GWF
GEOSPATIAL WORLD FORUM
2-5 MAY 2023 • ROTTERDAM, THE NETHERLANDS

Geospatial Knowledge Infrastructure (GKI) Summit

Theme: Strategic Infrastructure for Future Geospatial Ecosystem

Jointly Organized by

GEOSPATIAL WORLD
ADVANCING KNOWLEDGE FOR SUSTAINABILITY

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GEOSPATIAL KNOWLEDGE INFRASTRUCTURE (GKI)

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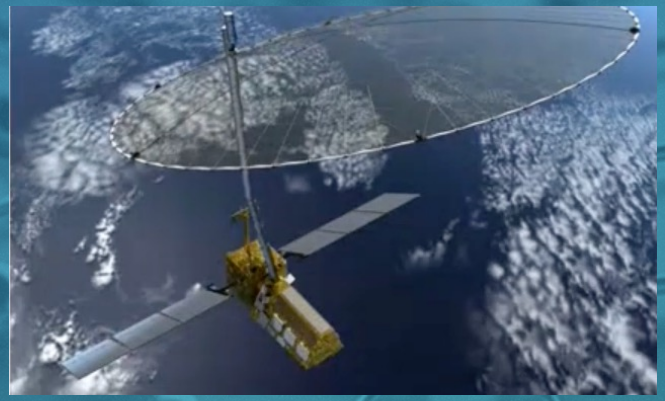
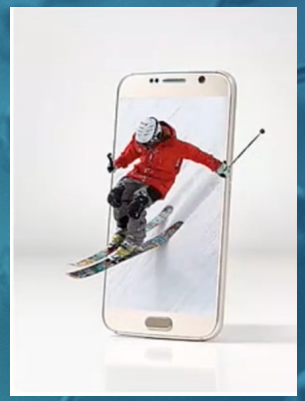
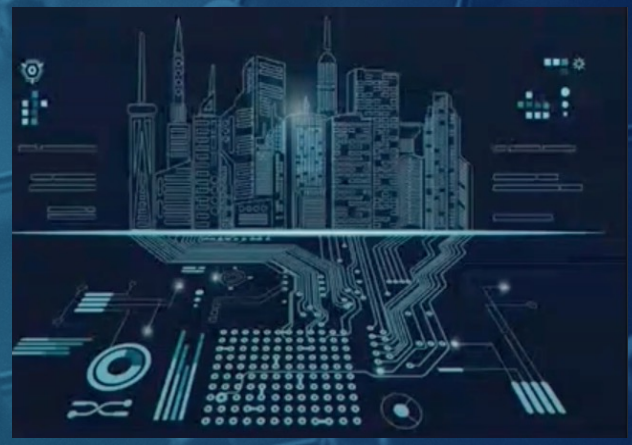
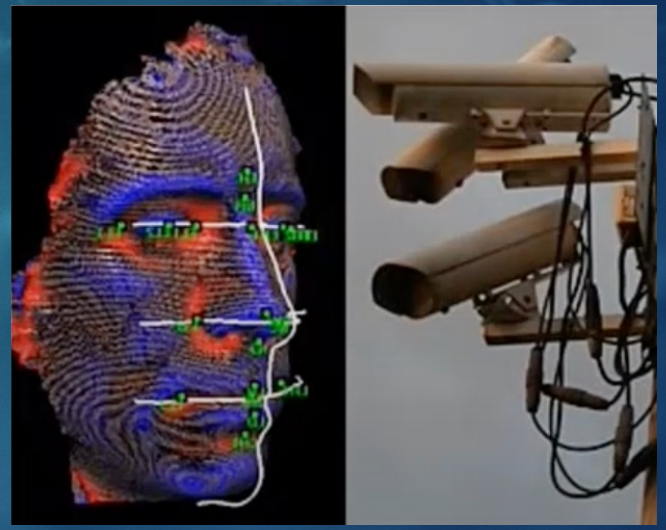
Director – GKI, Geospatial World

Why a new concept? The geospatial world is changing

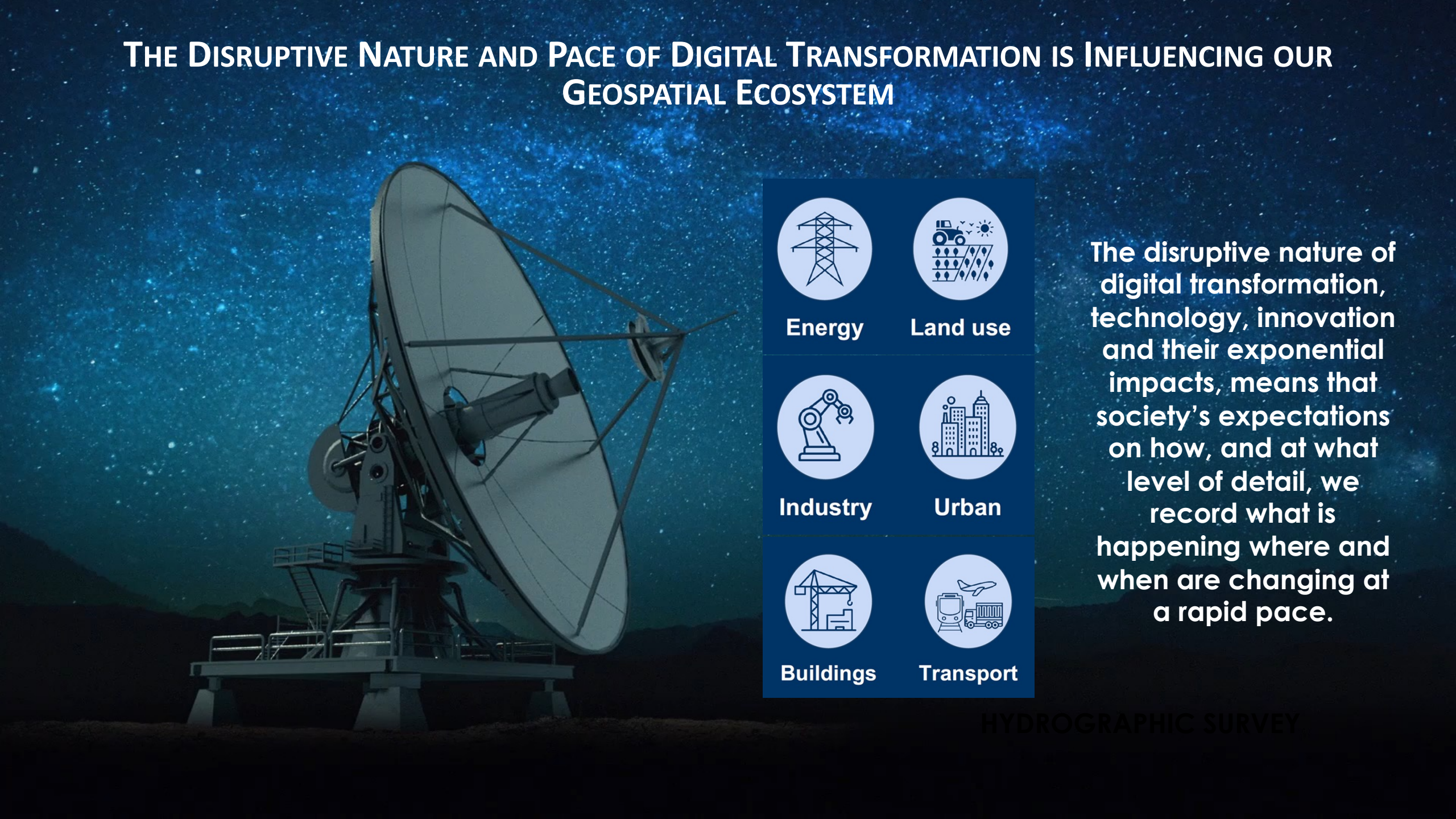








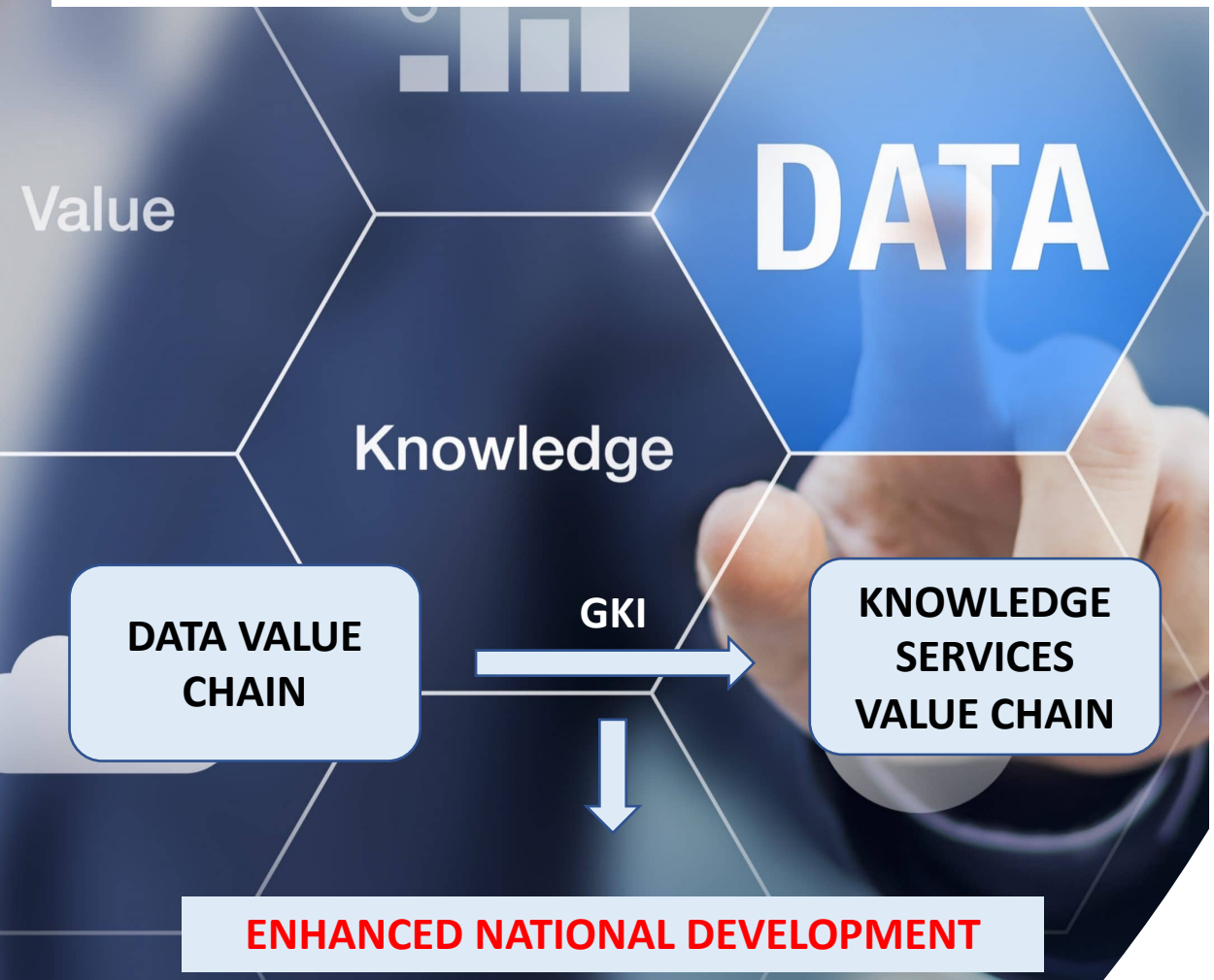
The Disruptive Nature and Pace of Digital Transformation is Influencing our Geospatial Ecosystem

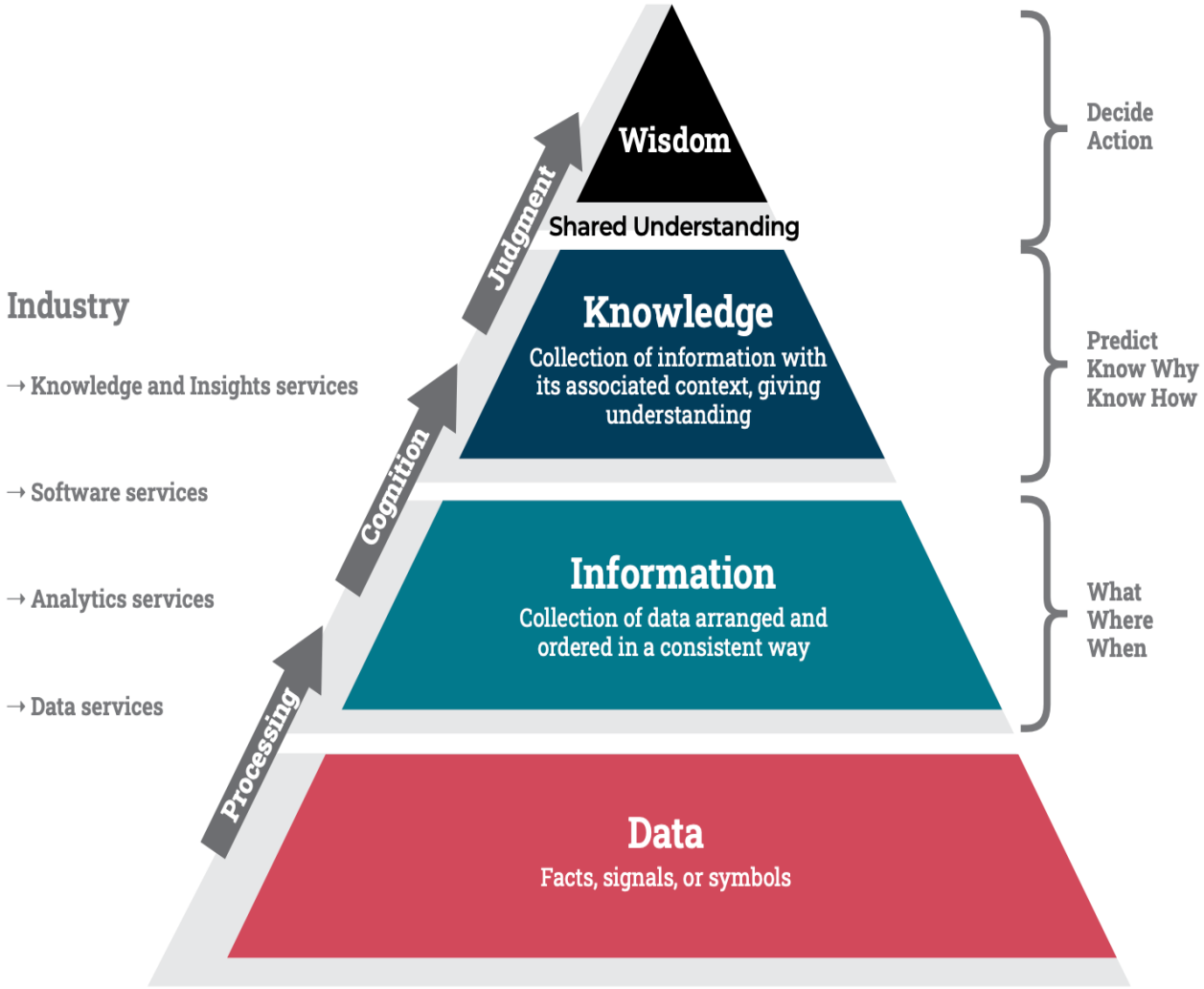


The disruptive nature of digital transformation, technology, innovation and their exponential impacts, means that society's expectations on how, and at what level of detail, we record what is happening where and when are changing at a rapid pace.

HYDROGRAPHIC SURVEY

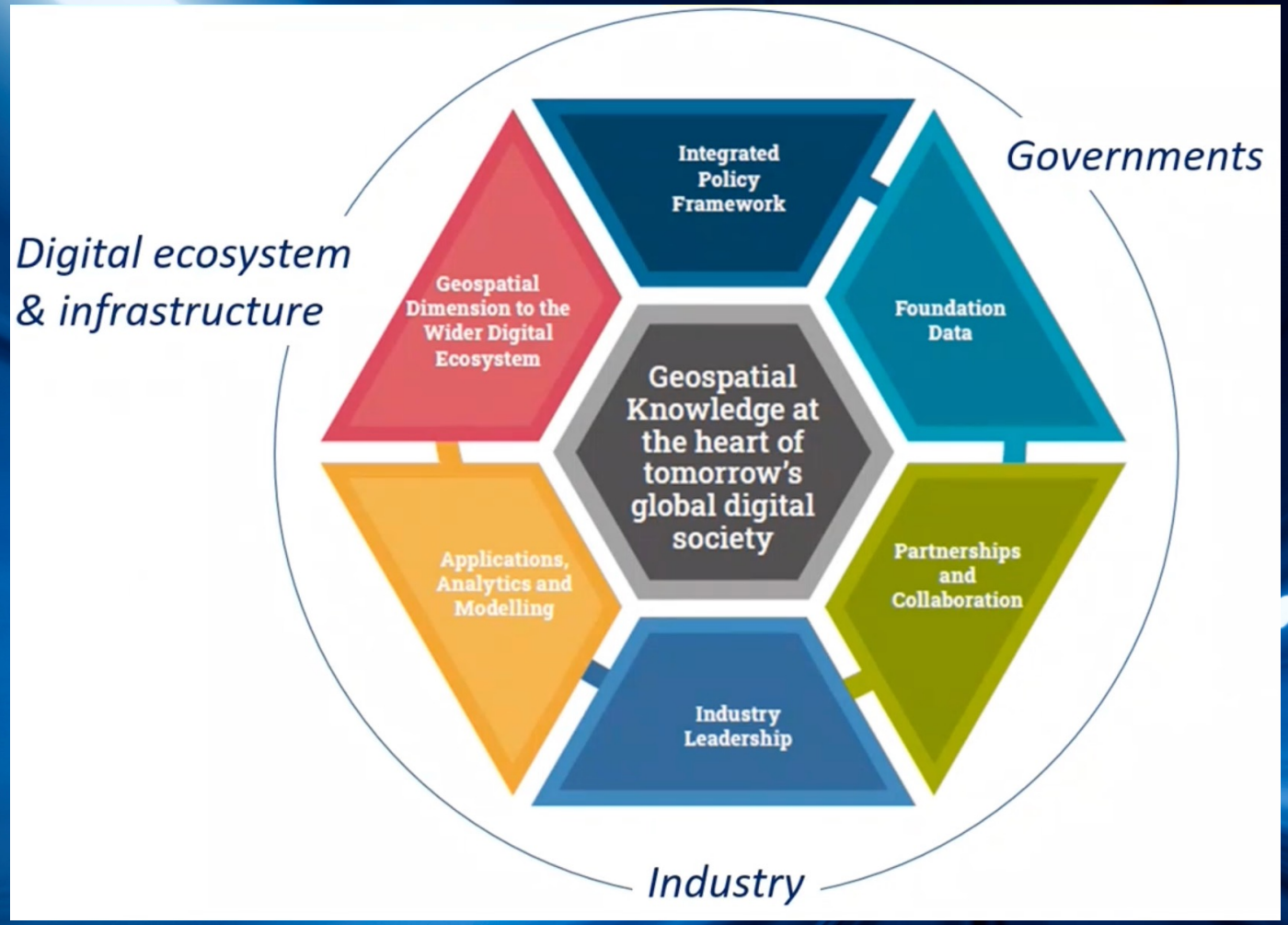
Why a new vision?
Expectations are changing



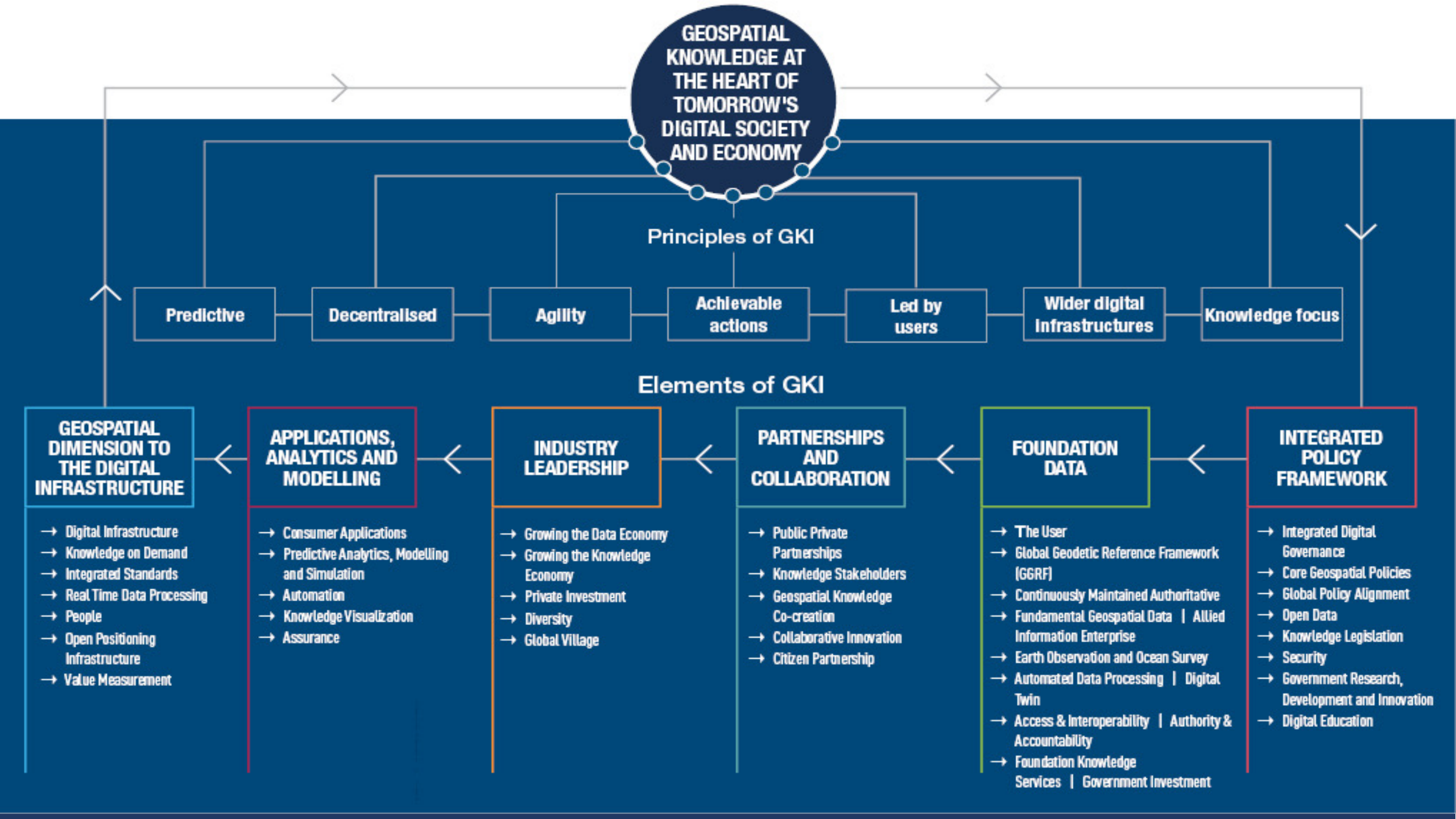


THE KNOWLEDGE PARADIGM

GKI Elements

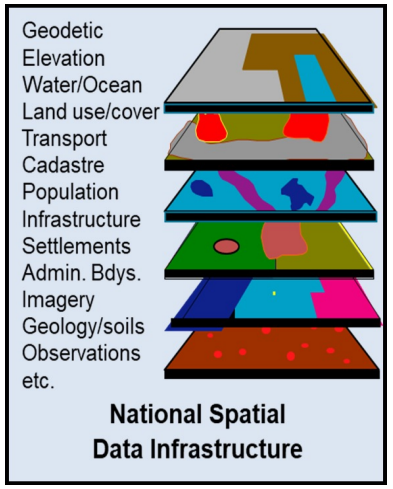


"Geospatial Knowledge Infrastructure provides a blueprint to integrate digital economies, societies and citizens with geospatial approaches, data and technologies and in so doing deliver the location-based knowledge, services and automation expected in the 4IR age."


GEOSPATIAL KNOWLEDGE AT THE HEART OF TOMORROW'S DIGITAL SOCIETY AND ECONOMY
Principles of GKI
Predictive
Decentralised
Agility
Achievable actions
Led by users
Wider digital infrastructures
Knowledge focus
Elements of GKI
GEOSPATIAL DIMENSION TO THE DIGITAL INFRASTRUCTURE
→ Digital Infrastructure
→ Knowledge on Demand
→ Integrated Standards
→ Real Time Data Processing
→ People
→ Open Positioning Infrastructure
→ Value Measurement
APPLICATIONS, ANALYTICS AND MODELLING
→ Consumer Applications
→ Predictive Analytics, Modelling and Simulation
→ Automation
→ Knowledge Visualization
→ Assurance
INDUSTRY LEADERSHIP
→ Growing the Data Economy
→ Growing the Knowledge Economy
→ Private Investment
→ Diversity
→ Global Village
PARTNERSHIPS AND COLLABORATION
→ Public Private Partnerships
→ Knowledge Stakeholders
→ Geospatial Knowledge Co-creation
→ Collaborative Innovation
→ Citizen Partnership
FOUNDATION DATA
→ The User
→ Global Geodetic Reference Framework (GGRF)
→ Continuously Maintained Authoritative
→ Fundamental Geospatial Data | Allied Information Enterprise
→ Earth Observation and Ocean Survey
→ Automated Data Processing | Digital Twin
→ Access & Interoperability | Authority & Accountability
→ Foundation Knowledge Services | Government Investment
INTEGRATED POLICY FRAMEWORK
→ Integrated Digital Governance
→ Core Geospatial Policies
→ Global Policy Alignment
→ Open Data
→ Knowledge Legislation
→ Security
→ Government Research, Development and Innovation
→ Digital Education

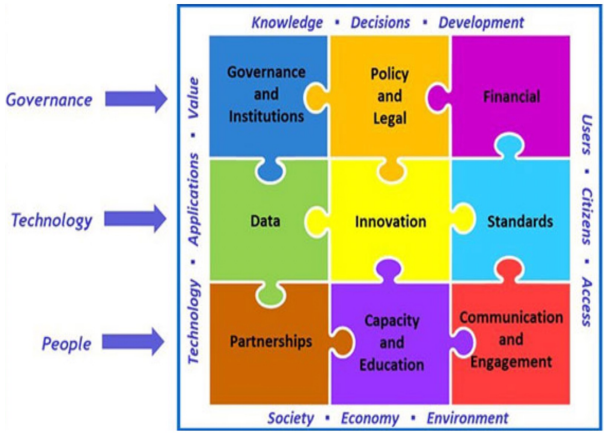
EVOLVING GEOSPATIAL ECOSYSTEM

SDI



Data

UN-IGIF



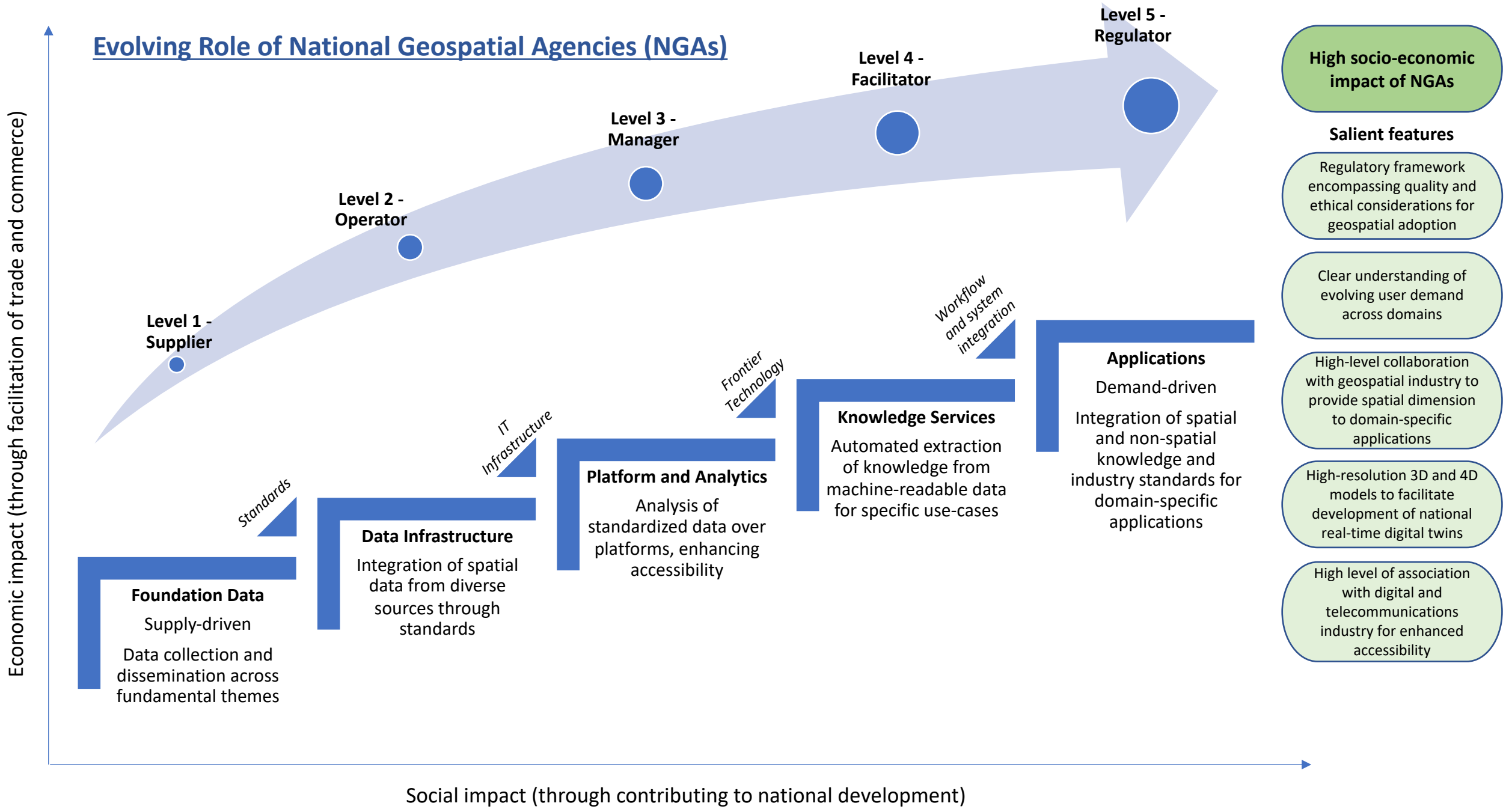
Information

GKI

Knowledge

MOVING UP THE VALUE CHAIN

Strengthening the National Geospatial Infrastructure


Evolving Role of National Geospatial Agencies (NGAs)
Economic impact (through facilitation of trade and commerce)
Social impact (through contributing to national development)
Level 1 - Supplier
Level 2 - Operator
Level 3 - Manager
Level 4 - Facilitator
Level 5 - Regulator
Standards
IT Infrastructure
Frontier Technology
Workflow and system integration
Foundation Data
Supply-driven
Data collection and dissemination across fundamental themes
Data Infrastructure
Integration of spatial data from diverse sources through standards
Platform and Analytics
Analysis of standardized data over platforms, enhancing accessibility
Knowledge Services
Automated extraction of knowledge from machine-readable data for specific use-cases
Applications
Demand-driven
Integration of spatial and non-spatial knowledge and industry standards for domain-specific applications
High socio-economic impact of NGAs
Salient features
Regulatory framework encompassing quality and ethical considerations for geospatial adoption
Clear understanding of evolving user demand across domains
High-level collaboration with geospatial industry to provide spatial dimension to domain-specific applications
High-resolution 3D and 4D models to facilitate development of national real-time digital twins
High level of association with digital and telecommunications industry for enhanced accessibility

Thank You!