



UN-GGIM:Americas

REGIONAL COMMITTEE OF UNITED NATIONS
ON GLOBAL GEOSPATIAL INFORMATION
MANAGEMENT FOR THE AMERICAS



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X SESSION

UN-GGIM:

AMERICAS

October 18, 19 and 20 - 2023

Santiago de Chile, ECLAC

The HLG-IGIF

Advancing the UN-IGIF to Address National
and Regional Drivers for Change

HLG-IGIF at the UN-GGIM 13th Session



HLG-IGIF Second Plenary Meeting



Member State Representation on the HLG-IGIF



UN-GGIM: Africa

Burkina Faso
Cameroon
Ivory Coast
Mozambique
Rwanda
South Africa



UN-GGIM: Americas

Argentina
Chile
Jamaica
Mexico
Panama
United States



UN-GGIM: Arab States

Algeria
Jordan
Saudi Arabia
Morocco



UN-GGIM: Asia Pacific

India
Indonesia
Malaysia
Republic of Korea
Russian Federation



UN-GGIM: Europe

Belgium
Germany
Netherlands
Slovenia
Sweden
United Kingdom



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UN-IGIF Forum



Communications Work Group

- **Created a UN-IGIF case study template**
- **Completed the first case study**
 - Sustainable Palm Oil Production in Indonesia
- **Developing a library of case studies**
- **Additional materials under development**
 - UN-IGIF brochure for decision makers
 - Additional case studies
- **Follow the HLG-IGIF**
 - X (Twitter): @UN_IGIF
 - Website: [UNSD — UN-GGIM](https://www.un.org/ggim)



IGIF CASE STUDY: PALM OIL PRODUCTION IN INDONESIA

APPLICATION	OVERVIEW	CHALLENGE
<p>SECTOR</p> <ul style="list-style-type: none">- Agriculture- Industry- Sustainable Development- Environment/Forestry <p>IGIF PATHWAYS UTILIZED</p> <ul style="list-style-type: none">- Governance and Institutions- Legal and Policy- Data- Innovation- Partnerships- Communication and Engagement <p>CHALLENGE</p> <p>Palm oil is a large and important industry in Indonesia, with significant environmental impacts that need to be closely managed.</p> <p>SOLUTION</p> <p>Strong geospatial information management with IGIF allowed for greater stakeholder engagement, data sharing, data integration, informed policy decisions, and sustainable development.</p>	<p>Indonesia is the world's largest producer of palm oil. The industry plays a significant role in the Indonesian economy, providing employment to 154 million farmers and industrial workers and representing 5.72% of the nation's GDP. As one of Indonesia's key export commodities, palm oil contributes significantly to the country's national development.</p> <p>Palm oil is one of the world's most prominent vegetable oils. Much of the world's global trade in food, cosmetics, cleaning products, printer ink, and lubricants depend on palm oil, which has fueled strong global demand.</p> <p>The global reliance on palm oil has resulted in a dramatic increase in the rate of deforestation in Indonesia, resulting in habitat loss, reduction in biodiversity, and increased carbon emissions.</p> <p>In 2019, Indonesia passed Presidential Decree Number 6 to create a National Action Plan for Palm Oil Sustainable Plantation 2019-2024. The decree aimed to:</p> <ul style="list-style-type: none">- Improve farmer's capacity and capability- Finalize status and legality of lands- Make use of palm oil as a source of renewable energy and to enhance diplomacy toward sustainable palm plantations- Accelerate implementation of Indonesian sustainable palm oil	<p>Indonesia has the third largest rain forest in the world, facing deforestation and resulting carbon emissions due to palm oil production, causing significant global concerns, with many different stakeholders and purchasers demanding of sustainably produced, deforestation-free palm oil.</p> <p>Indonesia did not have a single, authoritative view of industry data to aid decision making and to help establish and enforce policies to respond to the changing industry demands.</p> <p>Historically, data in relation to palm oil production was collected by a wide range of different agencies and institutions with no consolidated view of palm oil production. This created a lack of clarity on taxation policy and national income associated with palm oil production, and also hindered the ability to make decisions and establish and enforce policies to reduce deforestation while maintaining existing plantation outputs.</p> <p>Indonesia had a strong need for improved partnership, communication, and engagement across agencies and institutions to promote data sharing and integration. New and innovative data sources were also needed to monitor plantation and nearby deforestation. Finally, the development of governance and legal policies were required to establish authoritative industry data to inform decisions, monitor and track progress, and enforce policies.</p>

 **UN IGIF**
Integrating Geospatial Information and Location Data

Enabling a Better Future with Location Data

Twitter: @UN_IGIF

Capacity Development Work Group

- Identified Member State volunteers for translation
- Developed a detailed document translation process:
 - Step 1: Translate/proofread documents
 - Step 2: Document review
 - Step 3: Document approval
- Several documents have been translated and reviewed and are awaiting final approval/posting to the UN-GGIM site



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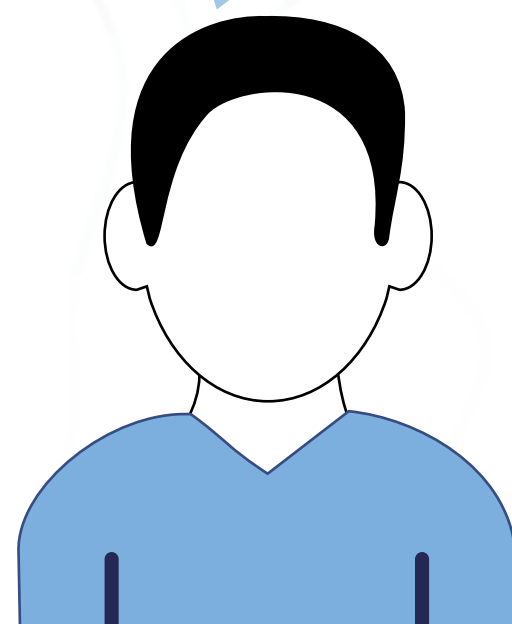
Sustainable Funding Work Group

- **Developed a Geospatial Value Study Inventory ([GeoVSI](#))**
 - Each entry contains an overview, location, sectors covered, value impacts, reference link
 - The inventory is searchable by key words, sector, study type, and location
 - Helps Member States estimate value/return on investment in a way that can be defended
- **Developing Sustainable Funding Guide to support Sustainable funding for the UN-IGIF**
 - Completed literature review
 - Started focused global consultation interviews
- **[Online Training](#) – Business Models for Sustainable Geospatial Financing (Africa)**



Feedback from the Global Geospatial Community

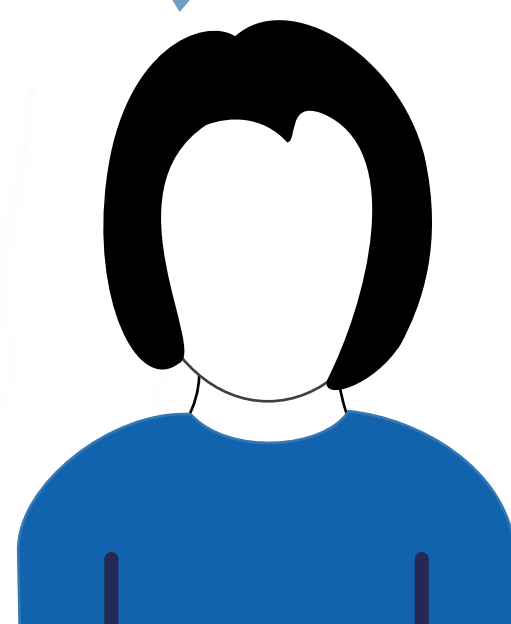
Focus on raising awareness of the UN-IGIF



135

UN-IGIF Forum Attendance

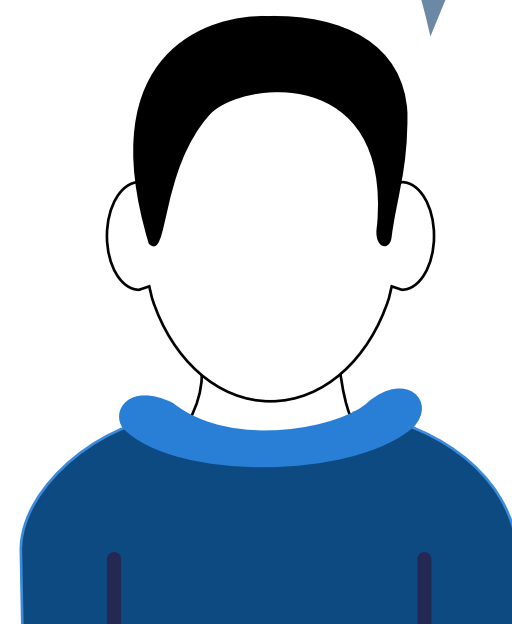
Collaboration and funding are important



32

Interventions in support of the UN-IGIF

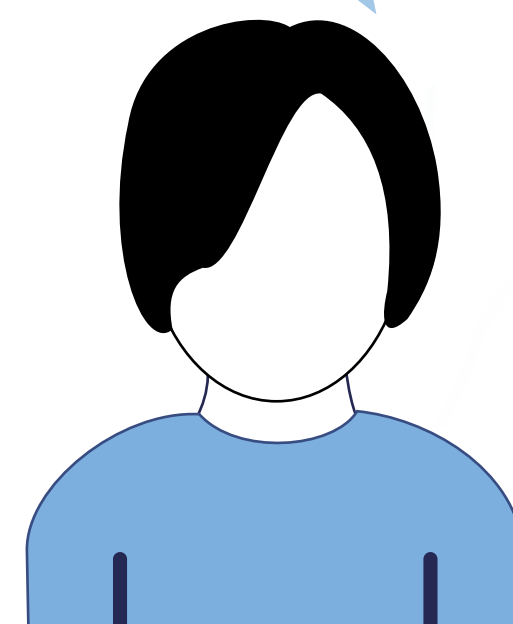
Capacity building and data sharing are key



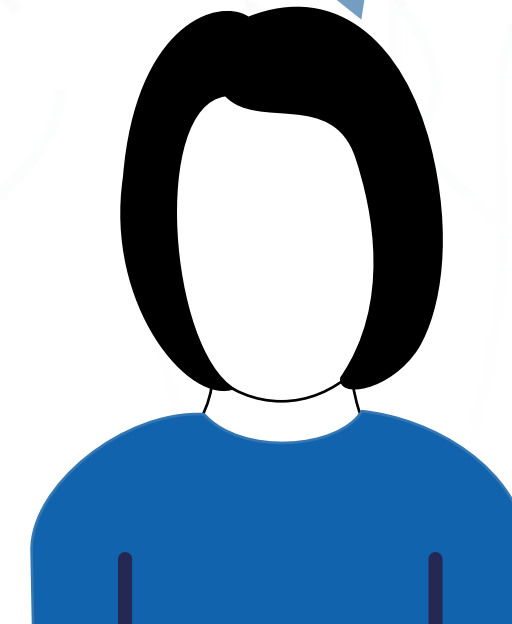
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Offered Assistance

Need strong communication and leadership



Must have approval and buy-in at highest levels



10

Mentioned National UN-IGIF Implementation

The Path Forward

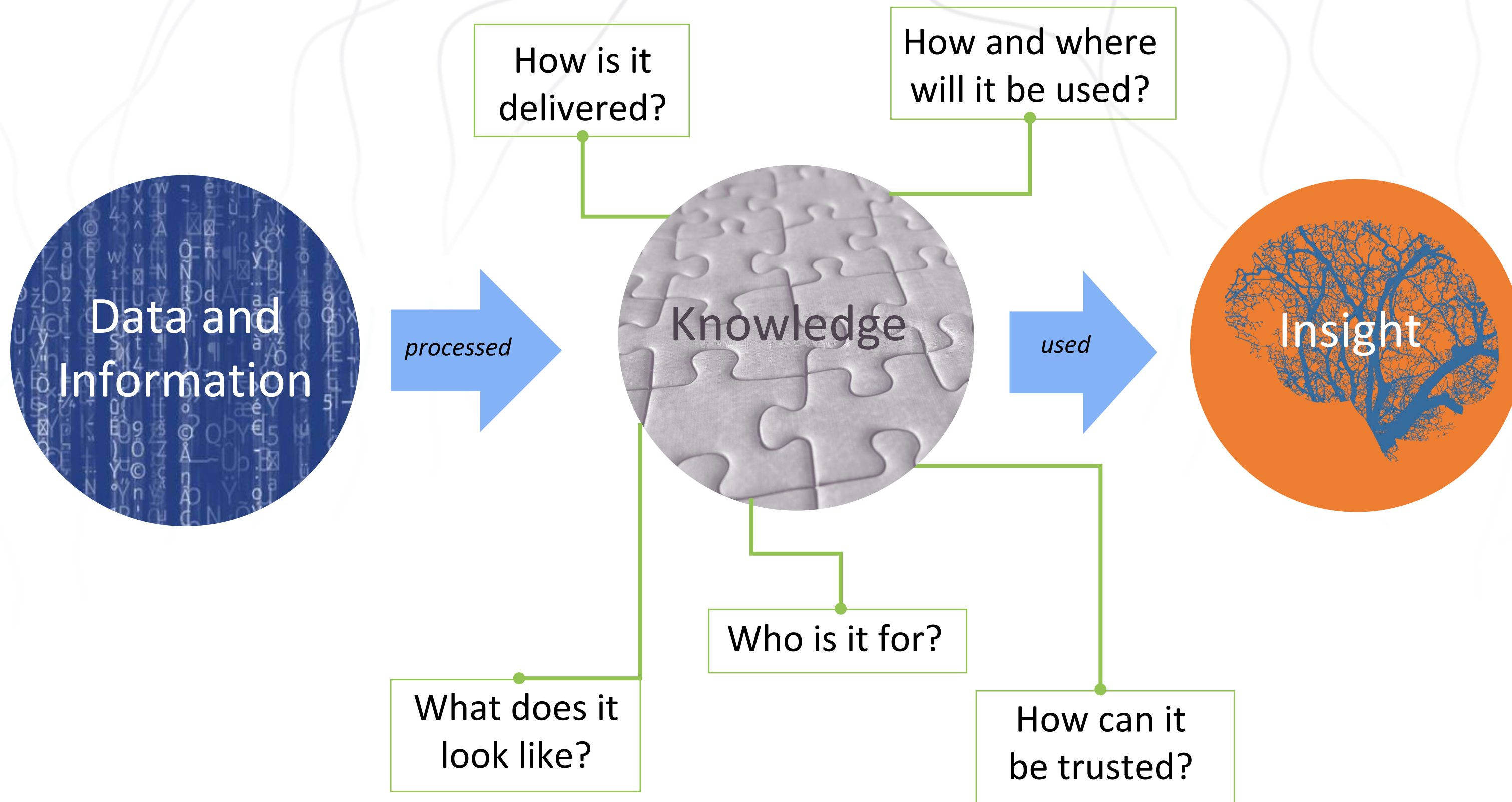
- What are we trying to achieve?
- How are we going to get there?
- What does transformation look like?
- How can the UN-IGIF help?



A pair of hands is shown from the bottom, holding a clear glass globe of the Earth. The globe is centered in the frame, showing the continents and oceans. The background is a bright blue sky with scattered white clouds. The hands are positioned as if they are carefully supporting the globe.

What are we trying to achieve?

From Data to Knowledge and Insights



Three Drivers for Change

Technology the Enabler



Unified solutions to regional problems

- Address common challenges
- Leverage and share innovation
- Harness geospatial intelligence from a local to global level



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Unified Solutions to Regional Challenges?

Our challenges are set to become more complex

Climate Change



Marine



Migration/Refugees



Biodiversity Loss



Pandemic Preparedness

Three Drivers for Change

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Equitable access to knowledge

- Societal expectations for knowledge on-demand
- Deliver contextualised knowledge for individuals
- Designed for general users



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Knowledge needs to be individualized

People have similar questions of data content.....asked in different contexts

Question: Will this property be flooded?



Emergency Responder

Yes. Evacuate the area



Home Buyer

Yes. Reevaluate buying this property



Insurance Broker

Yes. Higher insurance fees apply



Urban Planner

Yes. Avoid building in this area

Three Drivers for Change

Technology the Enabler



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Bridge the geospatial digital divide

- An ecosystem accessible and usable to all
- Knowledge available to everyone
- An ecosystem that, in its design, prioritises developing nations



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Think of the Local Farmer



“How much fertilizer and where?”

- Able to answer questions
- Geoanalytics that understand their individual needs
- Able to access globally available data
- Cheap accessible infrastructure
- No need for a degree in geospatial technologies
- Confidence in answers



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A hand holds a smartphone in the foreground. The phone's screen displays a network diagram with a central white circle and radiating lines connecting to smaller white circles. The background is a black and white photograph of a busy city street with many pedestrians. The overall image has a futuristic, digital theme.

How are we going to get there?

Current SDI Capabilities



Data sharing



Analytics



Policy Setting



Integrated data



Applications



Benefits accruing



Reuse / repurpose



Decision-making



So why change?



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SDI Limitations



Human accessible



Knowledge Delay



Push data vs. get answers



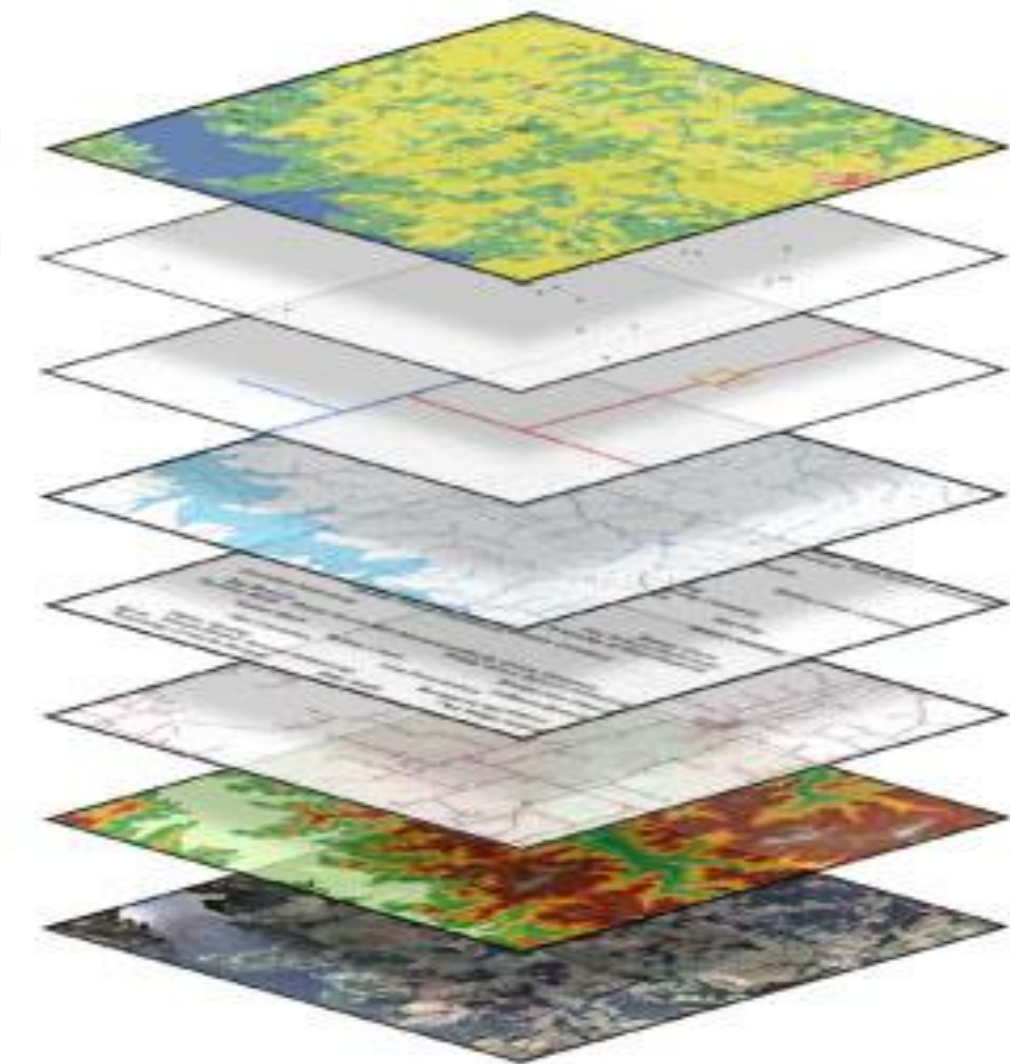
Limited integration



Professional users only



Lack opportunity



SDI Catalogues are not machine friendly



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Findable



Accessible



Interoperable

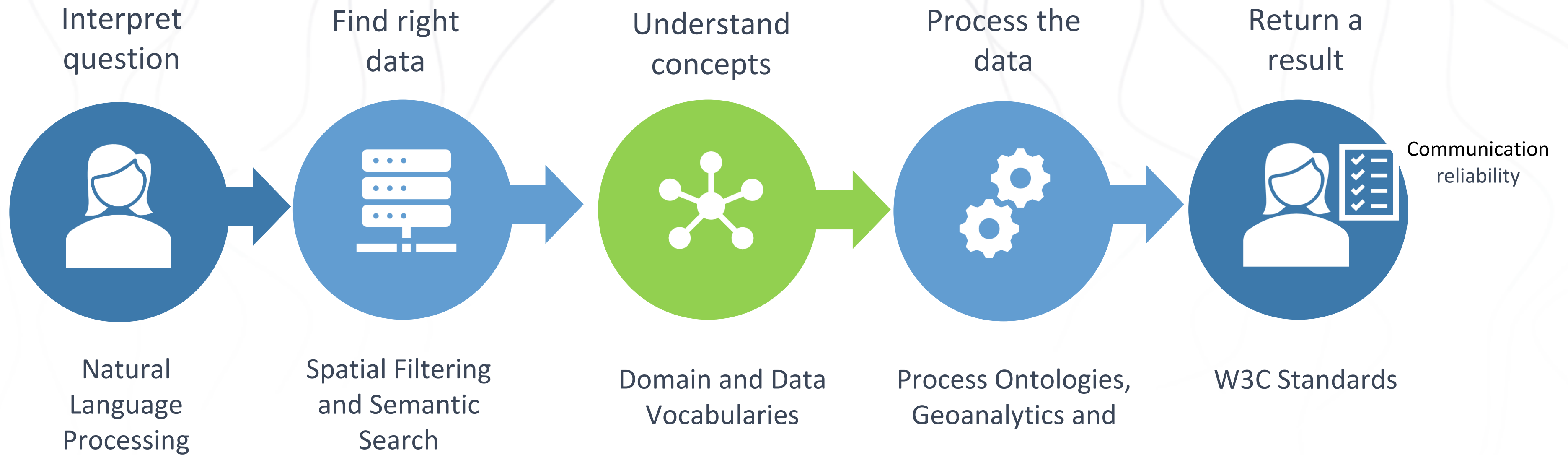


Reusable



Data Needs to be FAIR.
But that's only one aspect.

Teach Machines to Think Like Us



Artificial Intelligence and Semantic Web Technologies



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A person with curly hair, wearing a blue VR headset and a dark jacket, is smiling and interacting with a glowing, wireframe globe. The globe is surrounded by a network of white dots and lines, suggesting a digital or data-driven environment. The background is dark blue with a subtle pattern of white dots and lines.

**What does transformation to a future
Geospatial Information Ecosystem look
like?**

Differentiating an Infrastructure and Ecosystem



Infrastructure

An infrastructure is built – it consists of the physical and organizational structures and facilities needed for an operation - SDIs and System of Systems.



Ecosystem

An ecosystem evolves – it is an environment consisting of component parts that interact with one another - IoT and the Web of Data.



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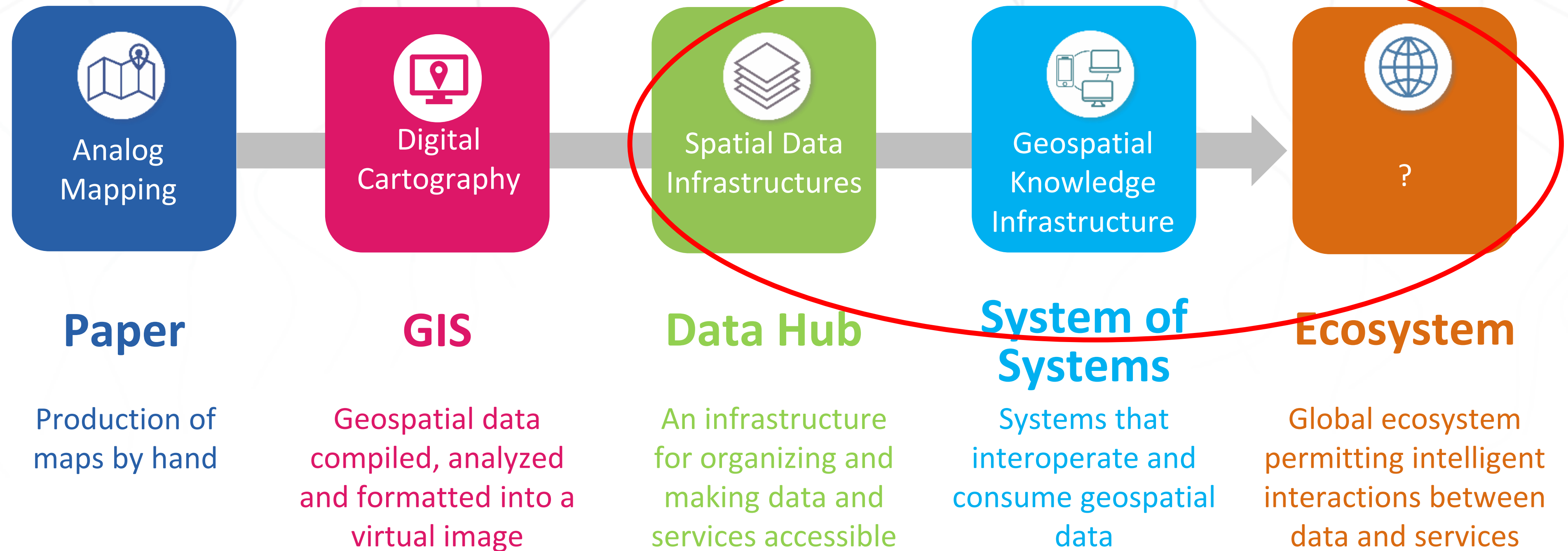


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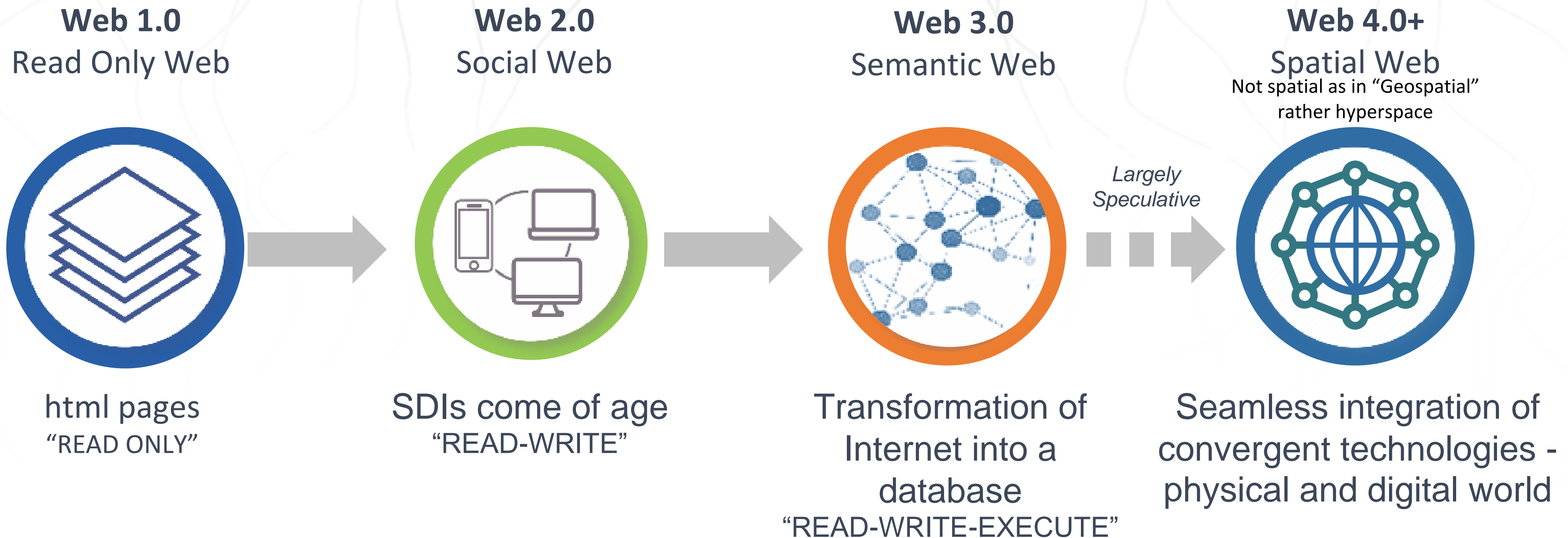
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Geospatial Continuum

On the same journey, just unique starting points



Web Continuum



Note: Categorization of web stages is not universally agreed and boundaries between are blurry

Emerging Ecosystem



Spatial Data Infrastructures

Human centered – A person searches, retrieves, processes and analyses data via a web catalogue to obtain knowledge.

System of Systems

Distributed/federated interconnected systems managed under the control of humans and include advanced machine analytics and AI

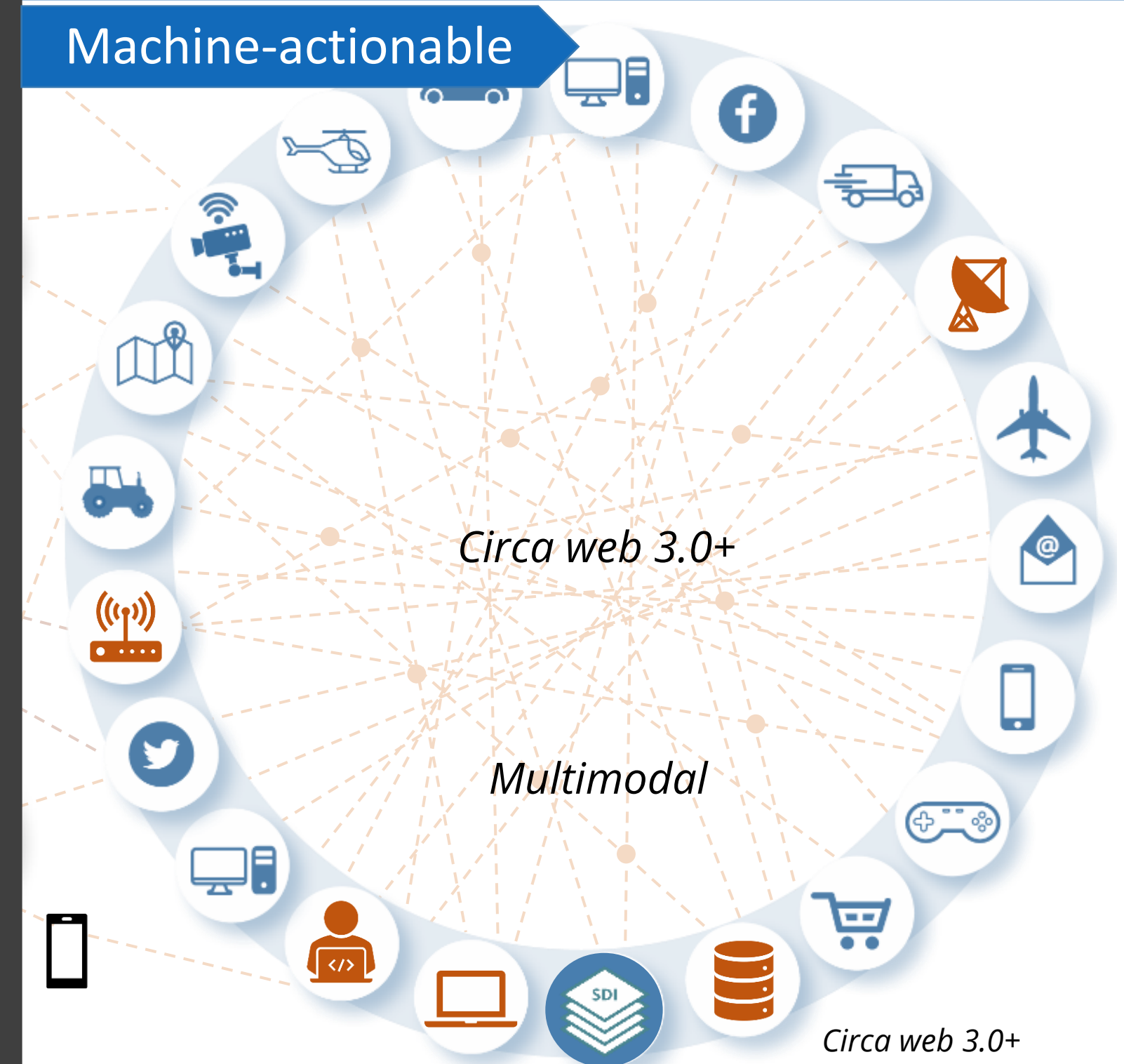
Emerging Ecosystem

Machined centered – AI searches, retrieves, processes and analyses data to deliver knowledge direct to a person's device or another machine.

Emerging Ecosystem



Circa web 2.0



Circa web 3.0+

Spatial Data Infrastructures

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Web of Data

Generative AI Apps operate within the Web of Data, made up of many ecosystems

Where does geospatial fit?

- Geospatial is a 'key' integrator – of this digital fabric
- Cross-sector and cross-discipline
- It ties together suppliers, users and service providers in real-time





How can the UN-IGIF help?

The UN-IGIF

The UN-IGIF is a United Nations endorsed framework to strengthen geospatial information management.

Includes 9 Strategic Pathways focused on three areas:

1. Governance

- Governance and Institutions
- Legal and Policy
- Financial

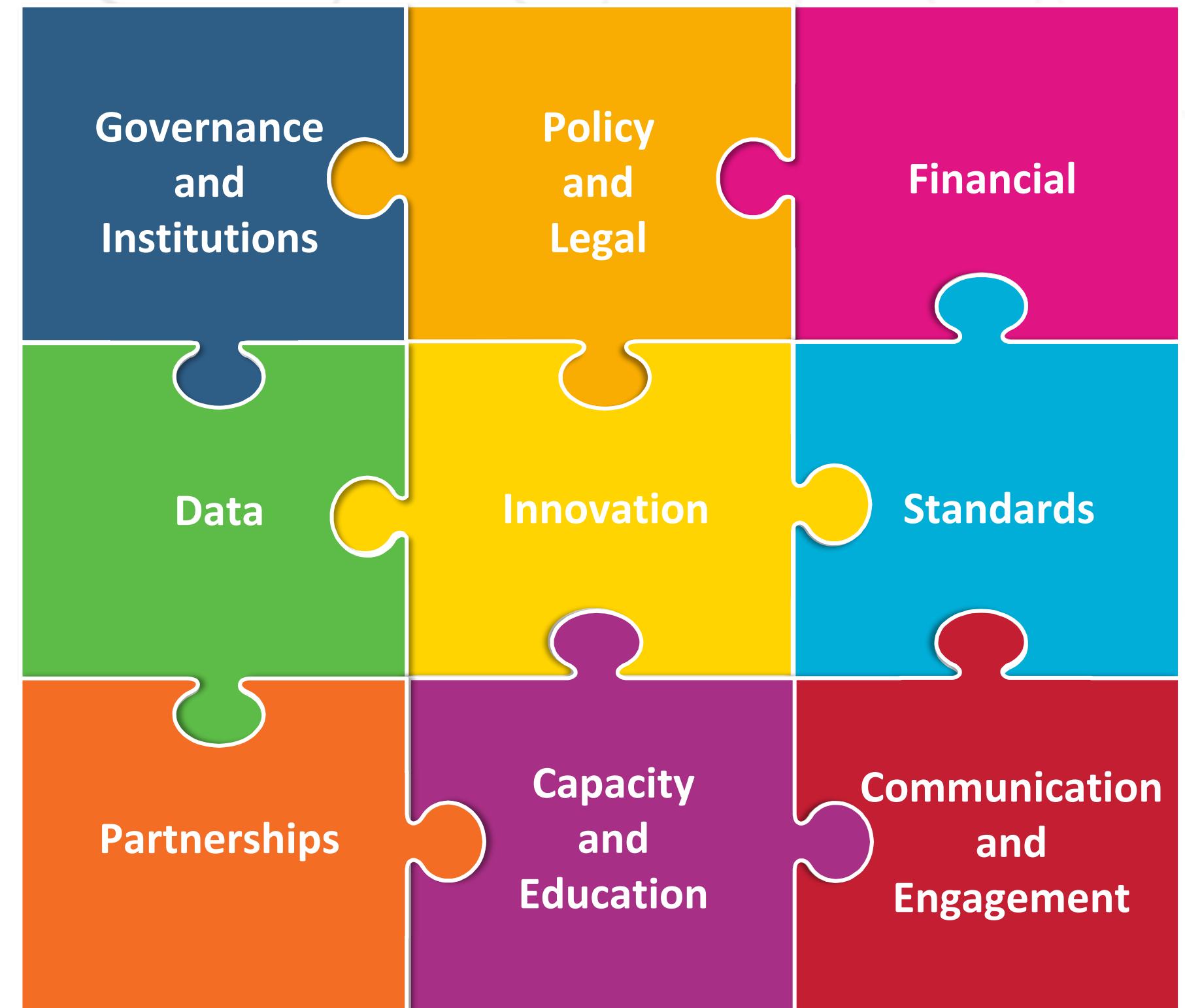
2. Technology

- Data
- Innovation
- Standards

3. People

- Partnerships
- Capacity and Education
- Communication and Engagement

UN-IGIF provides a 360-degree view of what needs to change to move toward the future geospatial information ecosystem.



UN-IGIF Shapes Policy and Legal Frameworks

National Governments

Formulating policies and regulations on **ethics, privacy, security, societal impact**

International Organizations

UN initiatives and **frameworks for AI governance and ethics.**

OECD guidelines on AI principles and policies.

Industry Consortia and Alliances

Partnership on AI developing **responsible AI practices.**

The Global Partnership on AI (GPAI) fostering **cooperation btw countries**

Regulatory Agencies

Regulations on **consumer protection, competition, data privacy transparency, accountability** and societal well-being

Research Institutions

Analyzing the societal impact of AI and advocating for **responsible AI practices**

Civil Society and NGOs

Advocating for AI policies that prioritize **human rights, fairness, and ethical considerations**



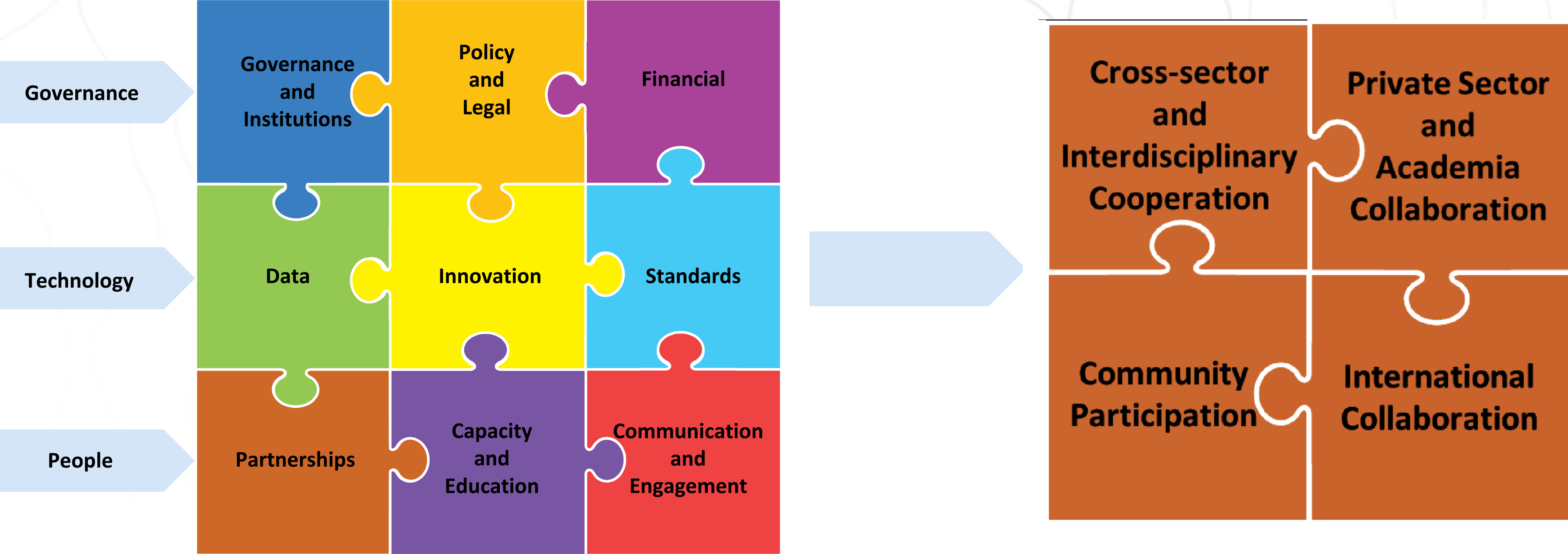
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UN-IGIF Shapes Partnerships



UN-IGIF Provides a Path to a Better Future

Geospatial Strategy

Helps Member States develop or strengthen geospatial strategies



Challenges and Priorities

Helps Member States address national and regional challenges and priorities



Spatial Data Infrastructure

Provides guidance on developing or strengthening SDIs



Societal Expectations

Helps meet societal expectations and demands for real time information



Geospatial Ecosystem

Enables Member States to evolve with the constantly changing environment



Digital Divide

Helps nations to bridge the digital divide



Member States Shared Experiences

Approach Utilized

Different approaches to implementing the UN-IGIF (UN, World Bank, Hybrid, National)

Alignment to Nation Priorities

Each country will have a difference purpose for implementing UN-IGIF

Challenges/Lessons Learned

What experiences implementing the UN-IGIF can be shared to benefit others

Example Materials

Letters, Agendas, Presentations, Stakeholder Analysis, Plans and more



Argentina, Mexico, Panama, Saint Lucia

Thank you!

Deirdre Dalpiaz Bishop
Co-Chair, HLG-IGIF

