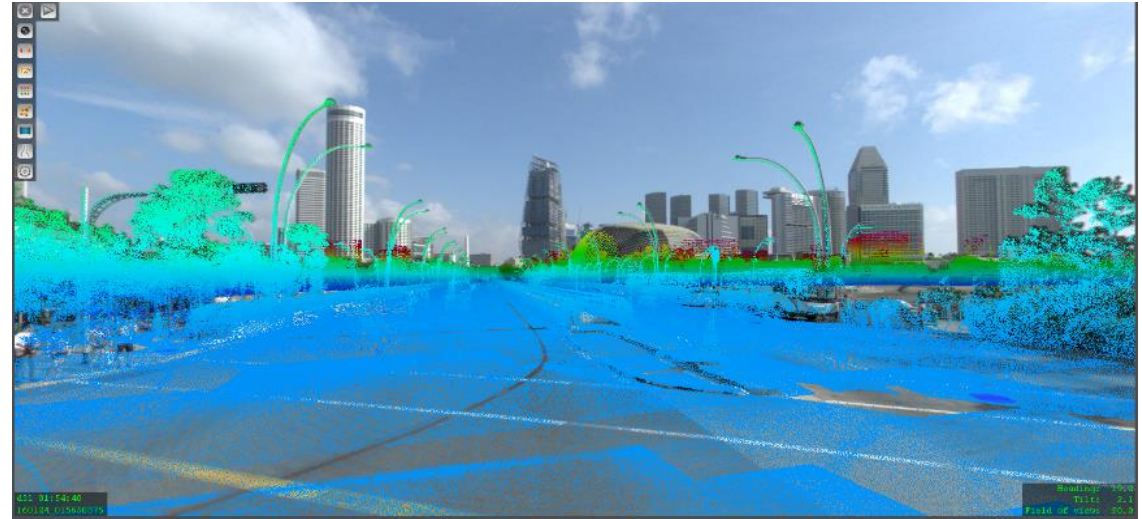
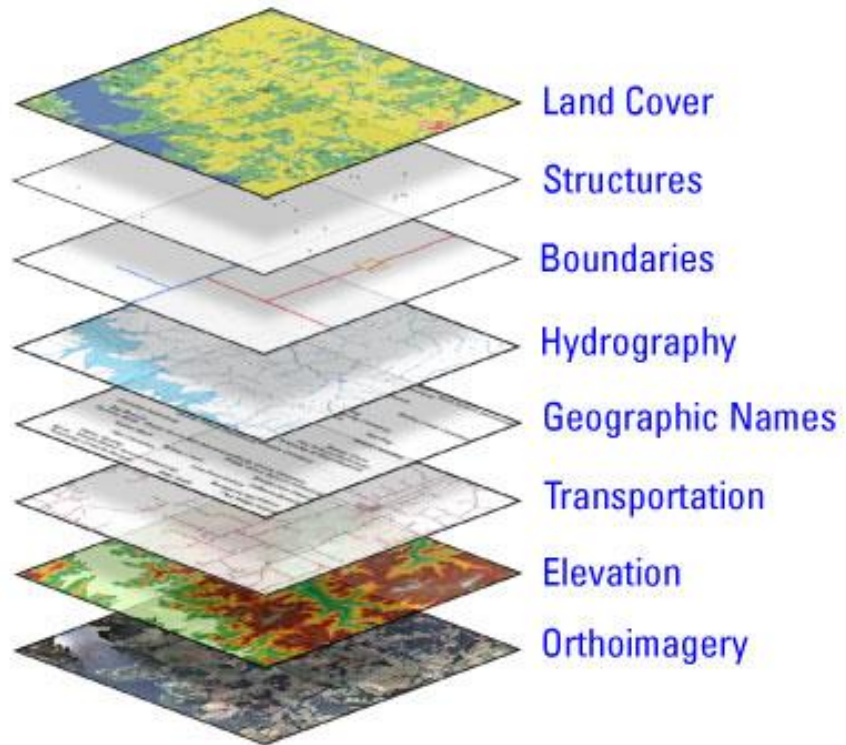


Geospatial Information Domain Integration



3D Datasets - Integrate

2D GIS - Overlay



Why Geospatial Domain Integration



Safe



Disaster Management & Climate Adaptation

Sustainable



Transition to Green Energy

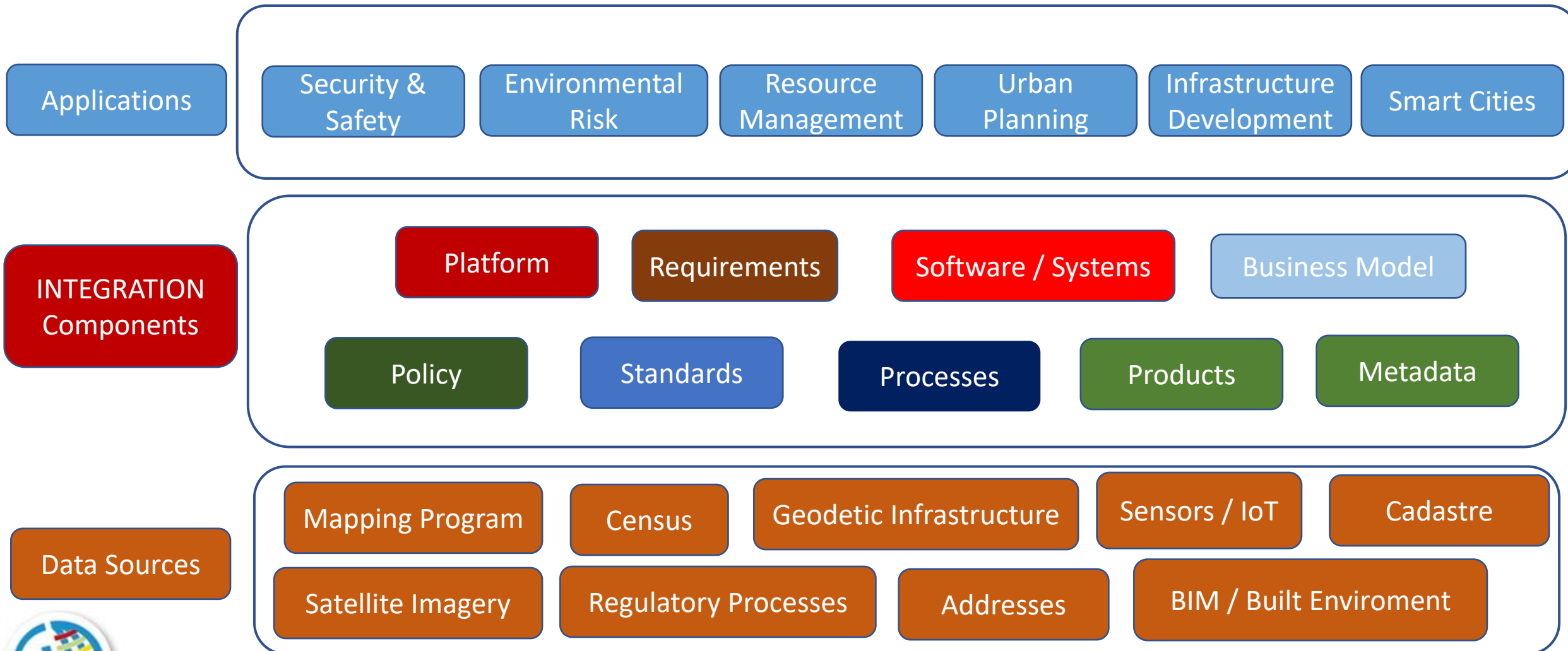
Smart



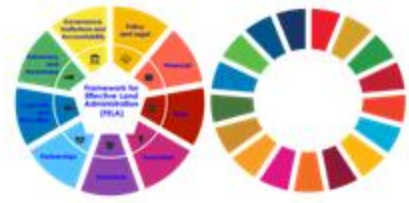
Development of Urban Digital Twin



What are the Components of “Integration”



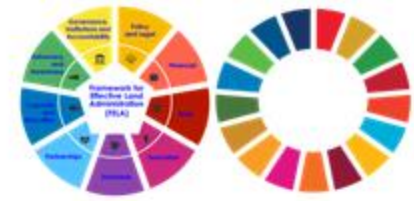
Ultimate Goals



- To identify innovative and insightful ways to address the integration of terrestrial, maritime, built and cadastral domains
- Leverage the UN-IGIF and encourage collaboration across domains and functional groups of UN-GGIM to address this integration issue, with an initial focus on the land-sea interface and its technical complexities
- Co-development of on a paper to address the integration of terrestrial, maritime, built and cadastral domains



Desire Outcomes



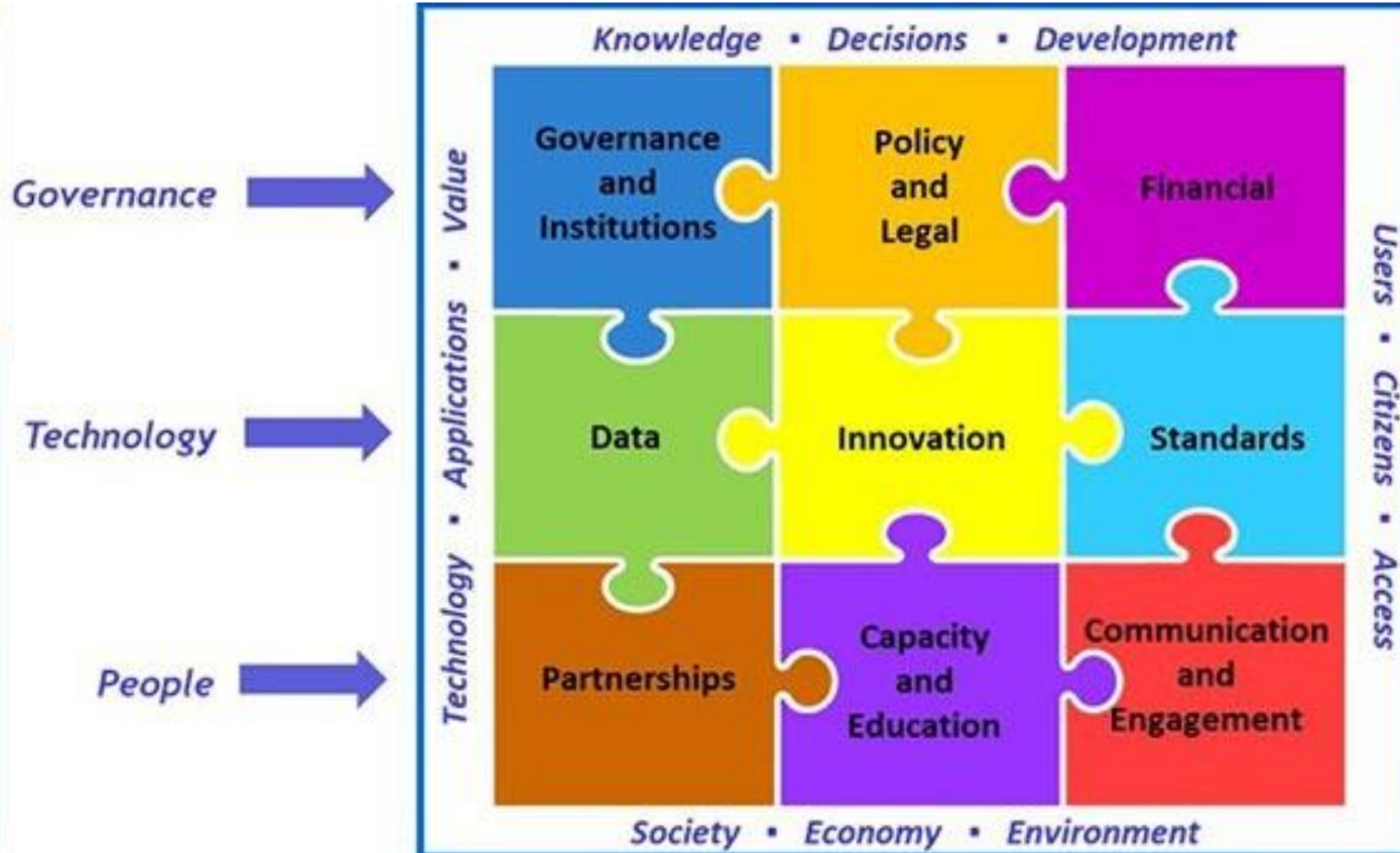
- For policymakers, to advocate the significance of geospatial information to address national priorities and global agendas.
 - To assist developing business cases from integrated geodetic system and long-term monitoring, to generate support and funding from governments.
- For technical experts,
 - To encourage the operationalization of the UN-IGIF including in national strategies and roadmaps.
 - To appreciate the ‘hard’ and ‘soft’ infrastructures required for the effective management of integrated geospatial information across domains.



Frame for the proposed paper: UN-IGIF and the Strategic Pathways



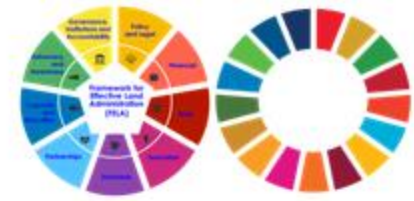
The Integrated Geospatial Information Framework provides a basis and guide for developing, integrating and strengthening geospatial information management.



Three influences and nine strategic pathways -

1. Address Challenges
2. Exchange success Stories
3. Propose Solutions

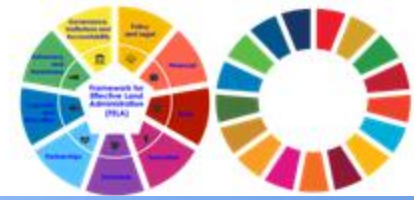
6th Expert Meeting of Working Group on Marine Geospatial Information (WG-MGI) and International Seminar, Bali, Indonesia, 4 – 8 March 2024



- WG-MGI acknowledged the leadership of the Expert Group on the integration of terrestrial, maritime, built and cadastral domains and together, leverage focus group modality and involve other functional groups and stakeholders (e.g. WG-Policy and Legal Frameworks, UN-GGCE, Singapore-IHO Lab)
- **Initial focus will be on the land-sea interface and the technical complexities related to vertical reference (height datum)**
- To support a side event at the Fourteenth Annual Session on the integration of terrestrial, maritime, built and cadastral domains jointly with other functional groups

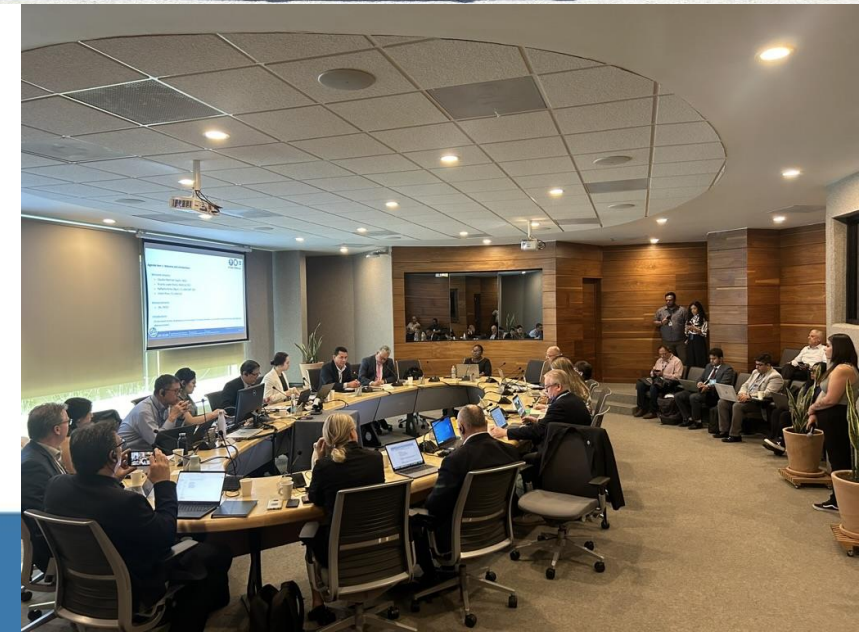


5th Expert Meeting and International Seminar on Effective Land Administration, Aguascalientes, Mexico, 8 – 11 April 2024

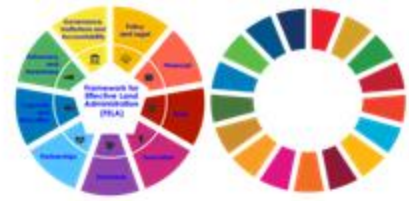


Considerations to develop the paper

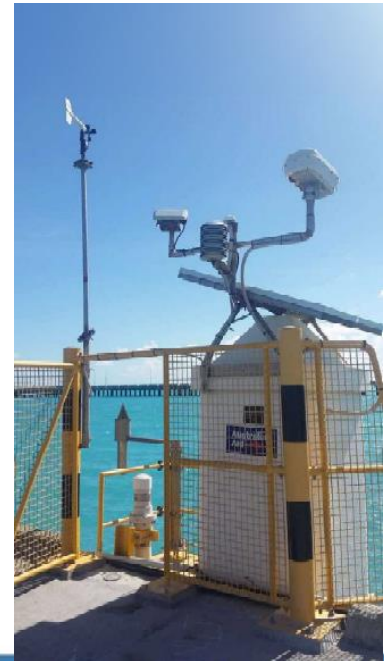
- **A strategy to prioritize the pathways.** The strategy will allow member states to implement certain pathway(s) with limited resources and funding at hand. The strategy should be “live” and aligned with the current situations and national circumstances of the member states.
- **“Why Now” mentality.** Not only looking at the “what” and the “how”, but also the “why now” to convince the decision makers to fund/support the initiatives now.
- **Compliant level of the pathways.** The member states need a “score sheet” to understand how much they have achieved/need to achieve for a particular pathway.
- **The effect of integration to public citizens.** Not only the technical aspect of the integration, the paper should also consider the effect to the economic or touristic activities at the coastlines.



Focus Group Discussion for Pacific region, Virtual, 2 July 2024



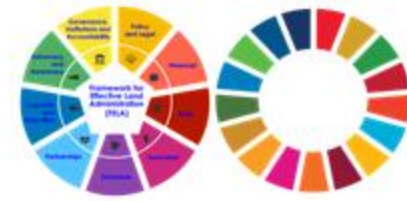
- Led by EG-LAM and supported by WG-MGI and UN-GGCE, the meeting was attended by 22 participants, from Australia, Fiji, New Zealand, Singapore, Tonga, Cook Island and Pacific Community.
- SPC shared the current situation in the Pacific region and raised challenges in having a unified datum and connecting land to sea and emphasized the importance of the regional initiative;
- Tonga detailed the current status and future plans for Tonga's geodetic stations, focusing on expanding the network to more vulnerable islands, and discussed challenges such as internet connectivity issues and the need for better local data analysis capabilities.
- Australia discussed the Australian Geospatial Reference System modernization, and explained the Australian Vertical Working Surface (AVWS) as an improvement over the Australian Height Datum (AHD)
- Participants agreed to collaborate further with regional and international partners for capacity development and resource sharing



Positioning geospatial information to address global challenges



Land-Sea Integration -Steps Forward



September 2023 – August 2024

- We had collaborated with Functional Groups and Thematic Networks to conduct discussions with stakeholders
- Conceptualize and outline the paper, engage subject matter experts
- Organised stakeholders engagements at 6th Expert Meeting of WG-MGI and 5th meeting of the EG-LAM
- **Conduct the first Focus Group Discussions for Pacific Region in July 2024***

Moving Forward: September 2024 – August 2025:

- **Workshop in December 2024 in Indonesia (led by UN-GGCE, supported by EG-LAM, WG-MGI, IHO, etc.)***
- Conduct more Focus Group Discussion for other regions
- Further develop case-studies with subject matter experts and stakeholders
- Develop and prepare the proposed paper and subject to review by functional groups
- Jointly present the paper to address land-sea integration to the Fifteenth session of the Committee of Experts

*on-going



