

Presented at the FIG Working Week 2023,  
28 May - 1 June 2023 in Orlando, Florida, USA



# The Fall and Rise of Survey & Mapping in Government and its Societal Impacts

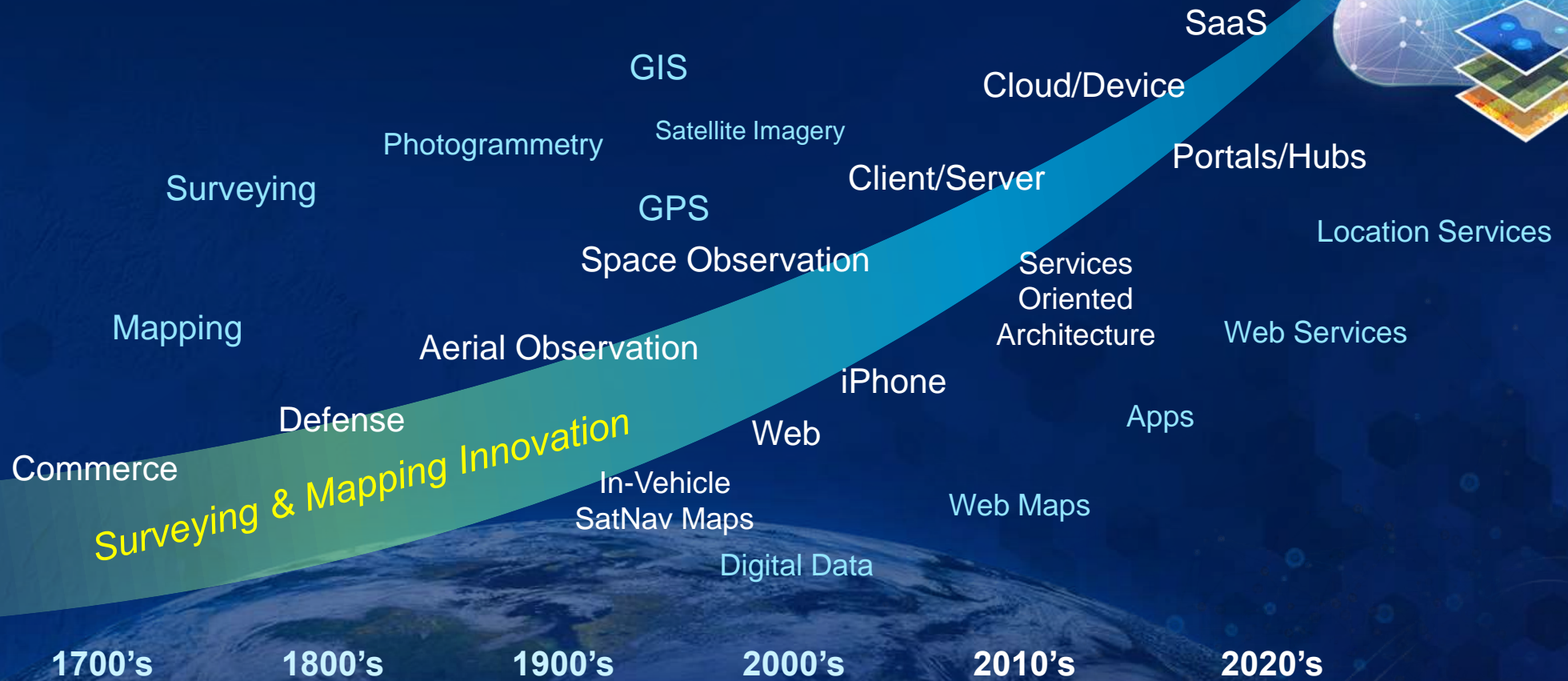
FIG Working Week 2023

Mark Cygan

29 May 2023

# National Mapping is Always Driven by Societal Change

Innovations and new technology deliver opportunities...



*Successful organizations respond and grow....*

# Challenges for National Mapping & Geospatial Organizations

Better, Faster and Cheaper

> Reduced Attention in Government Priorities

> Smaller Budgets and Revenues

> Fewer Staff and Resources

> Shrinking Timelines from Data Collection to Delivery

> Decrease in User Engagement



# Our World Has Many Challenges

Our Map Data and Information Products Must Support Solutions



Everything Happens Somewhere . . .  
Our Map Data is Key to a Better Future

# GIS Enables the Geographic Approach to Addressing These Issues



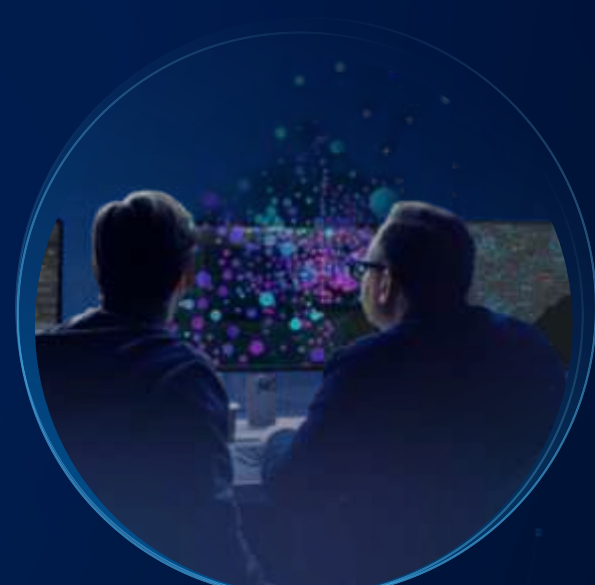
# Geospatial Information is a Critical Infrastructure



Transportation



Utilities

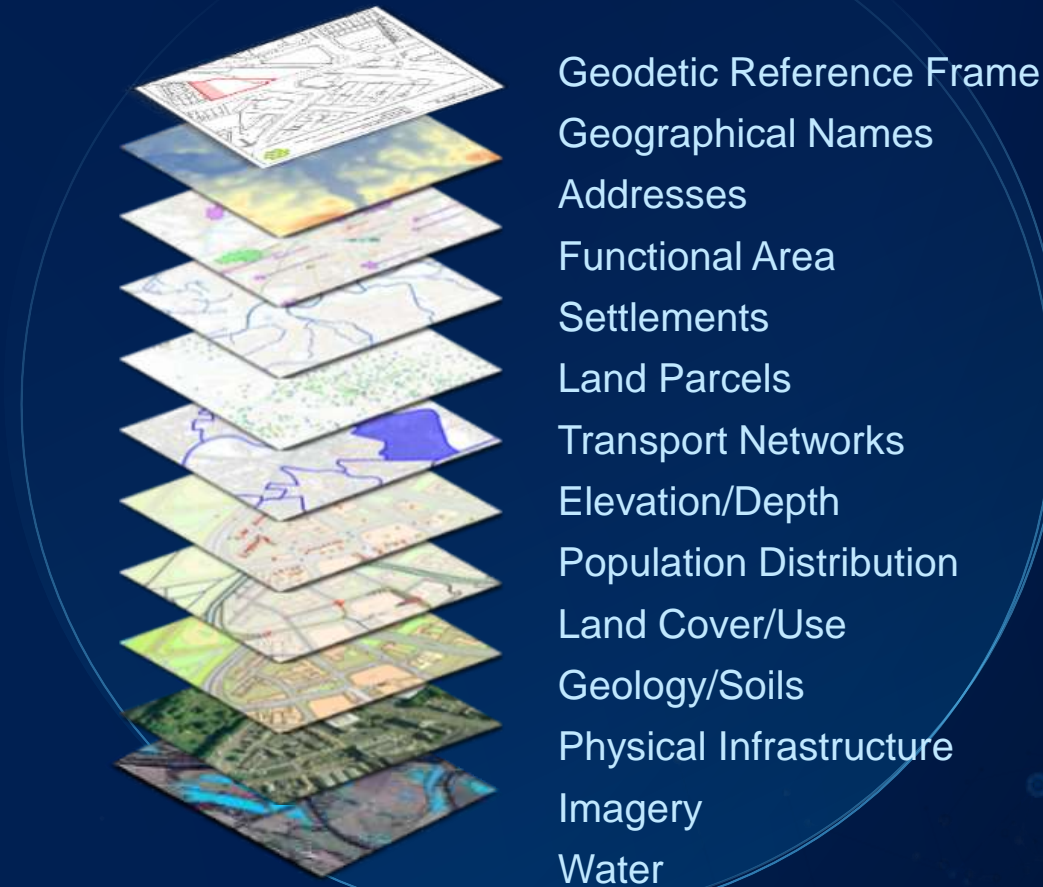


Information

Part of a Nation's Information Infrastructure

# Surveying & Mapping Provide Fundamental Infrastructure Data

## Fundamental Data Themes



Source: [https://ggim.un.org/documents/E-C20-2018-7-Add\\_1-Global-fundamental-geospatial-data-themes.pdf](https://ggim.un.org/documents/E-C20-2018-7-Add_1-Global-fundamental-geospatial-data-themes.pdf)

# Geospatial Infrastructure Integrates Distributed Services

Making Available All Types of Data





# Beyond Spatial Data Infrastructures

Digital ecosystems support knowledge, understanding, ... and action



Metadata catalogs



Federated portals



Digital ecosystems

Search & Discovery  $\longrightarrow$  Integration & Use

# Digital Ecosystems

Working beyond borders to achieve common goals



Action

Understanding

Knowledge

Health

Education

Agriculture

Energy

Sustainable Development

Climate Resilience

Broadband Access

Equity

Disaster Management

Infrastructure

Mobility

Biodiversity

*...Enabled by an integrated geospatial infrastructure*



# National Mapping Authorities' Mission

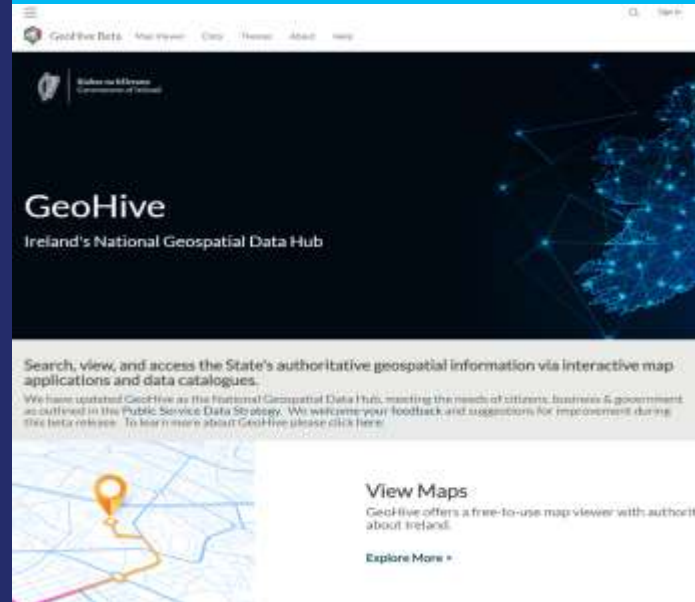
## Evolving from "Data Provider" to "Geospatial Services"



### Authoritative Data



### Underpinning National Geospatial Infrastructure



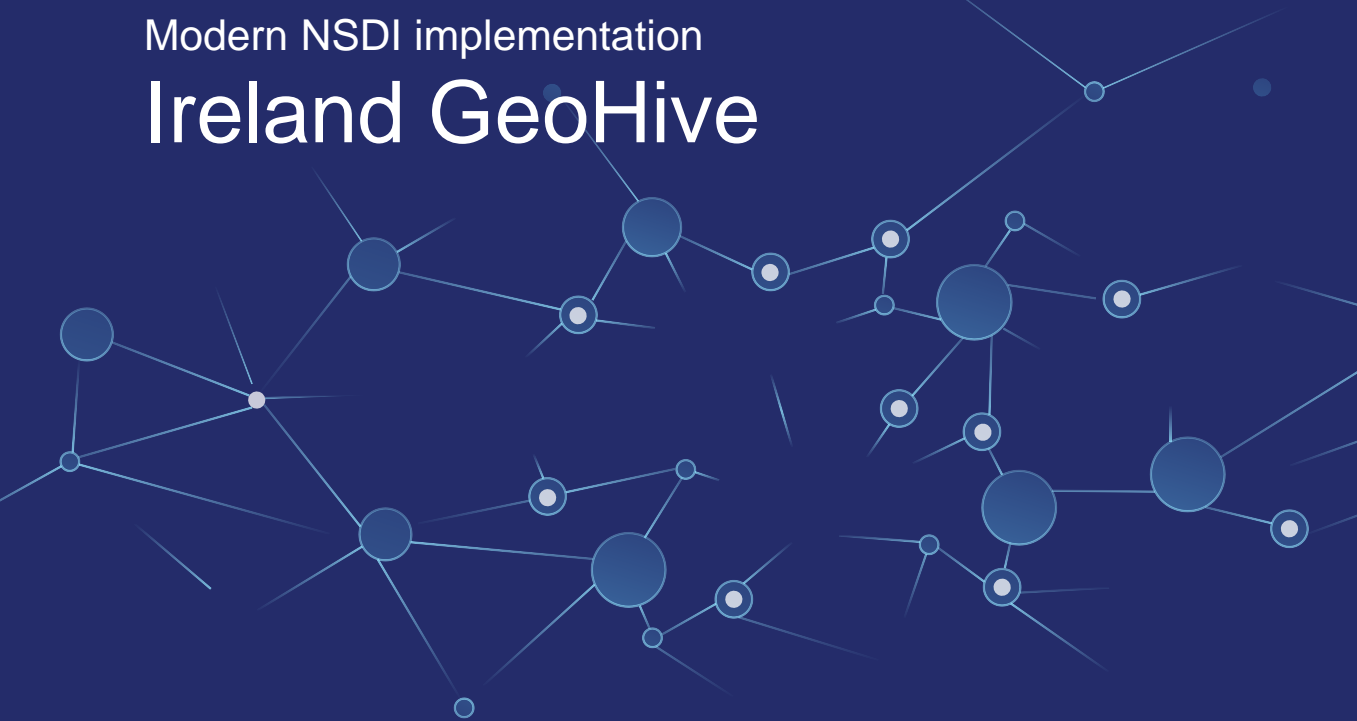
### Geospatial Services



*Underpinning Sustainable Development ...*

Modern NSDI implementation

# Ireland GeoHive

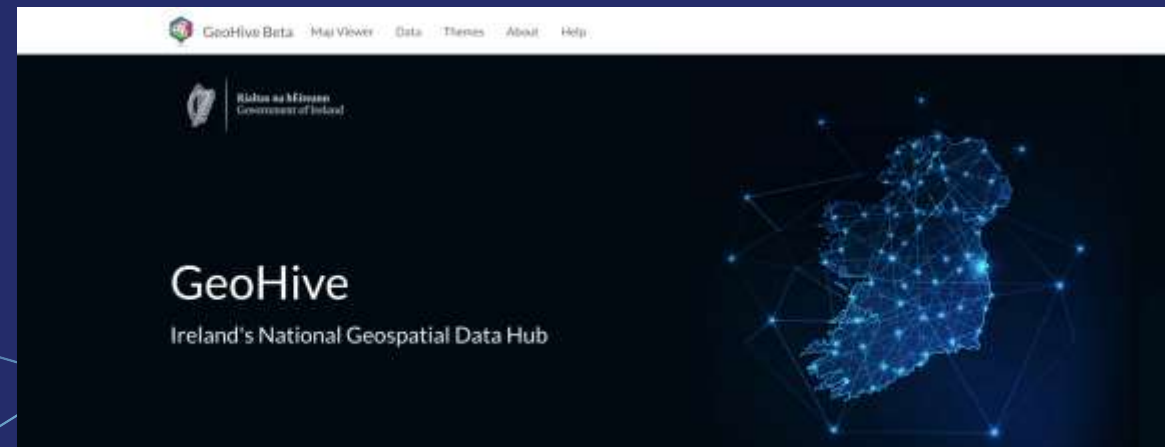


A screenshot of the GeoHive website homepage. The page has a dark blue header with the GeoHive logo and navigation links: 'GeoHive Beta', 'Map Viewer', 'Data', 'Themes', 'About', and 'Help'. Below the header is a large hero section with the text 'GeoHive Ireland's National Geospatial Data Hub' and a glowing blue map of Ireland. A light grey banner below the hero section contains the text: 'Search, view, and access the State's authoritative geospatial information via interactive map applications and data catalogues. We have updated GeoHive as the National Geospatial Data Hub, meeting the needs of citizens, business &amp; government as outlined in the Public Service Data Strategy. We welcome your feedback and suggestions for improvement during this beta release. To learn more about GeoHive please click here.' The main content area is divided into three sections: 'View Maps' with a map image and a pink/orange route, 'Access Data' with a globe and data icons, and 'Create Content' with a colorful bar chart. Each section includes a brief description and an 'Explore More &gt;' link.

<https://www.geohive.ie/>

Modern NSDI implementation

# Ireland GeoHive



<https://www.geohive.ie/>

<https://irelandsdg.geohive.ie/>

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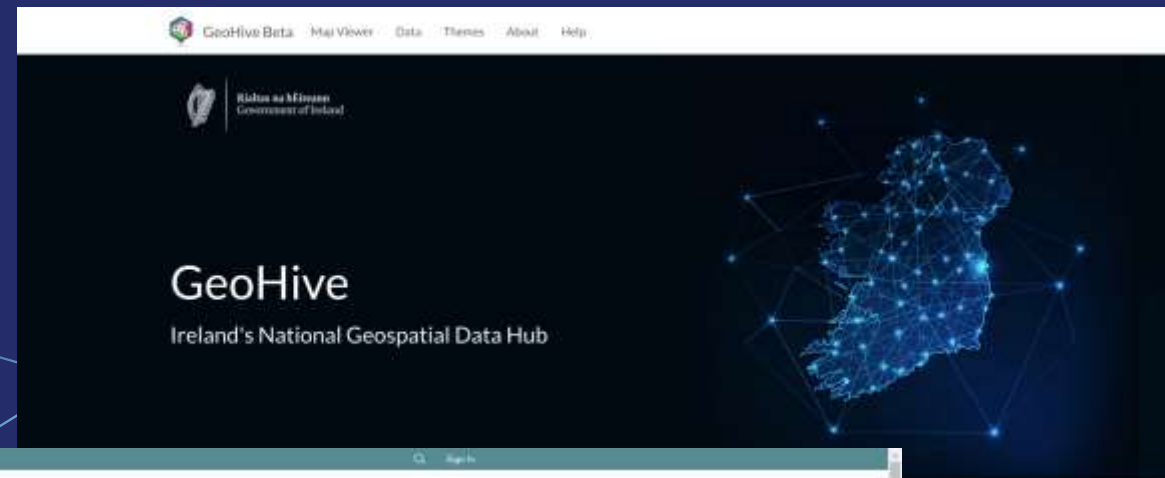
Hive Community Engagement

Features

Learn More>

Modern NSDI implementation

# Ireland GeoHive



<https://www.geohive.ie/>

<https://irelandsdg.geohive.ie/>

<https://covid19ireland-geohive.hub.arcgis.com>

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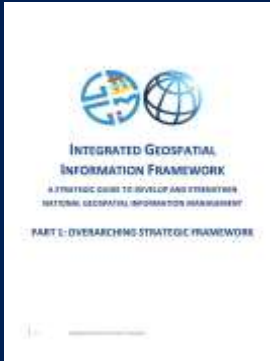
Hive Community Engagement

Features:

Learn More>

# Integrated Geospatial Information Framework

UN-GGIM Framework for Implementing Modern SDI

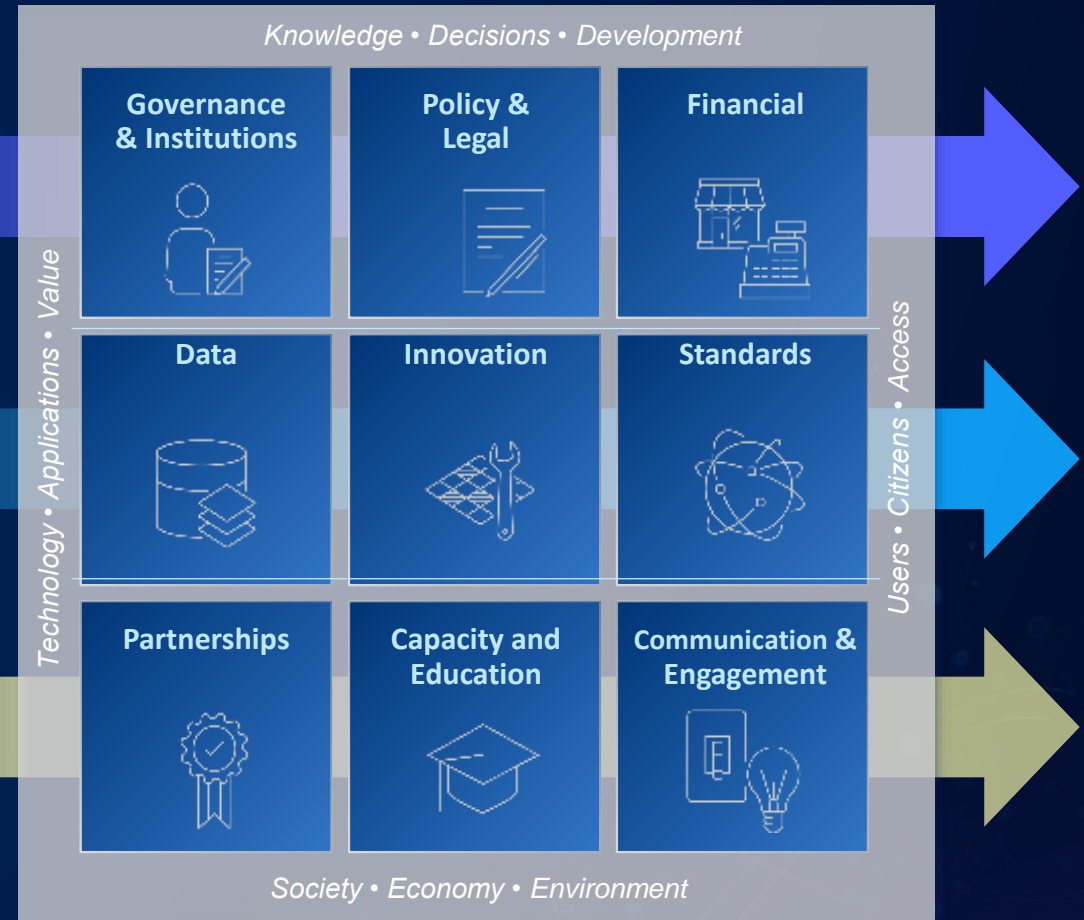


*The IGIF provides a basis and guide for developing, integrating, and strengthening geospatial information management.*

GOVERNANCE

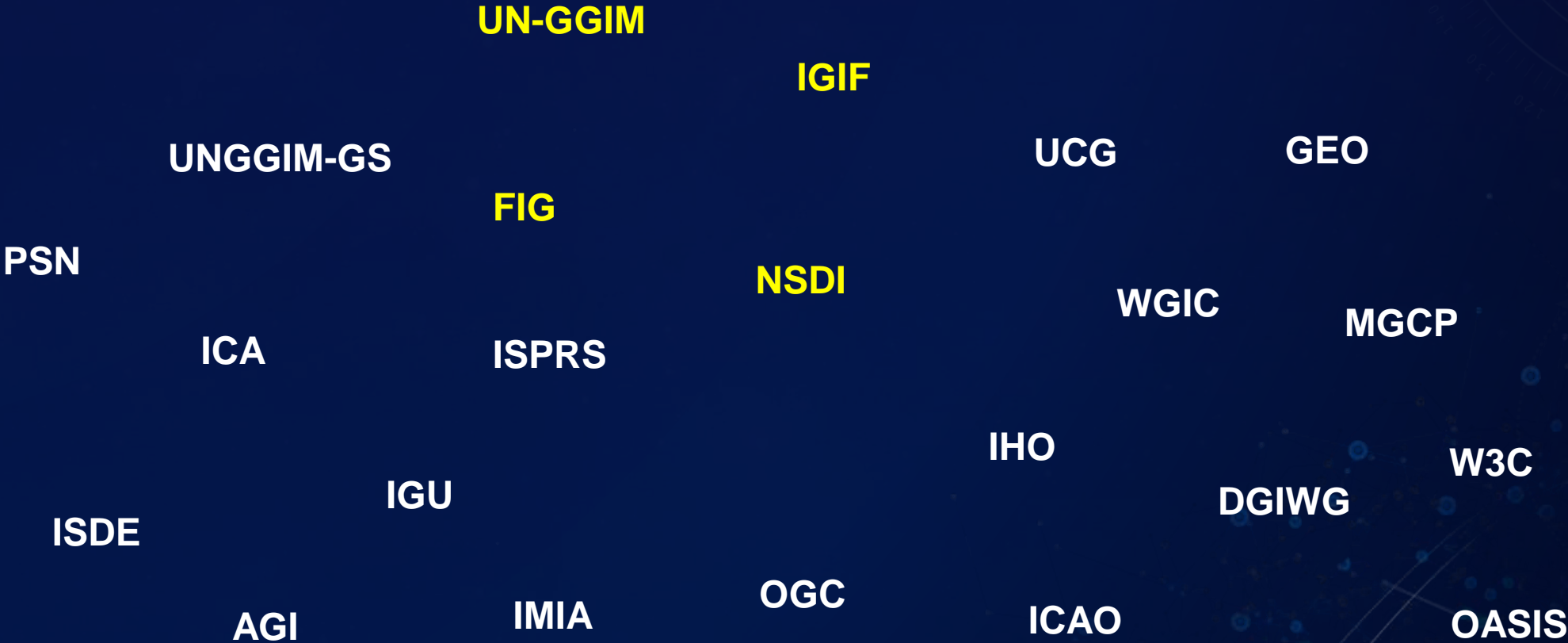
TECHNOLOGY

PEOPLE



**9 Strategic Pathways**

# Leveraging Collaboration in Geospatial Communities





*Our Future Depends on ...*



*...Our Geospatial Data Services*



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