

Expert Consultation and Meeting on Enhancing Geospatial Information Management Arrangements and Accelerating Implementation of the Sustainable Development Goals, and the Sub-regional Workshop on the United Nations Integrated Geospatial Information Framework (UN-IGIF) for Central America and neighbouring Latin American countries

Implementing geospatial strategies: challenges and opportunities

Panama City, Panama
1-5 December 2025



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Driving the Future of Geospatial Leadership

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Geospatial ideas benefiting our world

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VISION

Countries have **strengthened** national geospatial capacity, knowledge, and innovation to address and overcome systemic development priorities and to accelerate the achievement of the Sustainable Development Goals (SDGs).

1

MISSION

To develop, strengthen and promote the **required knowledge, innovation, and leadership** to ensure the sustained adoption of geospatial information capabilities and implementation of the UN-IGIF supports national development priorities and the SDGs; providing countries with the ability to integrate and deliver national geospatial information policy, systems and services into national government development policies, strategies, and arrangements.

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PRINCIPLES

Innovation

Digital
inclusivity

Equity

Accessibility

Stakeholder
engagement

3

PRIORITIES



Empowering
Member States



Implementing the
UN-IGIF



Promoting Knowledge
and Innovation

5

MAIN GOALS



Developing
leadership and
collaboration



Addressing national
priorities



Progressing
geospatial
knowledge

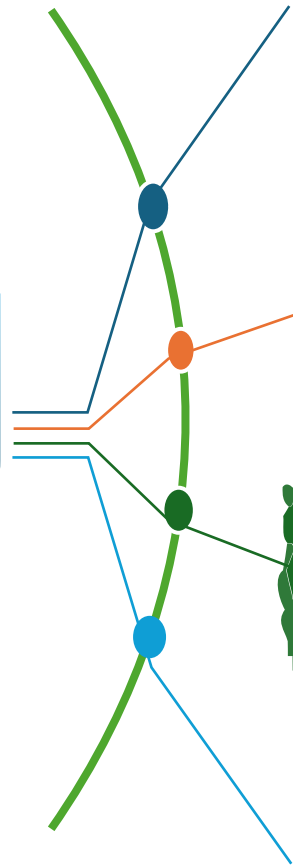


Enabling innovation
and technology



Enhancing
communication and
awareness

Key Elements of Leadership



Vision

Setting a clear direction and purpose

Influence

Inspiring others through communication and action

Empowerment

Encouraging team autonomy and growth

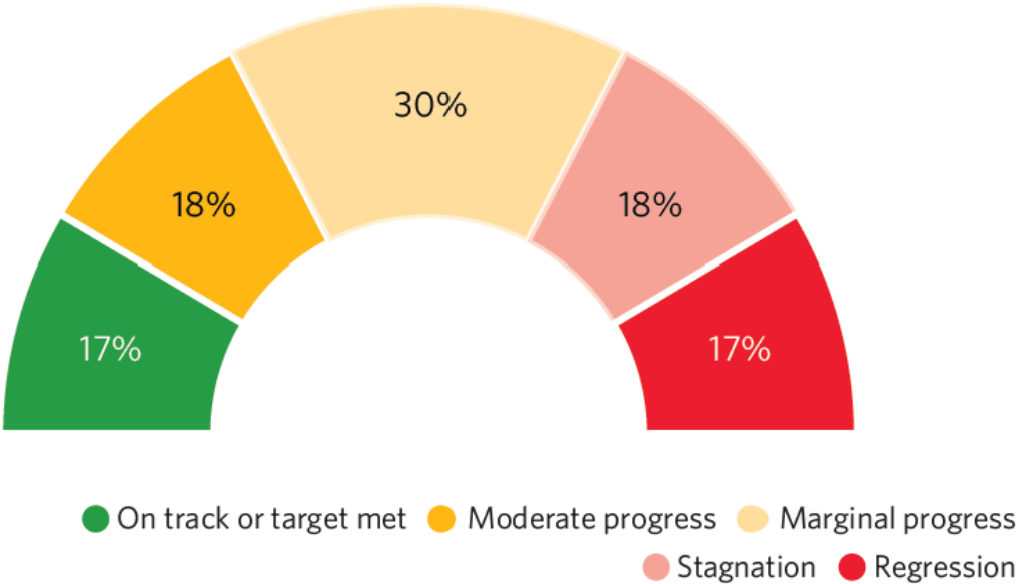
Accountability

Taking responsibility for outcomes



The Sustainable Development Goals Report 2024

Overall progress across targets based on 2015–2024 global aggregate data



Displaced people in Goma, Democratic Republic of the Congo, where over 7 million people have been internally displaced.



The Urgency: Why Now?

Digital Transformation

Geospatial data is foundational to government digitization worldwide.

Emerging Technologies

AI, big data, and cloud computing are revolutionizing geospatial applications.

SDG Deadline Pressure

2030 Agenda requires leaders with geospatial intelligence for evidence-based decisions.

Crisis Response Needs

Climate, pandemics, and emergencies demand immediate geospatial leadership.

Widening Capacity Gap

Growing disparity between advanced and developing nations threatens equitable development.

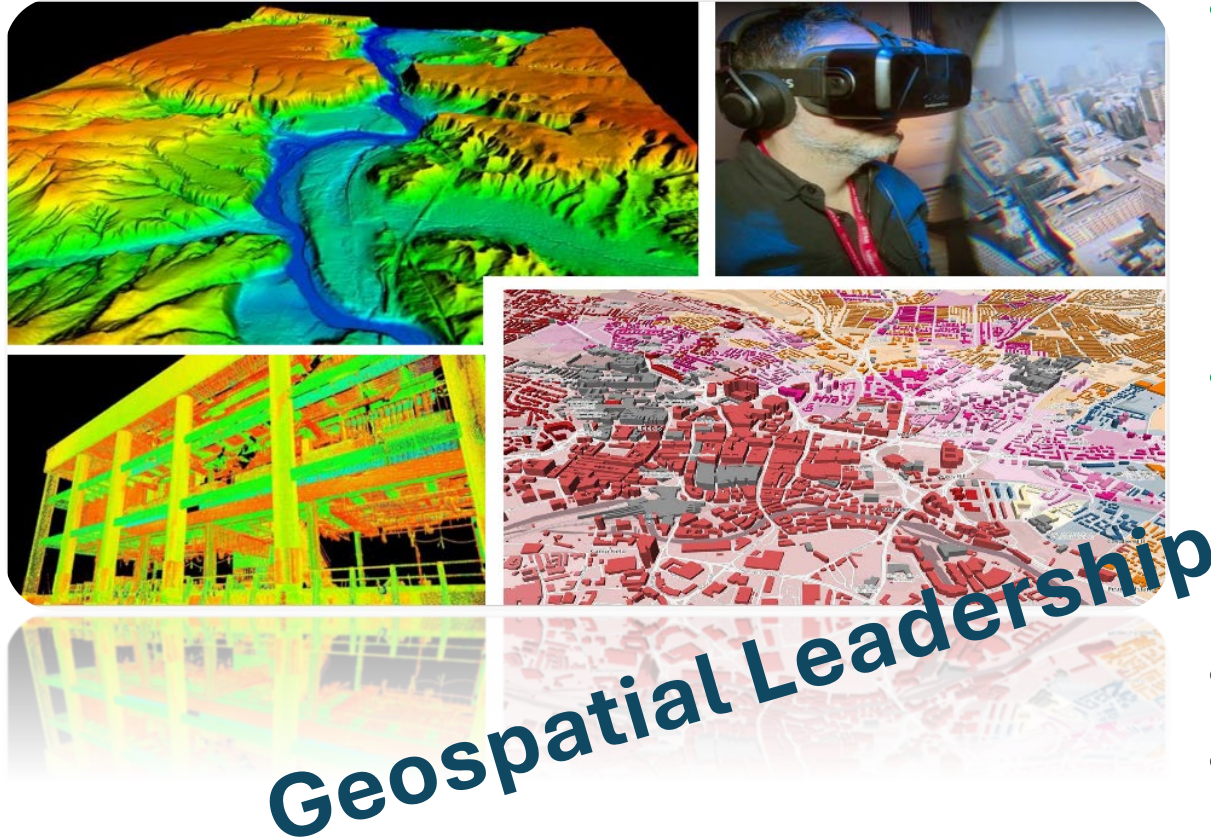
The window to act is now—delays compound inequalities



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Empowering the Implementation of the UN-IGIF



- **Bridging the digital and knowledge gap and connecting people** with all potential resources and partnerships to **overcome the barrier and foster the implementation of the UN-IGIF** in their country.
- **Identifying pathways to strengthen national leadership capacity**, promote innovation, and ensure sustainable geospatial governance across Member States.
- Inspire Innovative Thinking
- Build an Application Ecosystem.



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Strategic Importance for National Development

Economic Imperatives

- \$400+ billion global geospatial market
- National competitiveness depends on location intelligence
- Data-driven economy requires geospatial capacity

SDG Achievement

- SDGs require geospatial data and analysis
- Essential for evidence-based decision-making
- Fundamental to "leaving no one behind"

Decision-Making

- Government planning and policy formulation
- Private sector innovation and efficiency
- Community resilience and local development

Without geospatial leadership, countries cannot effectively track **progress** or **compete** globally



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What do we need to do?

- **As leaders**, How can we ensure geospatial data is **not only available**, but also **accessible and actionable** across diverse communities?
- **As leaders**, How do we develop the strategies needed to build the **human and institutional capacity** to mainstream geospatial intelligence in climate policy and planning?
- How do we all ensure **balance between innovation and ethical governance** to ensure geospatial technologies support just, inclusive, and sustainable outcomes?



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The Urgent Need: Global Skills Gap Crisis

Critical Shortage

Significant shortage of **skilled professionals** and visionary leaders, particularly acute in developing countries where capacity is most needed

Speed of Change

Rapid advances in AI, cloud computing, and big data require continuous upskilling

Global Challenges

Climate crisis, SDG deadline (5 years left), disaster response demand immediate action

Current workforce cannot meet accelerating demands of digital transformation



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Technical Skills Foundation

Core Competencies

- GIS design and management
- Remote sensing and earth observation
- Spatial data analysis and modeling
- Data integration from multiple sources

Emerging Technologies

- AI/ML for geospatial (GeoAI)
- Cloud platforms
- Big data analytics
- IoT and sensors

Data Management

- Spatial Data Infrastructure (SDI)
- Data quality and metadata
- Interoperability standards (ISO, OGC)
- FAIR data principles

Advanced Applications

- 3D modeling and digital twins
- UAV/drone operations
- **Low altitude economy**



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Cross-Cutting Competencies

Communication

- Translate technical concepts for non-technical audiences
- Data storytelling and visualization
- Policy briefing and executive communication

Collaboration

- Multi-stakeholder coordination
- Public-private partnerships

Governance and Policy

- Policy development and legal frameworks
- Ethics and responsible data use
- Privacy and security considerations

1. Building business cases
2. Demonstrating ROI
3. Fostering cross-cultural collaboration



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UN-GGKIC Leadership Development Support

Leadership Training Programs

- Hybrid delivery: in-person + online
- Work-based projects
- Technical + strategic + leadership

Specific Programs

- Next-generation forums – Sep 2026
- Innovation and entrepreneurship
- Pipeline of future leaders

Global Forums & Specialized Trainings

- GeoNow forum & Moganshan Talks
- Regional & Subregional leadership dialogues
- Support to global events



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Leadership and Management Skills

Strategic Leadership

- Vision-setting aligned with priorities
- Change management
- Stakeholder engagement
- Resource mobilization

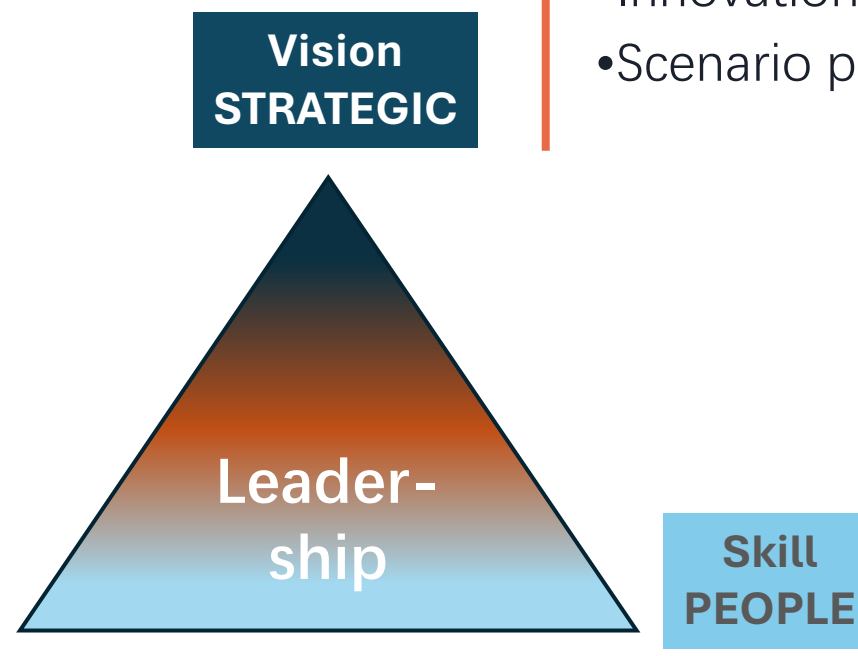
Programme Management

- Strategic planning and budgeting
- Team building and HR development
- Risk management
- Monitoring and evaluation

Decision-Making

- Systems thinking
- Evidence-based frameworks
- Innovation and problem-solving
- Scenario planning

Expertise
TECHNOLOGY



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Thank you



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