Virtual Regional Seminar on Operationalizing the Integrated Geospatial Information Framework

25 November and 2 December 2020

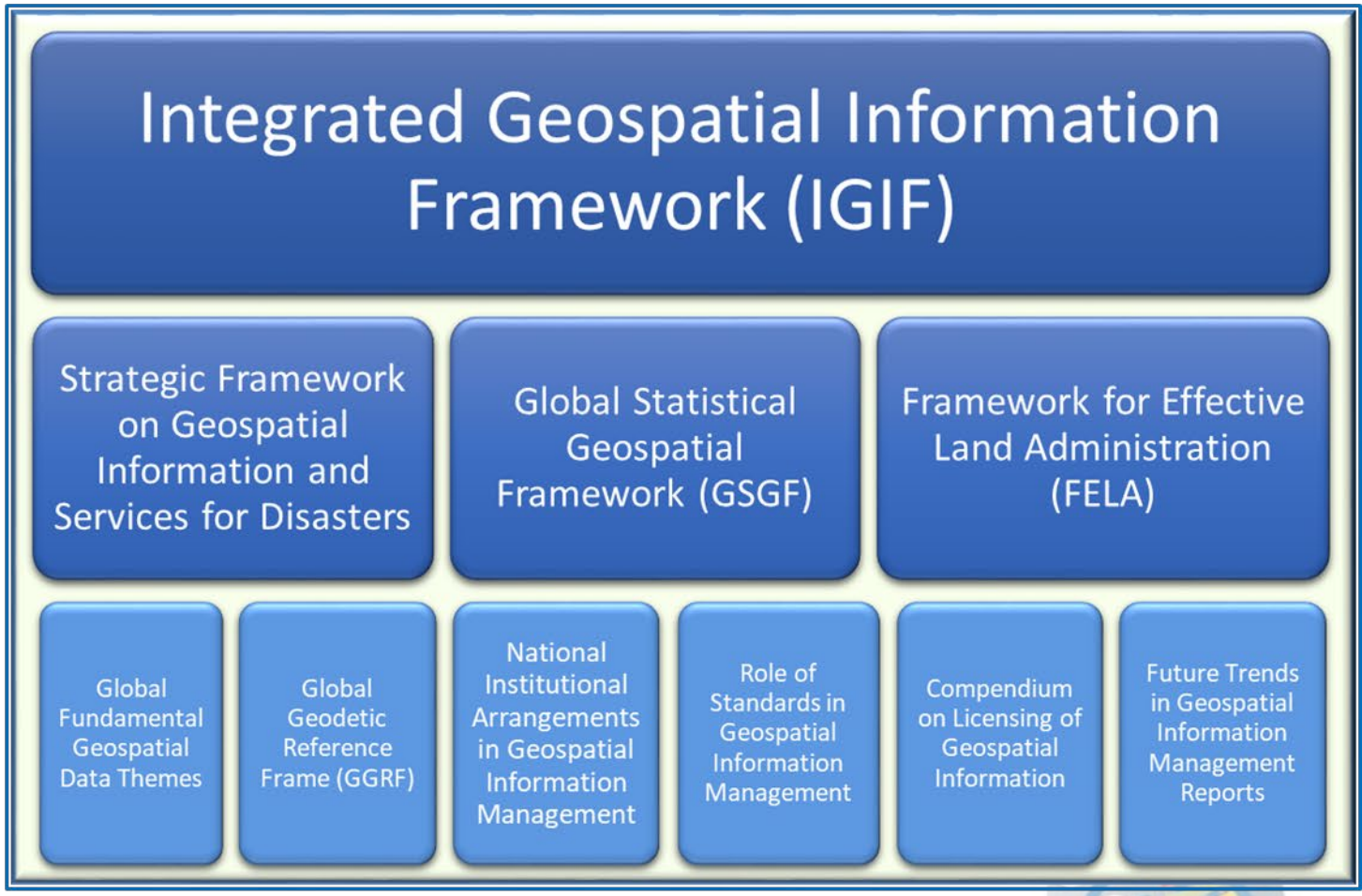
UNITED NATIONS INTEGRATED GEOSPATIAL INFORMATION FRAMEWORK

Part 1: Overarching Strategic Framework

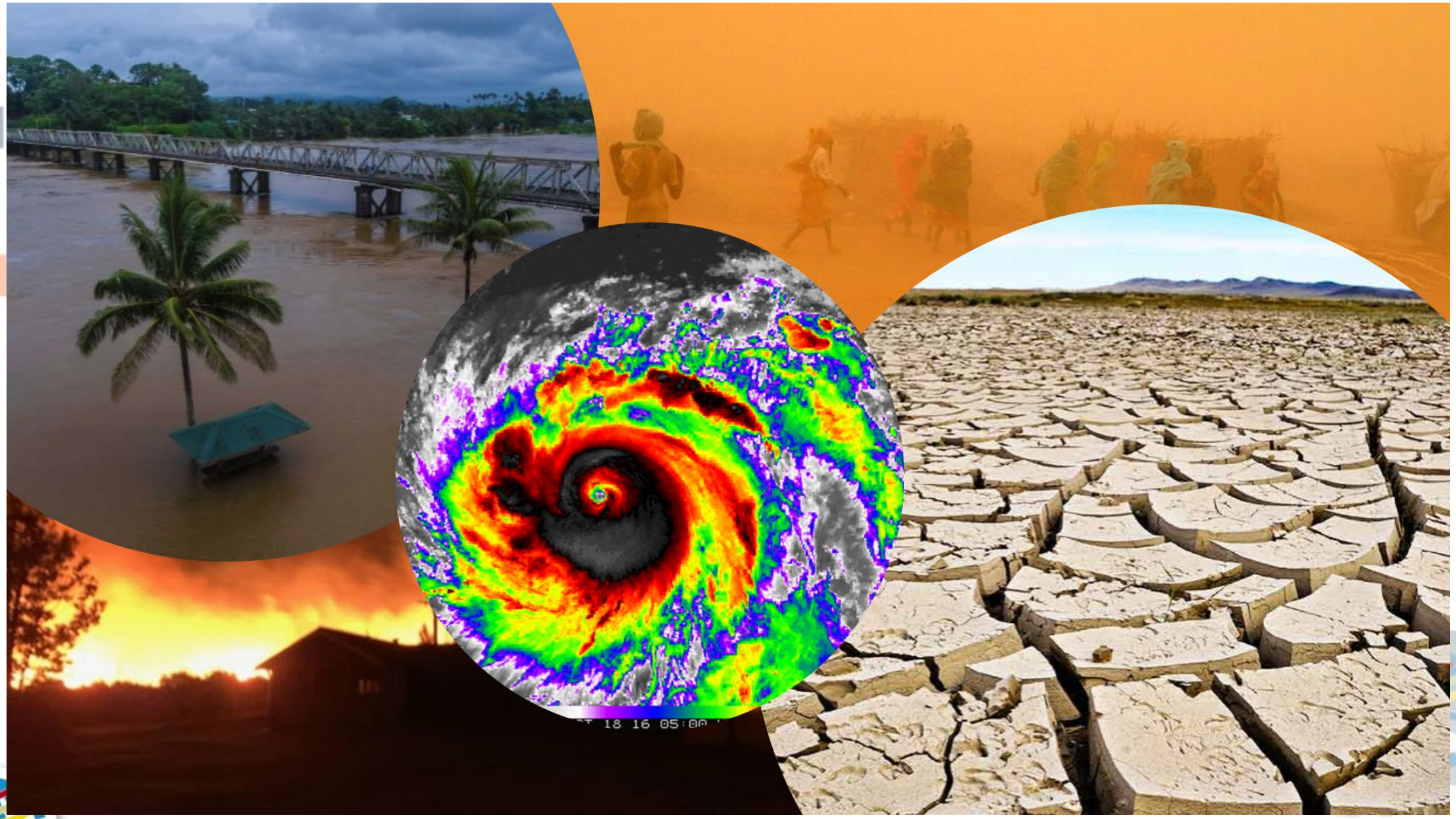
United Nations Secretariat for Global Geospatial Information Management

Statistics Division, Department of Economic and Social Affairs

UN-GGIM at its tenth session, in its decision 10/103, encouraged consideration for a programme, in coordination with the regional committees of UN-GGIM and regional commissions of the United Nations, leveraging the IGIF and its Implementation Guide **to strengthen national capacities** to effectively manage the geospatial resources **to modernize national geospatial information arrangements** in Member States, particularly in developing countries, to advocate and raise awareness, as appropriate, including to funding entities



http://ggim.un.org/IGIF/



UN-GGIM | United Nations Secretariat
Global Geospatial Information Management

Positioning geospatial information to address global challenges

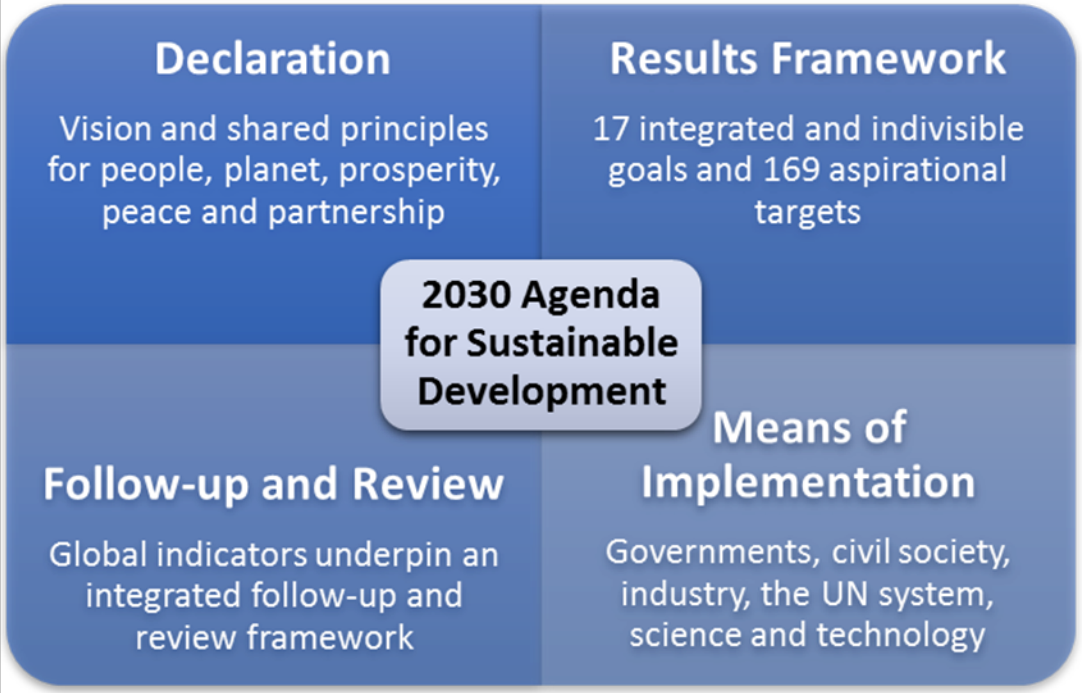
ggim.un.org

From: www.linkconsulting.com/wp-content/uploads/2019/07/DigitalTransformation.jpg

Courtesy: Eydis Finnbogadottir, National Land Survey of Iceland (Ninth session of UN-GGIM, August 2019)

Future

2030 Agenda: Goals, targets, indicators, implementation

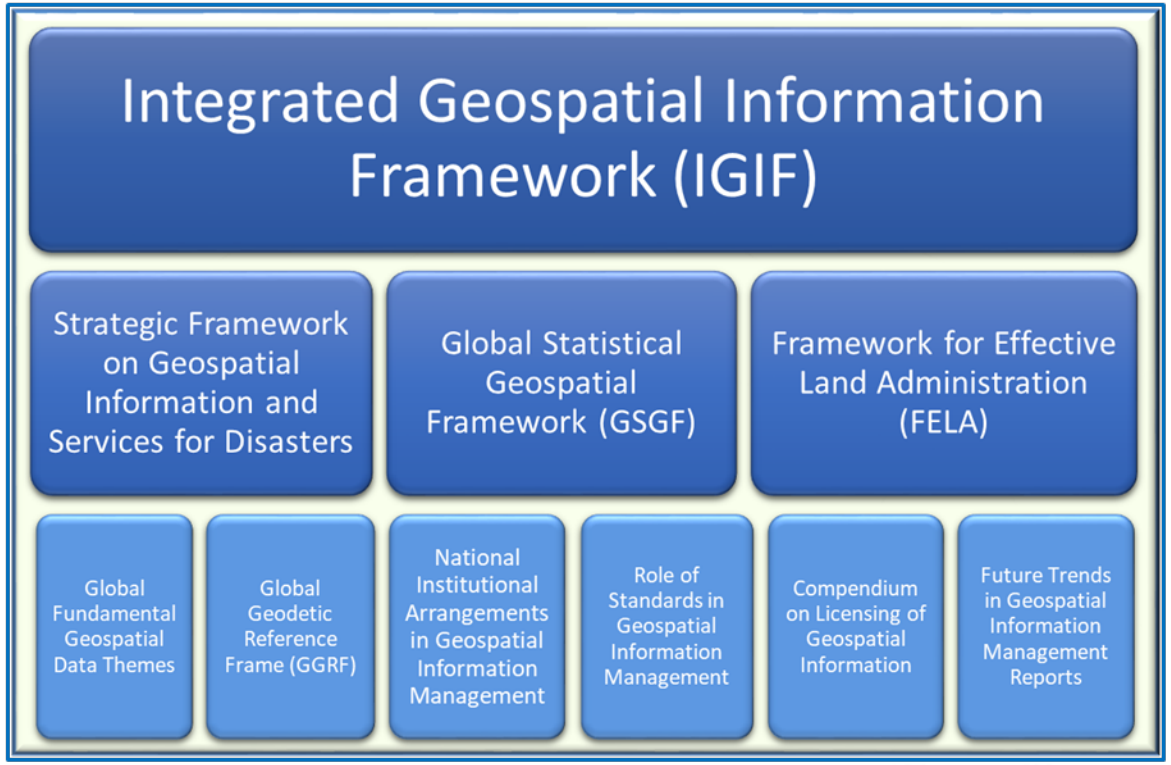


The 2030 Agenda is an Integrated Plan of Action structured in four main parts: (i) Vision and principles for transforming our world as set out in the Declaration; (ii) Results framework of 17 SDGs and 169 targets; (iii) Means of implementation through governments, society and global partnership; and (iv) Follow-up and review framework of global indicators.

National Priorities and 2030 Agenda for Sustainable Development

STRATEGIC DRIVERS

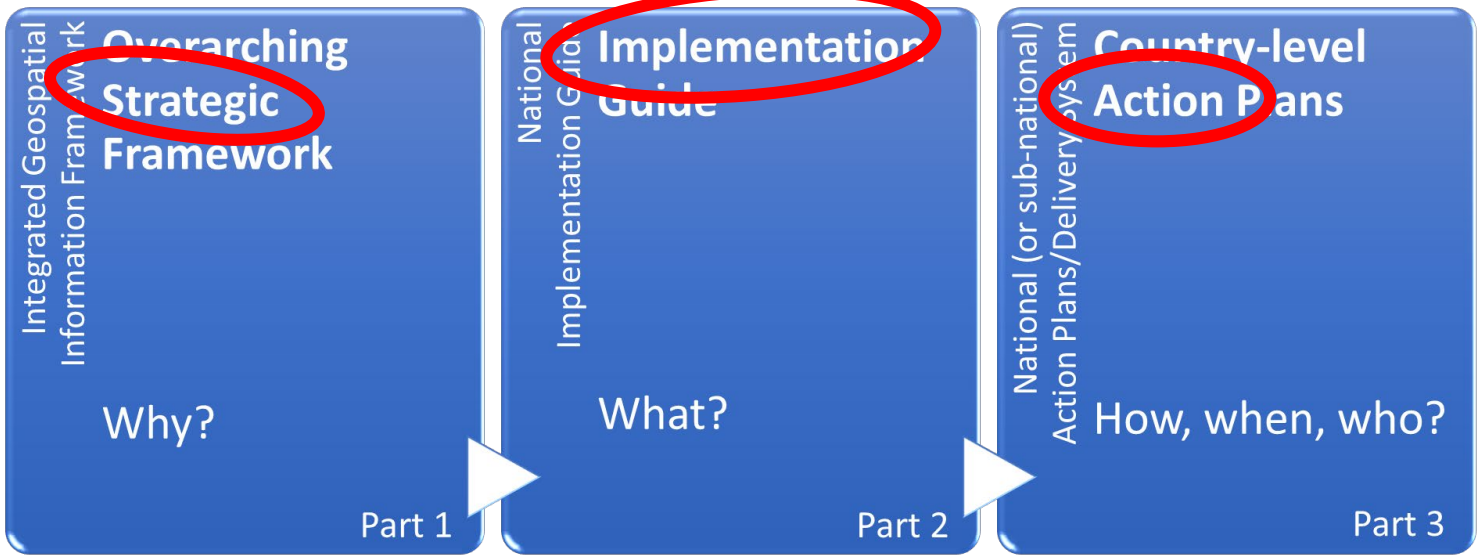
National Development Agenda • National Strategic Priorities • National Transformation Programme • Community Expectations • Multilateral trade agreements • Transforming our World: 2030 Agenda for Sustainable Development • New Urban Agenda • Sendai Framework on Disaster Risk Reduction 2015 – 2030 • Addis Ababa Action Agenda • Small Island Developing States Accelerated Modalities of Action (SAMOA Pathway) • United Nations Framework Convention on Climate Change (Paris Agreement) • United Nations Ocean Conference: Call for Action



Implementing national programmes and priorities and the 2030 Agenda for Sustainable Development will be sub-optimal without frameworks, strategies and mechanisms to integrate data and information into the measuring, monitoring and reporting processes.

The **Integrated Geospatial Information Framework** is a reference and mechanism for improving and strengthening arrangements in geospatial information management in developing countries including small island developing states, landlocked developing countries and least developed countries. It is also leveraged to improve and coordinate activities to achieve alignment between and across existing national agency capabilities and infrastructures in developed countries.

The **Integrated Geospatial Information Framework** comprises three separate, but connected, documents. The Overarching Strategic Framework has been **adopted by UN-GGIM at its eighth session** in August 2018, **the Implementation Guide at its tenth session** in 2020.



Part 1: Overarching Strategic Framework – **WHY** geospatial information is a critical element of national social, environmental and economic development and needs to be strengthened.
Part 2: Implementation Guide – **WHAT** actions can be taken to strengthen geospatial information management.
Part 3: Country-level Action Plans – **HOW** the actions will be carried out, **WHEN** and by **WHOM**.

Governance

Technology

People

Knowledge ▪ Decisions ▪ Development

Value ▪ Applications ▪ Technology

Users ▪ Citizens ▪ Access

Society ▪ Economy ▪ Environment

Governance and Institutions	Policy and Legal	Financial
Data	Innovation	Standards
Partnerships	Capacity and Education	Communication and Engagement

Anchored by nine Strategic Pathways, the Framework is a mechanism for articulating and demonstrating national leadership in geospatial information, and the capacity to take positive steps.

http://ggim.un.org/IGIF/

Overarching Strategic Framework

The Framework is a mechanism for articulating and demonstrating national leadership, cultivating champions, and developing the capacity to take positive steps.

Vision

The efficient use of geospatial information by all countries to effectively measure, monitor and achieve sustainable social, economic and environmental development - leaving no one behind

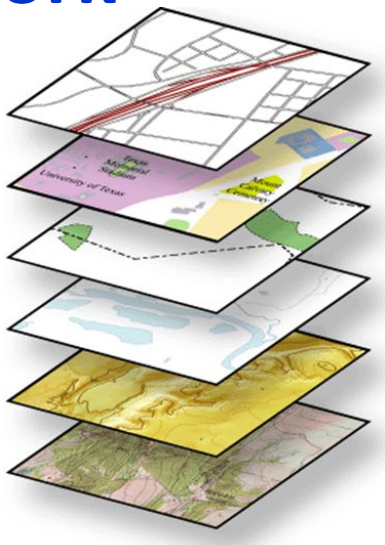
Mission

To promote and support innovation and provide the leadership, coordination and standards necessary to deliver integrated geospatial information that can be leveraged to find sustainable solutions for social, economic and environmental development

- A forward-looking Framework built on national needs and circumstances.
- Provides the overarching strategic messages and more expansive and integrated national framework, particularly focusing on policy perspectives and elements of geospatial information.
- Sets the context of 'why' geospatial information management is a critical element of national social, environment and economic development.
- **Vision** and **Mission** statements communicate the overarching aim of the Integrated Geospatial Information Framework.

Overarching Strategic Framework

- It does this via **seven (7) Underpinning Principles**, eight **(8) Goals and nine (9) Strategic Pathways** that lead to a national approach that takes account of national circumstances, priorities and perspectives.
- The **Overarching Strategic Framework** is intended for a wide range of stakeholders – these primarily being high-level policy and decision makers, institutions and organizations within and across government.



Geospatial information is a critical component of the national infrastructure and knowledge economy; a blueprint of what happens where, and the means to integrate a wide variety of government services

The eight goals reflect a future state where countries have the capacity and skills to organize, manage, curate and leverage geospatial information to advance government policy and decision-making capabilities

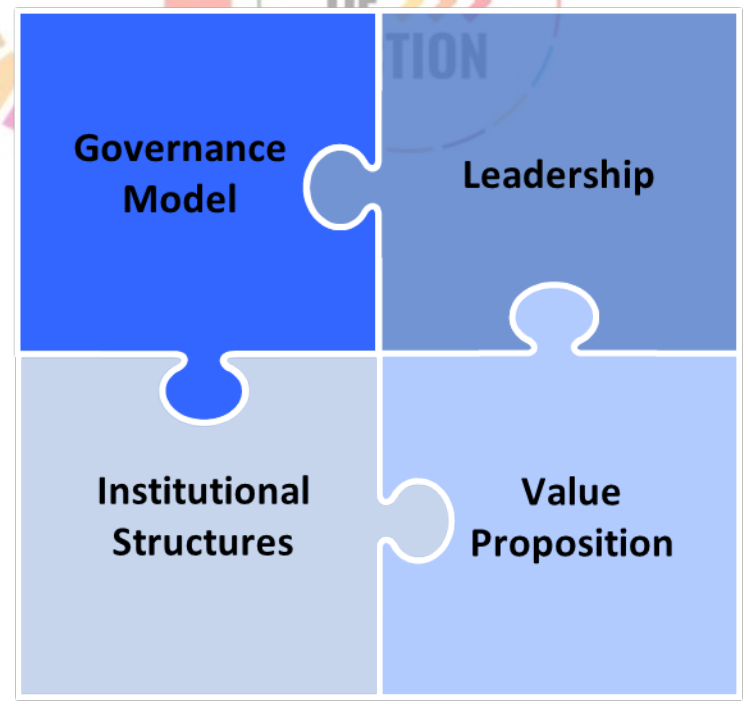
The principles are the key characteristics and values that provide the compass for implementing the Framework, and allow for methods to be tailored to individual country needs and circumstances

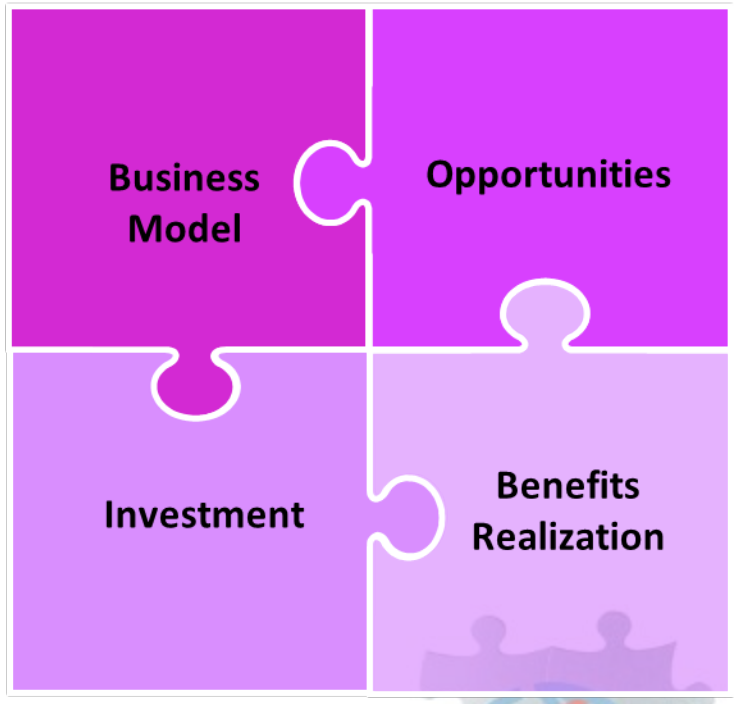
Overarching Strategic Framework: Strategic Pathways

- The Framework is anchored by nine Strategic Pathways in three main areas of influence: Governance; Technology; and People.
- The objective of the Strategic Pathways is to guide governments towards implementing integrated geospatial information management in a way that will deliver a vision for sustainable social, economic and environmental development.
- Each Strategic Pathway is augmented by specific objectives to assist countries in achieving the required results.
- The Strategic Pathways are presented as separate pieces of a jigsaw puzzle in recognition that there are many aspects and dimensions to each individual pathway, and that when joined together, the Framework is connected, integrated and implemented.
- Each of the nine Strategic Pathways are explained in more detail, along with specific guidance, in Part 2: Implementation Guide.

Geospatial information has immense social, environmental and economic value, and communities, businesses, organizations, governments, and many other stakeholders benefit every day

Governance



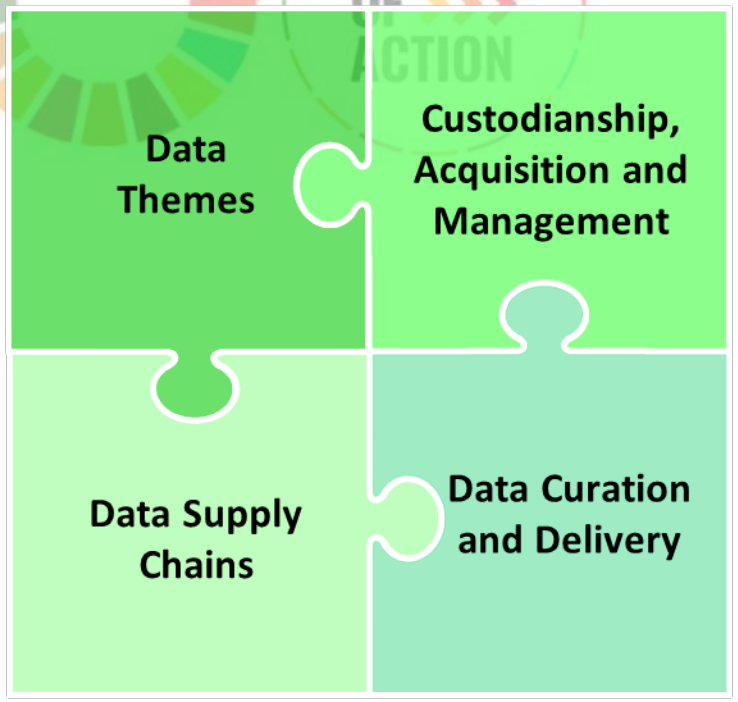


Strategic Pathway 1
Governance and Institutions

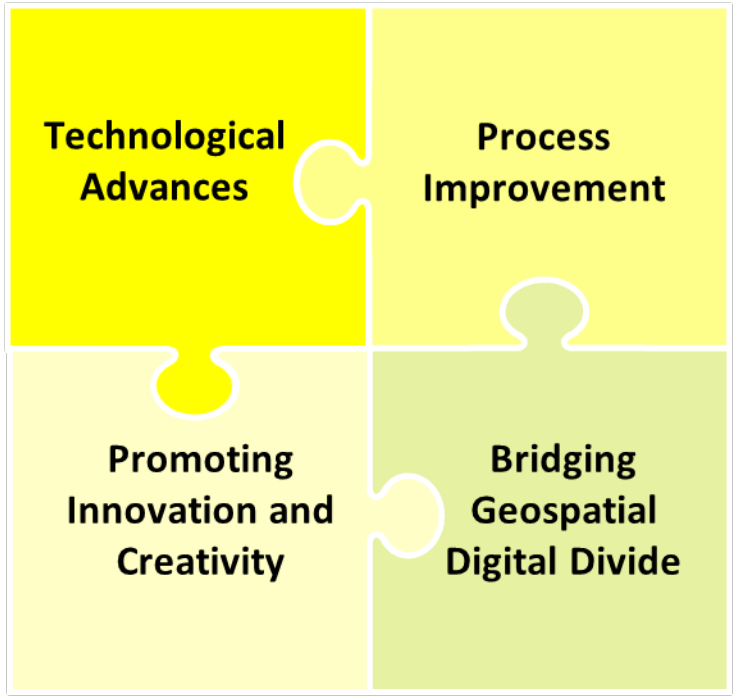
Strategic Pathway 2
Policy and Legal

Strategic Pathway 3
Financial

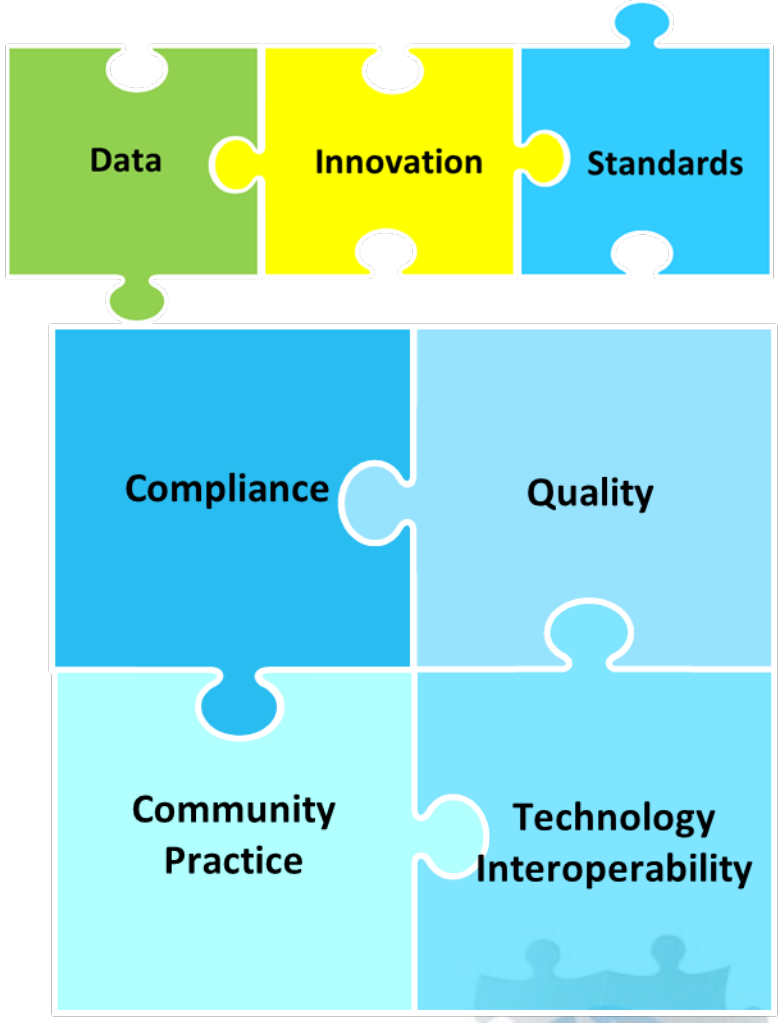
Technology



Strategic Pathway 4
Data

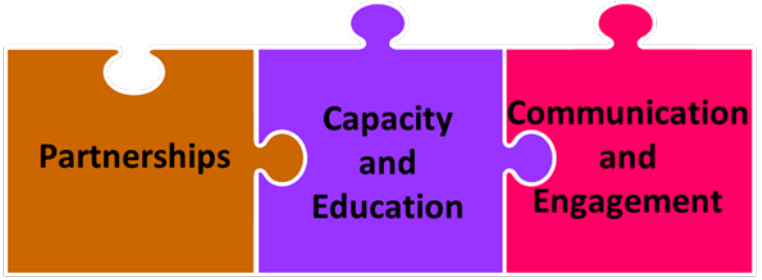


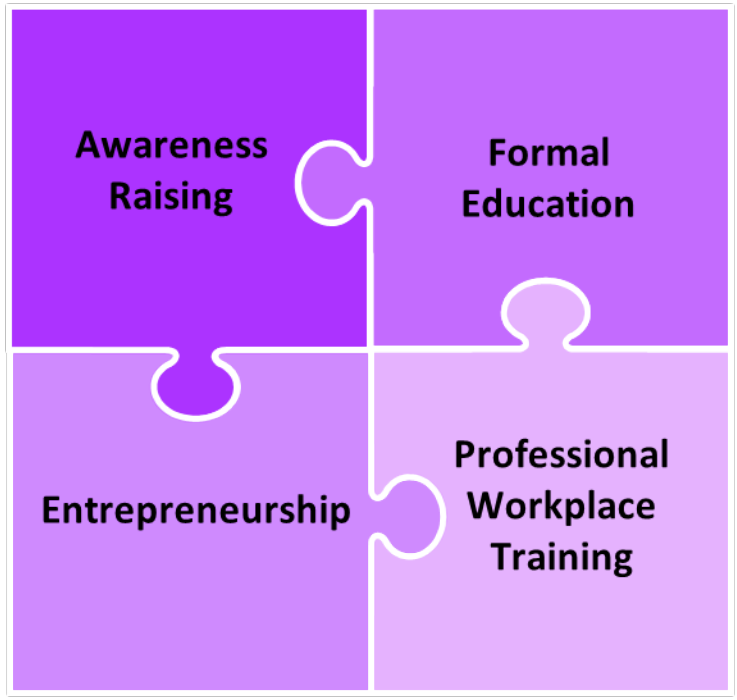
Strategic Pathway 5
Innovation



Strategic Pathway 6
Standards

People

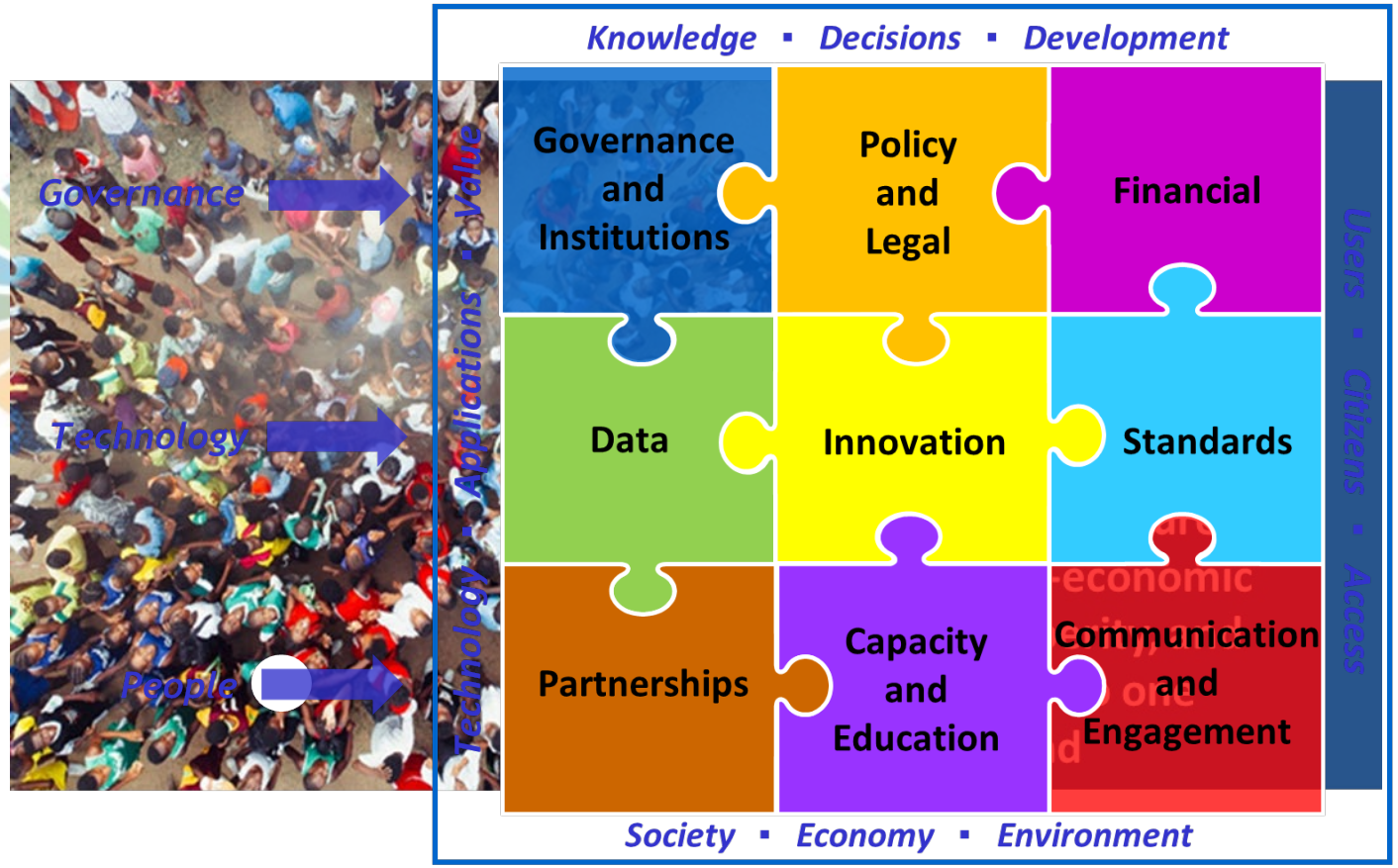




Strategic Pathway 7
Partnerships

Strategic Pathway 8
Capacity and Education

Strategic Pathway 9
Communication and Engagement



The Integrated Geospatial Information Framework is a mechanism for articulating and demonstrating national leadership, cultivating champions, and developing the capacity to take positive steps.

The IGIF Implementation Guide provides the 'what', the specific guidance and options to be taken by countries in implementing the IGIF. It captures strategic to operational needs with guiding principles and recommended actions; while not being detailed and prescriptive.

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25 November and 2 December 2020

UNITED NATIONS INTEGRATED GEOSPATIAL INFORMATION FRAMEWORK

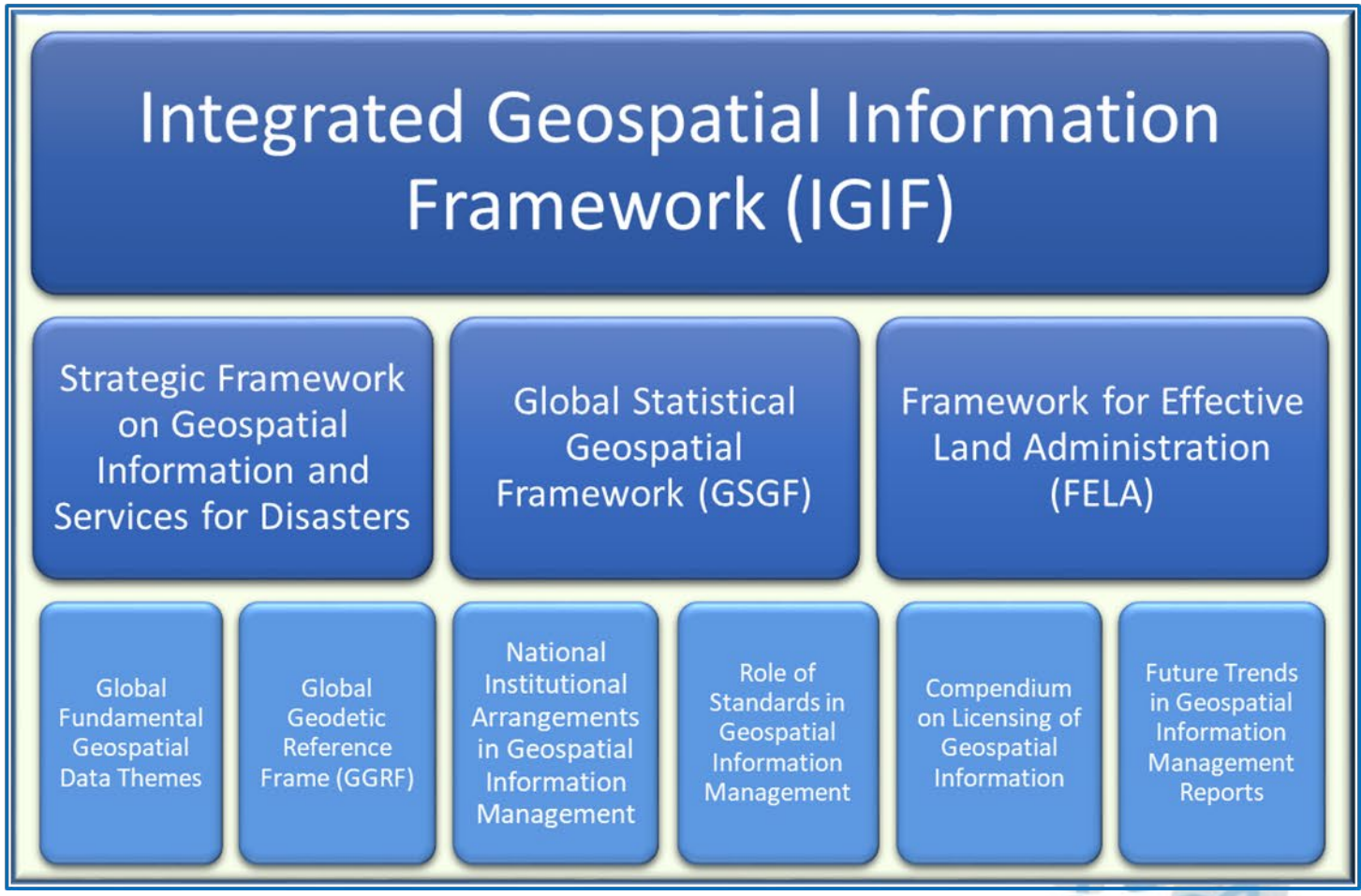
Part 2: Implementation Guide

United Nations Secretariat for Global Geospatial Information Management

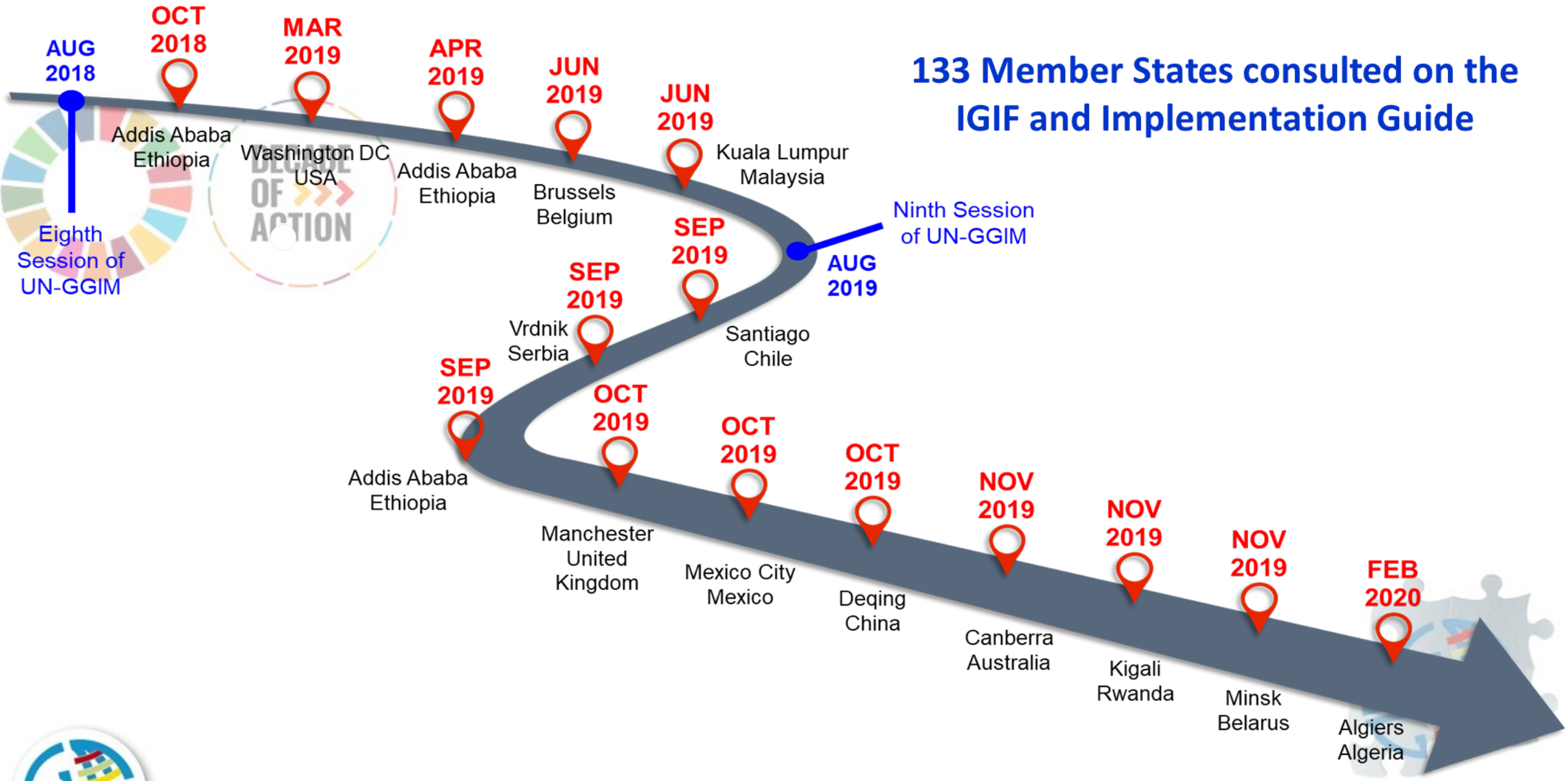
Statistics Division, Department of Economic and Social Affairs

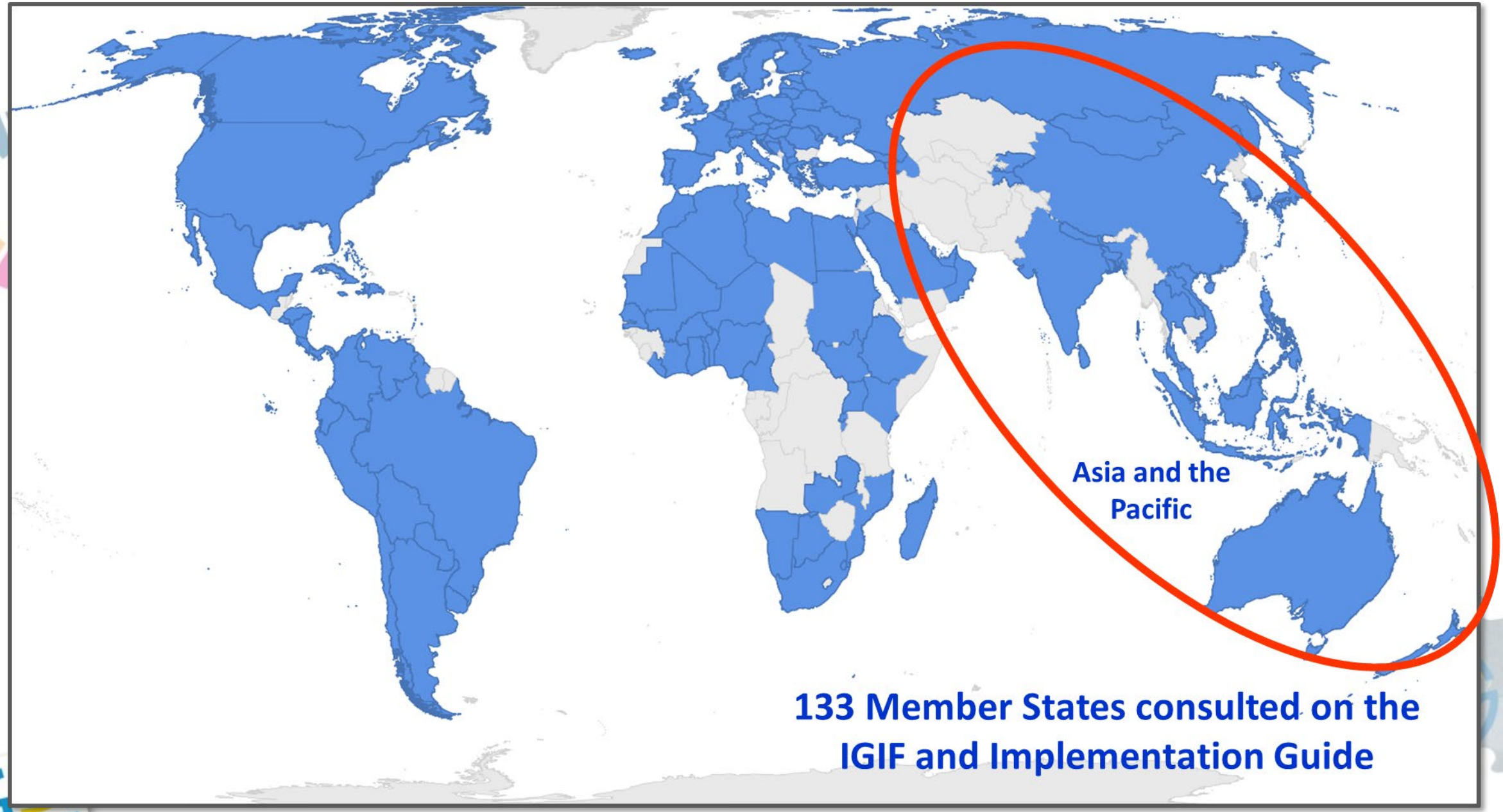
UN-GGIM at its tenth session, in its decision 10/103, **adopted** the Implementation Guide of the IGIF, subject to further refinement and its finalization, as a means to strengthen national geospatial information management arrangements within and across Member States at the institutional level, and to support the implementation of the sustainable development goals (SDGs), especially in developing countries

http://ggim.un.org/IGIF/



133 Member States consulted on the IGIF and Implementation Guide





133 Member States consulted on the IGIF and Implementation Guide

IGIF: Implementation Guide - Foundations

- The Implementation Guide provides the **'what'**, the specific guidance and options to be taken by countries in implementing the IGIF. It captures strategic to operational needs with guiding principles and recommended actions; while not being detailed and prescriptive.
- The Guide can be used to establish and/or improve national geospatial information management arrangements.
- While intended to benefit developing countries, the Guide can also be used to coordinate activities to achieve alignment between existing national agency capabilities and infrastructures.
- The guidance and options build upon the body of work generated through each of the Subcommittee, Expert and Working Groups of UN-GGIM
- Expanding on each of the nine Strategic Pathways, the Guide comprises references, good practices and recommends actions for each of the Pathways.
- The aim is to provide guidance for governments to establish 'nationally' integrated geospatial information management in countries in such a way that transformational change is enabled, visible and sustainable.

Anchored by nine Strategic Pathways, the Framework is a mechanism for articulating and demonstrating national leadership in geospatial information, the capacity to take positive steps to act and to implement

IGIF: Implementation Guide

- The Implementation Guide is a reference resource that defines, describes, and offers helpful guidance on each of the nine pathways.
- While each pathway addresses a component of the Framework, there are interrelated linkages and associations with one or more of the other pathways.
- The Guide mentions common relationships between the different pathways so that users see the connections.
- The Guide tells the user what is needed to create, implement, and/or maintain a national (or sub-national) geospatial information capability. It offers recommended, suggested, or required actions in order to be successful.
- This is helpful in gaining new knowledge or validating geospatial programs already in place. However, the Guide does not describe how to implement the many points offered.

There needs to be more institutional collaboration, coordination, interoperability and integration across the various national data and information systems and platforms

IGIF: Implementation Guide Document Availability

Part 2 : Implementation Guide describes **'what'** actions can be taken to strengthen geospatial information management. The Implementation Guide is a reference resource that provides information for governments to design, plan, establish, implement and maintain nationally integrated geospatial information frameworks in their country in such a way that transformational change is enabled, visible and sustainable. The Implementation Guide provides the specific guidance and options to be taken by countries in implementing the IGIF. Through each of the nine strategic pathways, it guides the user through the approach, content, rationale, options and considerations, principles that align with actions, and sample outcomes for comparison.

- Solving the Puzzle English
- Strategic Pathway 1: Governance and Institutions English | Appendices
- Strategic Pathway 2: Policy and Legal English | Appendices
- Strategic Pathway 3: Financial English | Appendices
- Strategic Pathway 4: Data English | Appendices
- Strategic Pathway 5: Innovation English | Appendices
- Strategic Pathway 6: Standards English | Appendices
- Strategic Pathway 7: Partnerships English | Appendices
- Strategic Pathway 8: Capacity and Education English | Appendices
- Strategic Pathway 9: Communication and Engagement English | Appendices

http://ggim.un.org/IGIF/part2.cshtml

The first 3 pages of the Chapter define the high-level 'Summary' and can be used as a stand-alone flyer if required.

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.*

Summary

Geospatial information is increasingly being harnessed to interconnect and integrate government functions and commercial services - making cities more livable, citizens more engaged and informed, and agricultural areas more productive. Traffic congestion, weather reports, air pollution, bus locations, pest monitoring, flood sensors, and electricity outage applications are all underpinned by geospatial information that can be synthesized into a seamless knowledge environment so that information can be accessed quickly by users to make informed decisions. For government this means streamlining operations, reducing costs and improving overall economic and social sustainability.

This level of geospatial capability can only be achieved through cooperative governance frameworks and with strong leadership that penetrates across sectors and through all levels of government. Institutions need to work together to share information and work towards common strategic priorities and goals.

By interconnecting government functions through well-functioning governance frameworks, it is possible to bring together geospatial information from multiple sources so that it can be used seamlessly on any digital device.

Good governance and cooperative institutional arrangements are the first priority in the geospatial information reform agenda. They enable geospatial information challenges to be met head on, provide flexibility to accommodate the rapidly changing environment, and the ability to embrace community and business participation within a culture of digital reform and transformation.

Common to all governance and institutional arrangements are four key elements that are required to build a cooperative data sharing environment and an appreciation of the value of geospatial information for decision-making.

The four elements are:

- **Governance Model** - based on a geospatial strategy for the nation and facilitated by governing bodies responsible for aligning and supporting policies and laws affecting the acquisition, creation, management, use, and dissemination of geospatial information.
- **Leadership** - to formulate and sustain a national geospatial information management strategy, develop a Country-level Action Plan for implementing the Integrated Geospatial Information Framework (IGIF), and create a governance process for assuring effective management responsibilities for the enterprise.
- **Value Proposition** - that measures, monitors, and communicates the economic benefit of integrated geospatial information to national priorities including citizen and societal benefits.
- **Institutional Arrangements** - that define roles and responsibilities across government for tasks associated with all aspects of geospatial information management, including appropriate coordination, management and oversight for meeting national priorities.

These elements are underpinned by principles that promote successful governance and institutional arrangements that can be adopted by each country. The principles are put into practice through several strategic actions that deliver and strengthen participation and commitment to achieving the IGIF. Tools, such as matrices, examples and checklists, are provided in the appendices to assist countries to work through concepts and processes to successfully complete each action. The overall structure for governance and institutional arrangements is illustrated in and anchored by Figure 1.1.

When implemented the actions (and their interrelated actions[1]) will enable the achievement of the four elements, which in turn will deliver significant and sustainable national outcomes and benefits for a country. These outcomes include attaining:

- Efficient planning and coordination of the government's geospatial information resources;
- Strengthened leadership, institutional mandates and political buy-in;
- A cooperative data sharing environment; and
- A shared understanding of the value of integrated geospatial information management.

[1] The interrelated actions across all Strategic Pathways are described in detail in the introductory Chapter; Solving the Puzzle: Understanding the Implementation Guide.

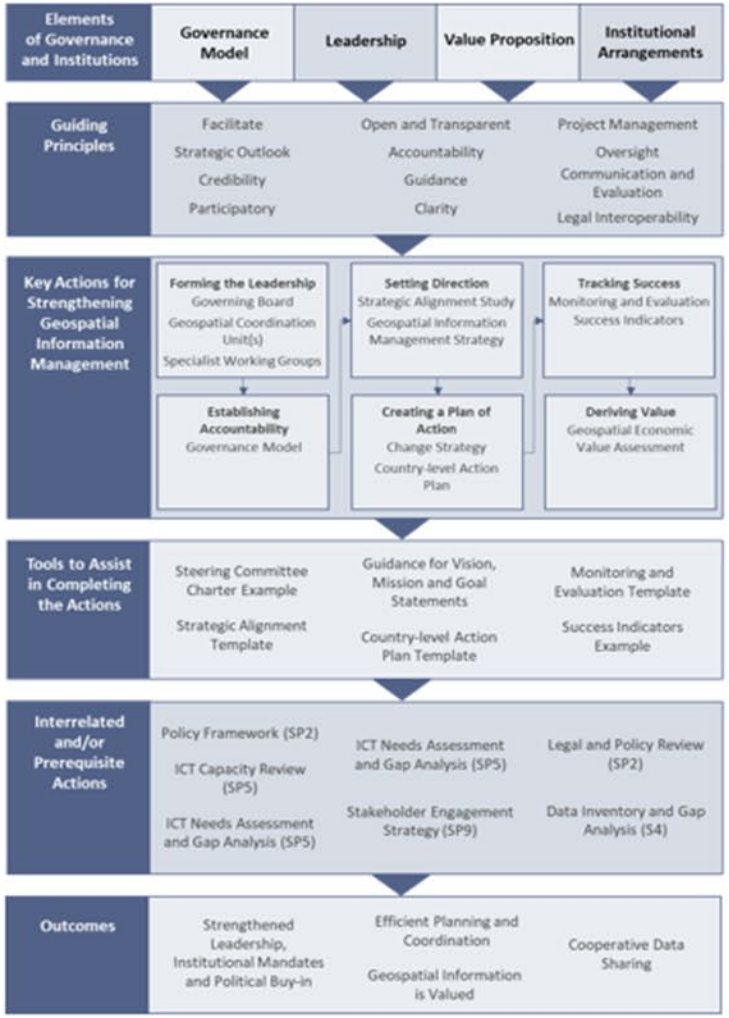


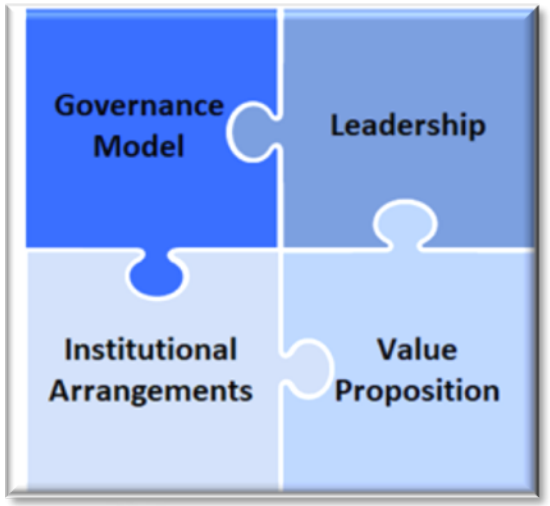
***Figure 1.1:** Overall structure for the Governance and Institutions Strategic Pathway - showing the four key elements, guiding principles, actions and interrelated actions, and the tools provided in the Appendices to support and achieve the outcomes.*

National Implementation Guide

Implementation Guide

What?

Part 2



The overall structure diagram for the Chapter as part of the 3-page Summary.

Shows what is in the chapter and the relevance between sections.

Document Structure

- Abstract
- Summary
- 1.1 Introduction
- 1.2 Context and Rationale
- 1.3 Approach
- 1.4 Elements
- 1.5 Guiding Principles
- 1.6 Actions
- 1.7 Deliverables
- 1.8 Outcomes
- 1.9 Resources

"Tools" and "Interrelated Actions" are identified throughout the Chapter

Elements of Governance and Institutions	Governance Model	Leadership	Value Proposition	Institutional Arrangements
Guiding Principles	Facilitate Strategic Outlook Credibility Participatory	Open and Transparent Accountability Guidance Clarity	Project Management Oversight Communication and Evaluation Legal Interoperability	
Key Actions for Strengthening Geospatial Information Management	**Forming the Leadership** Governing Board Geospatial Coordination Unit(s) Specialist Working Groups **Establishing Accountability** Governance Model	**Setting Direction** Strategic Alignment Study Geospatial Information Management Strategy **Creating a Plan of Action** Change Strategy Country-level Action Plan	**Tracking Success** Monitoring and Evaluation Success Indicators **Deriving Value** Geospatial Economic Value Assessment	
Tools to Assist in Completing the Actions	Steering Committee Charter Example Strategic Alignment Template	Guidance for Vision, Mission and Goal Statements Country-level Action Plan Template	Monitoring and Evaluation Template Success Indicators Example	
Interrelated and/or Prerequisite Actions	Policy Framework (SP2) ICT Capacity Review (SP5) ICT Needs Assessment and Gap Analysis (SP5)	ICT Needs Assessment and Gap Analysis (SP5) Stakeholder Engagement Strategy (SP9)	Legal and Policy Review (SP2) Data Inventory and Gap Analysis (S4)	
Outcomes	Strengthened Leadership, Institutional Mandates and Political Buy-in	Efficient Planning and Coordination Geospatial Information is Valued	Cooperative Data Sharing	

National Implementation Guide

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What?

Part 2

The 'Approach' to the Chapter. Repeats what is in the Summary diagram but goes into more detail.
Items will be hyperlinked for ease of search and navigation.

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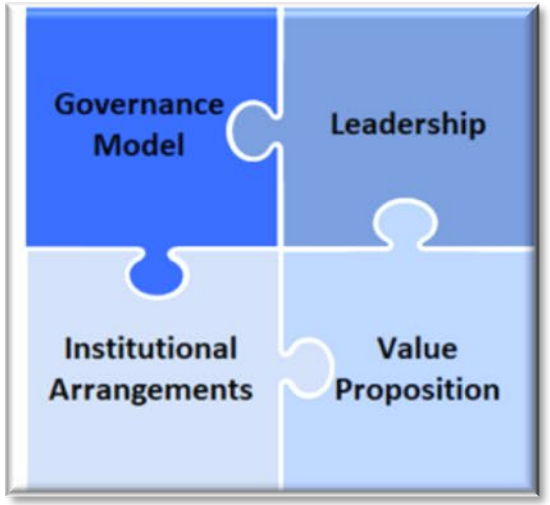

Outcomes
- Efficient planning and coordination of the governments geospatial information resources
- Strengthened leadership, institutional mandates and political buy-in
- A cooperative data sharing environment
- A shared understanding of the value of integrated geospatial information management

Elements
- Governance Model
- Leadership
- Value Proposition
- Institutional Arrangements

Tools
- Steering Committee Charter Example
- Strategic Alignment Template
- Guidance for Vision, Mission and Goal Statements
- Country-level Action Plan Template
- Monitoring and Evaluation Template
- Success Indicators Example

Principles
- Facilitate
- Strategic Outlook
- Credibility
- Participatory
- Open and Transparent
- Accountability
- Guidance
- Clarity
- Project Management
- Oversight
- Communication and Evaluation
- Legal Interoperability

Interrelated Actions
- Policy and Legal Review (SP2)
- Data Inventory (SP4)
- Data Gap Analysis (S4)
- Policy Framework (SP2)
- ICT Capacity Review (SP5)
- ICT Needs Assessment and Gap Analysis (SP5)
- Stakeholder Engagement Strategy (SP9)
- Capacity Assessment and Gap Analysis (SP8)
- Business Model (SP2)
- Data Acquisition Program (SP4)
- Formalised Data Supply Chains (SP4)

Actions
Forming the Leadership
- Governing Board
- Geospatial Coordination Unit(s)
- Specialist Working Groups

Establishing Accountability
- Governance Model

Setting Direction
- Strategic Alignment Study
- Geospatial Information Management Strategy

Creating a Plan of Action
- Change Strategy
- Country-level Action Plan

Tracking Success
- Monitoring and Evaluation
- Success Indicators

Deriving Value
- Geospatial Economic Value Assessment

National Implementation Guide

Implementation Guide

What?

Part 2

The Actions as a sequential 'step-by-step' road map that links the actions and recommended steps.

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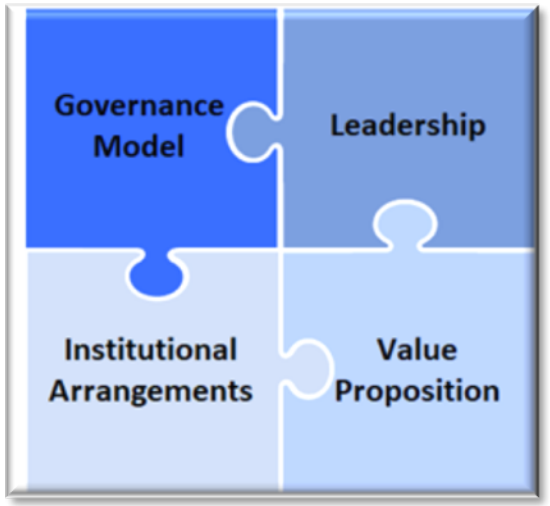
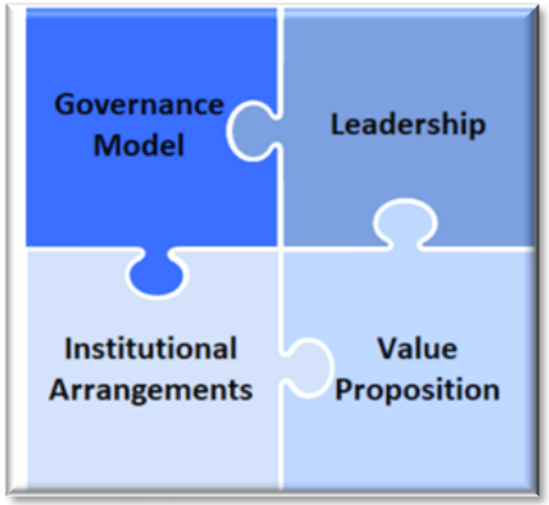


National Implementation Guide

Implementation Guide

What?

Part 2



Actions repeated here as a different schematic, but with more detail regarding the 'Tools' and 'Interrelated Actions'.

Will be hyperlinked for ease of search and navigation.

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National Implementation Guide

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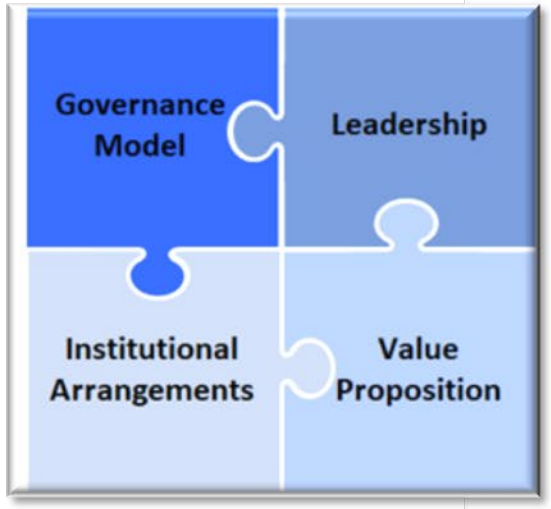
What?

Part 2



A Governing Board will provide the necessary leadership and direction for implementing and sustaining the Integrated Geospatial Information Framework.

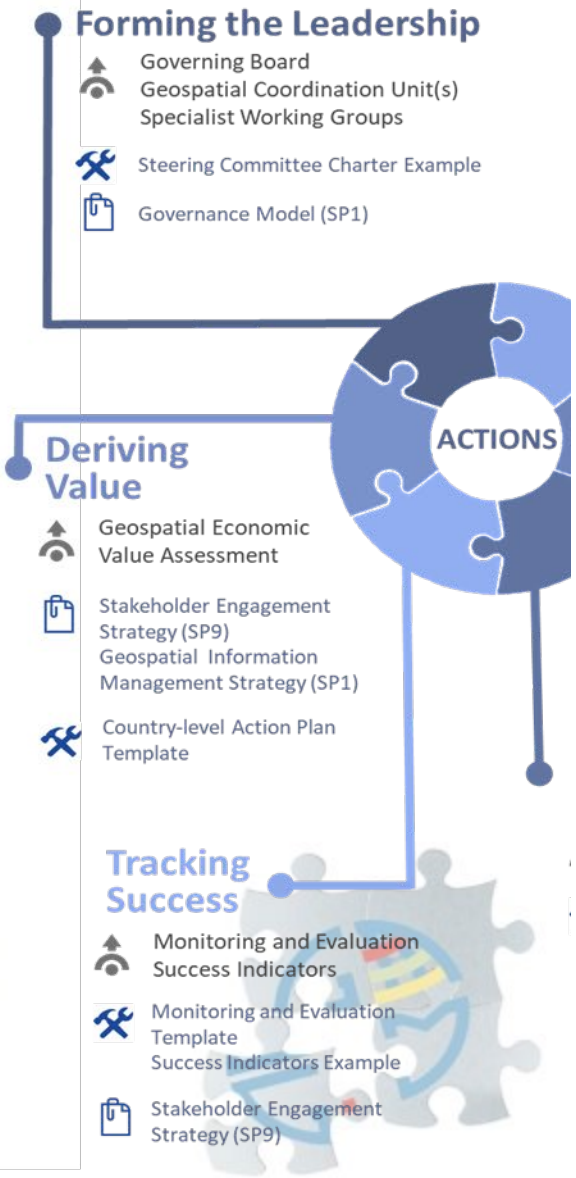
1 Forming the Leadership

1.6.1 Governing Board

An important first step in forming the leadership is to establish a governing board, council, advisory body, steering committee, or similar leadership mechanism. This provides the necessary leadership and direction for implementing and sustaining the IGIF.

The governing board is generally made up of members from across government which collect, manage and are significant users of geospatial information, and have a significant role to play in strengthening geospatial information management. It provides an environment for strategic thinking, planning and decision-making necessary to modernize and sustain geospatial information management practices.

These key stakeholders may also be identified according to key policy areas and domains. They may include data producers and users from the infrastructure and environment, health and social, defence and economic sectors; as well as stakeholders with mandate and interest in policy priorities that span areas such as ICT, e-government, and science and technology. Private sector and academic institutions may be involved where appropriate. In cases where more complex political and administrative structures exist across different levels of government, various governance configurations may be used to form the governing board, such as networks of stakeholder agencies led by the national geospatial agency, or nested systems of committees.



Governance

Technology

People

Knowledge ▪ Decisions ▪ Development

Value ▪ Applications ▪ Technology

Users ▪ Citizens ▪ Access

Society ▪ Economy ▪ Environment

Governance and Institutions	Policy and Legal	Financial
Data	Innovation	Standards
Partnerships	Capacity and Education	Communication and Engagement

Anchored by nine Strategic Pathways, the Framework is a mechanism for articulating and demonstrating national leadership in geospatial information, and the capacity to take positive steps.

http://ggim.un.org/IGIF/

Transforming our wo
The 2030 Agenda fo
Sustainable Develop

Strengthening national geospatial information management to support Member States implementing national strategic priorities for the wellbeing people, planet and prosperity, and to keep the promise to leave no one behind

THANK YOU

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