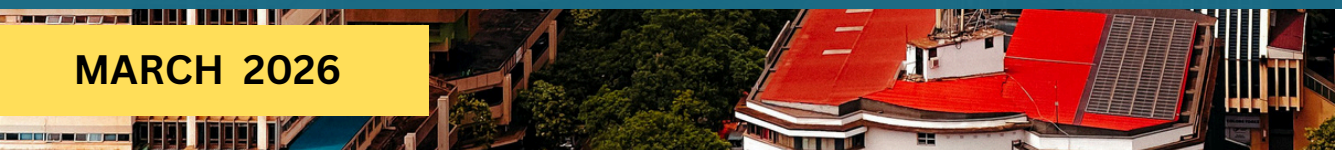
KENYAN EARTH OBSERVATION DATA SHARING FRAMEWORK 2026 AND IGIF COUNTRY PLAN



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Viffa Consult

PRELIMINARY
KENYA'S SPACE SECTOR DATA SHARING FRAMEWORK 2026

FORWARD
PRINCIPAL SECRETARY MINISTRY OF DEFENCE

I am pleased to acknowledge and endorse the development of the Kenyan Earth Observation (EO) Data Sharing Framework 2026 and the associated Country-Level Action Plan under the United Nations Integrated Geospatial Information Framework (UN-IGIF).

The Kenya Space Agency (KSA), operating under the Ministry of Defence, has demonstrated strong leadership in convening stakeholders including government agencies such as KNBS, KMD, DRSRS, the Council of Governors, academia, private sector entities, and international partners to address critical gaps in geospatial and EO data sharing.

This initiative aligns seamlessly with Kenya's national development agenda, Vision 2030, the Digital Economy Blueprint, and commitments to sustainable development goals (SDGs), while directly supporting defence and security objectives such as enhanced situational awareness, disaster management, resource monitoring, and territorial integrity.

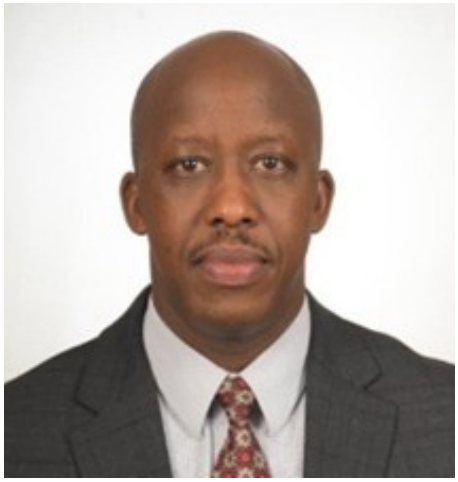
This framework will foster greater trust, reduce duplication, promote innovation, and contribute to national resilience particularly in defence applications where timely, integrated geospatial intelligence is essential. It also complements broader national efforts on data governance, sovereignty, and secure sharing, ensuring alignment with emerging policies from relevant ministries.

I commend KSA and partners for the inclusive stakeholder-driven approach seen in the project needs assessments, pathway workshops and validation exercise's that brought together key stakeholder. I urge continued momentum toward finalization, gazettement where applicable, and implementation, with full ministerial support to ensure sustainable funding, capacity enhancement, and measurable impacts.

Kenya's leadership in the space and geospatial domain will be strengthened through this framework, positioning the nation as a regional hub for EO innovation and data-driven development.

DR. PATRICK MARIRU
PRINCIPAL SECRETARY STATE DEPARTMENT FOR DEFENCE MINISTRY OF DEFENCE
REPUBLIC OF KENYA

PREFACE AND ACKNOWELDMENT
CEO KENYA SPACE AGENCY (KSA)



I'm privileged to introduce the Kenyan Earth Observation (EO) Data Sharing Framework 2026, integrated with the Integrated Geospatial Information Framework (IGIF) Country Action Plan. This framework represents a pivotal step in harnessing the transformative power of space-derived data to drive Kenya's sustainable development agenda underpinned on Kenya Vision 2030 and Medium-Term Plan IV (BETA).

In an era where data is the cornerstone of informed decision-making, Kenya stands at the forefront of leveraging Earth Observation technologies to address pressing national challenges from climate resilience and agricultural productivity to disaster management and urban planning. However, the full potential of EO data remains untapped due to fragmented systems, interoperability challenges, and limited collaboration across sectors.

This framework, developed in partnership with key stakeholders including the British High Commission in Kenya, Research Institute for Innovation and Sustainability (RIIS), VIFFA Consult, and institutions such as the Kenya National Bureau of Statistics (KNBS), Directorate of Resource Surveys and Remote Sensing (DRSRS), Kenya Meteorological Department (KMD), Survey of Kenya, Council of Governors, KONZA Technopolis and the Regional Centre for Mapping of Resources for Development (RCMRD) among others, seeks to bridge these gaps.
Adopting the United Nations Integrated Geospatial Information Framework (UN-IGIF) at the country level, we propose a coherent structure that emphasizes governance, legal and policy alignment, financial sustainability, data standards, innovation, partnerships, capacity building, and effective communication.

By defining Kenya's Fundamental EO Data Themes, establishing interoperable standards, and fostering trust through robust legal frameworks, we aim to create an ecosystem where data flows seamlessly between government agencies, the private sector, academia, and international partners.

KSA together with key partner agencies is committed to leading this initiative, building on recent stakeholder engagements that highlighted the importance of trust, confidentiality, and structured data sharing systems. These efforts will unlock the value of EO data, enhance its application in national development, and position Kenya as a regional leader in space innovation.
As we move toward framework implementation, I call upon all stakeholders to contribute to this collaborative vision. Together, we can build a data-driven future that empowers every Kenyan.

BRIG. HILLARY B KIPKOSGEY, EBS 'AWC'(USA) 'PSC'(K) 'PSC'(TZ)
ACTING DIRECTOR GENERAL KENYA SPACE AGENCY

DIRECTOR GENERAL KENYA NATIONAL BUREAU OF STATISTICS (KNBS)

I am honoured to endorse the Proposed Kenyan Earth Observation (EO) Data Sharing Framework 2026 and the associated Integrated Geospatial Information Framework (IGIF) Country Plan. In an era where data drives decision-making and national development, this framework represents a pivotal step toward harnessing the full potential of geospatial and Earth observation data in Kenya.

Institutional collaboration is paramount in unlocking the value of our existing datasets. For too long, the untapped potential of these resources has limited our ability to support informed policy-making and sustainable development.

By fostering synergies across government agencies, the private sector, academia, and international partners, this framework will address key bottlenecks in data sharing, ensuring that geospatial information becomes a cornerstone of our national agenda. To achieve this and as part of the framework implementation, the Statistics Act among other related legislations must be integrated into the framework to maintain consistency with our national statistical system.

This will safeguard data confidentiality across institutions while promoting interoperability and trust. Aligning with the United Nations IGIF, the plan provides a coherent pathway for governance, legal standards, innovation, and capacity building, ultimately contributing to Kenya's Vision 2030 and the Sustainable Development Goals.

I commend the Kenya Space Agency, the British High Commission, RIIS, Viffa Consult, and all stakeholders involved in this initiative. Together, we can transform data into actionable insights for a resilient and prosperous Kenya.

DR. MACDONALD GEORGE OBUDHO
DIRECTOR GENERAL KENYA NATIONAL BUREAU OF STATISTICS

THE DIRECTORATE OF RESOURCE SURVEYS AND REMOTE SENSING (DRSRS)

As the Director of the Directorate of Resource Surveys and Remote Sensing (DRSRS), I have witnessed firsthand the transformative potential of geospatial and EO data in addressing our nation's most pressing challenges from climate resilience and agricultural productivity to disaster management and urban planning. This framework represents a pivotal step in Kenya's journey toward harnessing these resources for inclusive, sustainable development.

Drawing from the United Nations Integrated Geospatial Information Framework (UN-IGIF) a comprehensive global blueprint developed by the UN Committee of Experts on Global Geospatial Information Management (UN-GGIM) in partnership with entities like the World Bank this framework adapts nine strategic pathways to our local context: Governance and Institutions, Legal and Policy, Financial, Data, Innovation, Standards, Partnerships, Capacity and Education, and Communication and Engagement.

I acknowledge the great effort that went into the development of the framework underpinned on robust stakeholder engagements that brought together diverse voices from government agencies, private sector innovators, academia, and international partners. These discussions highlighted critical bottlenecks in data sharing, such as institutional silos, interoperability challenges (legal, data, semantic, and technical), and the need for aligned business models.
The way forward is clear: we must build a coherent, interoperable ecosystem that unlocks the socio-economic value of EO data. This includes integrating with national systems like the National Integrated Monitoring and Evaluation System (NIMES), promoting open-source technologies, and enhancing capacity through training and partnerships.

By doing so, we not only elevate awareness and stakeholder engagement but also demonstrate tangible impacts reducing data duplication, boosting innovation, and supporting Kenya's commitments to the Sustainable Development Goals (SDGs), Agenda 2063, and Vision 2030.
This framework is more than a document; it is a call to action for collective progress. I commend the collaborative spirit that has brought us here and urge all stakeholders to embrace this vision. Together, we can transform data into impact, ensuring a resilient and prosperous future for all Kenyans.

DR. MOSES AKALI
DIRECTOR, DIRECTORATE OF RESOURCE SURVEYS AND REMOTE SENSING (DRSRS)

ACRONYMS AND ABBREVIATIONS

AI Artificial Intelligence
API Application Programming Interface
BETA Bottom-Up Economic Transformation Agenda
CoP Community of practice
DEA Digital Earth Africa
DRSRS Department of Resource Surveys & Remote Sensing
EMA Ecosystem Maturity Assessment
FCDO Foreign, Commonwealth & Development Office.
GeoSK Geospatial Society of Kenya.
GSD: Ground Sampling Distance
GSO: Geo-Stationary Orbit
ICTA ICT Authority
IDS International data space
IGIF Integrated Geospatial Information Framework.
KICTANet Kenya ICT Action Network
KMD Kenya Meteorological Department.
KNBS Kenya National Bureau of Statistics
KNSDI Kenya National Spatial Data Infrastructure.
KSA Kenya Space Agency
MDA Government Ministry Department and Agencies
MDC: Multidisciplinary Data Center
MSME Micro Small Medium Enterprise
MTP Medium Term Plan
NCST National Council for Science and Technology

NEMA National Environment Management Authority
NGE: Non-Government Entity
NGSO: Non-Geo-Stationary Orbit
NLC National Land Commission
OECD Organisation for Economic Co-operation and Development
OGC Open Geospatial Consortium
OGP Open Government Partnership
RCMRD Regional Centre for Mapping of Resources for Development.
RIS Resilience and Innovation for Sustainability.
SAEOS South African Earth Observation System Strategy
SDC: Seamless Data Cube.
SERVIR-ESA SERVIR Eastern & Southern Africa.
SOK Survey of Kenya.
STAC SpatioTemporal Asset Catalog.
STI Science, Technology and Innovation
TTC&C Telemetry, tracking and command
WRA Water Resources Authority

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Executive Summary

The Proposed Kenyan EO Data Sharing Framework 2026, spearheaded by the Kenya Space Agency (KSA) in collaboration with partners including the British High Commission, Research Institute for Innovation and Sustainability (RIIS), VIFFA Consult, and key stakeholders such Kenya National Bureau of Statistics (KNBS), Directorate of Resource Surveys and Remote Sensing (DRSRS), Kenya Meteorological Department (KMD), Survey of Kenya, Council of Governors, KONZA Technopolis and the Regional Centre for Mapping of Resources for Development (RCMRD) among others aims to establish a robust, interoperable system for sharing Earth Observation (EO) and geospatial data.
This framework adopts the United Nations Integrated Geospatial Information Framework (UN-IGIF) to integrate geospatial information management across government, private sector, academia, and international partners, addressing bottlenecks in data access, interoperability, and governance.

By aligning with national priorities like Kenya Vision 2030, the Digital Economy Blueprint, and the emerging National Data Governance Policy, the framework seeks to unlock EO data's potential for sustainable social, economic, and environmental development enhancing disaster response, agriculture, urban planning, climate resilience, and SDG achievement while promoting data sovereignty, secure sharing, and innovation.

The vision is a data driven Kenya where integrated geospatial systems foster inclusive growth, informed decision-making, and regional leadership in space technology.
The framework fully adopts the UN-IGIF's eight underpinning principles to ensure effective geospatial information management. The principles are: (1) Strategic enablement, (2) Transparent and accountable, (3) Reliable, accessible, and discoverable, (4) Interoperable, (5) Harmonized and Standardized, (6) Collaboration and Partnership (7) Knowledge and Skills Transfer and (8) Sustainable and Valued

IGIF Country-Level Action Plan structures implementation around the nine strategic pathways, with tailored strategies for Kenya's EO context. Each pathway includes objectives, outputs, and KPIs, drawing from stakeholder needs assessments to promote integration, innovation, and sustainability.

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1. Global Geospatial Information Management (UN-GGIM) Integrated Geospatial Information Framework (IGIF)

1.1 IGIF Background

The United Nations Economic and Social Council (ECOSOC) established the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) in 2011 to take concrete action to strengthen international cooperation in global geospatial information management.

The IGIF framework is UN endorsed and developed in collaboration between the UN and the World Bank, originally to provide a basis and guide for lower to middle income countries to reference when developing and strengthening their national and sub-national arrangements in geospatial information management and related infrastructures

The Framework aims to assist countries to:

1. Move towards e-economies, e-service and e-commerce to improve services to citizens,
2. Build capacity for using geospatial technology
3. Enhance informed government decision-making processes,
4. Facilitate private sector development,
5. Achieve a digital transformation, and bridge the geospatial digital divide in the implementation of national strategic priorities and SDGs

1.2 Kenyan Adoption of IGIF Underpinning Principles Matrix

The Framework identifies seven (7) underpinning principles that represent the key characteristics and values that are to be used as a guide when implementing the Framework.

Figure 1: Kenya Adoption of IGIF principles Matrix

IGIF Principle	About Principle	Proposed application in Kenya
PRINCIPLE 1: Strategic Enablement	Implementation requires political and financial support, and should therefore align with and support government's strategic direction on issues such as economic growth, social well-being, job creation, natural resource monitoring and environmental management etc	(1) Integration with national policies with coordibation from KSA in collaboration with other key agencies such as: KNBS, SoK, The Kenya Meteorological Department, Directorate of Resource Surveys, Remote Sensing (DRSRS), and Regional Centre for Mapping of Resources for Development (RCMRD), and CoG etc to ensure buy-in from government ministries and counties. (2) Innovative funding model for data sharing to sustain funding beyond initial grants support from development partners

PRINCIPLE 2: Transparent and Accountable	Government geospatial information is developed and shared according to key accountability and transparency guidelines so that all citizens, government agencies, academia and the private sector have access to this valuable and underpinning national resource.	1-Governance and Institutional Arrangements: The framework proposes a multi-stakeholder governance model to achieve multi-disciplinary participation and commitment. 2-Legal and Policy Frameworks: To enforce transparency, the framework advocates reviewing laws governing key data institutions to facilitate seamless sharing while protecting privacy and rights. 3-Data Management and Accessibility: A central output is the development of a national EO data catalogue or clearinghouse, enabling open access to geospatial resources. 4-Stakeholder Engagement and Partnerships: The framework promotes inclusive stakeholder participation
PRINCIPLE 3: Reliable, Accessible and Easily Used	Geospatial information is reliable, and made accessible and usable so that it can be leveraged for research and development, used to stimulate innovation, and support the creation of sustainable services and products to advance social, economic and environmental development	1-Reliability: Establishing standards for data quality, security, and maintenance 2-Accessibility: Developing open data platforms, such as a national EO data catalog or clearinghouse, with freemium models 3-Easily Used: Addressing interoperability challenges (legal, data, semantic, technical) through law reviews to reduce sharing friction, standardized APIs, and adoption of technologies like drones (UAVs) and 3D-printed weather stations for user-friendly data collection and visualization

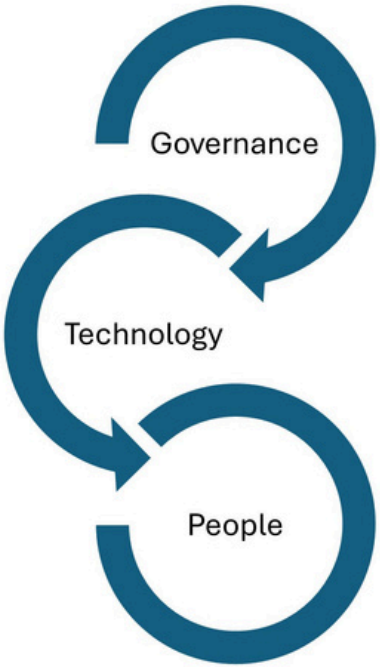
PRINCIPLE 4: Collaboration and Cooperation	Collaboration and cooperation (between government, business, academia, civil society and donors) are factored into the implementation of the Framework to strengthen information sharing between providers and users, reduce duplication of effort across the government sector, make for a robust system, as well as providing clarity on roles and responsibilities.	1-The framework development and implementation involve Multi-Stakeholder Engagements and Workshops 2-Strengthening Information Sharing and Reducing Duplication: The framework proposes a centralized, interoperable platform for EO data, reducing redundant data collection across government by enabling shared access and standardized protocols. 3-The framework builds a Robust System with Clear Roles and Responsibilities
PRINCIPLE 5: Integrative Solution	The implementation is to be integrative in nature and consider how people, organisations, systems, and legal and policy structures work together to form an effective system for managing geospatial information and its use.	1-People: Emphasis on capacity building and education to empower individuals across sectors. 2- Organizations: Collaborative involvement of over 20 institutions, including government agencies, academia ,private sector and international partners . The framework proposes defining institutional business models to enable data sharing, reducing silos, and establishing partnerships for joint innovation and resource pooling. 3-Systems: Focus on technical and data infrastructure integration eg Unified national EO data catalogue or clearinghouse, standardizing API integrations for seamless data exchange, and addressing semantic interoperability through a dictionary of geospatial terms. 4-Legal and Policy Structures: Alignment with national

PRINCIPLE 6: Sustainable and valued	The implementation will be conducted in such a way that it enhances national efficiency and productivity; is sustainable in the long term; and is deployed in a way that provides improved government services to citizens.	1-Enhancing National Efficiency and Productivity: The framework proposes streamlining EO data processes to reduce redundancies and costs, such as through standardized APIs, data catalogs, and interoperability protocols 2- Sustainability is embedded via hybrid funding models and capacity building. The CAP outlines mobilizing resources from government budgets, donor grants ,public-private partnerships (PPPs), and user charges for premium services. 3-Delivering Improved Government Services to Citizens: The framework aims to enhance services through transparent, inclusive EO data sharing, improving decision-making in disaster response, environmental monitoring, and public health
PRINCIPLE 7: Leadership and Commitment	Implementation will require strong leadership and commitment at the highest level, to enhance the long-term value of investments in geospatial information. This will be achieved through careful analysis, prioritization and sequencing to develop an action plan that carefully applies interventions in the short, medium and long term, and that can receive high level endorsement and support by government.	1-Framework proposes establishment of KNGDI as a stand-alone or technical committee under national data governance; rotational leadership; dedicated secretariat hosted by KSA. 2-Framework seeks to priorise insitutional level needs aligned with EO data sharing 3-Framework seeks to develop a coordinated action plan including but not limited to joint fundraising and JV

2. Kenyan Adoption of IGIF Strategic Pathways

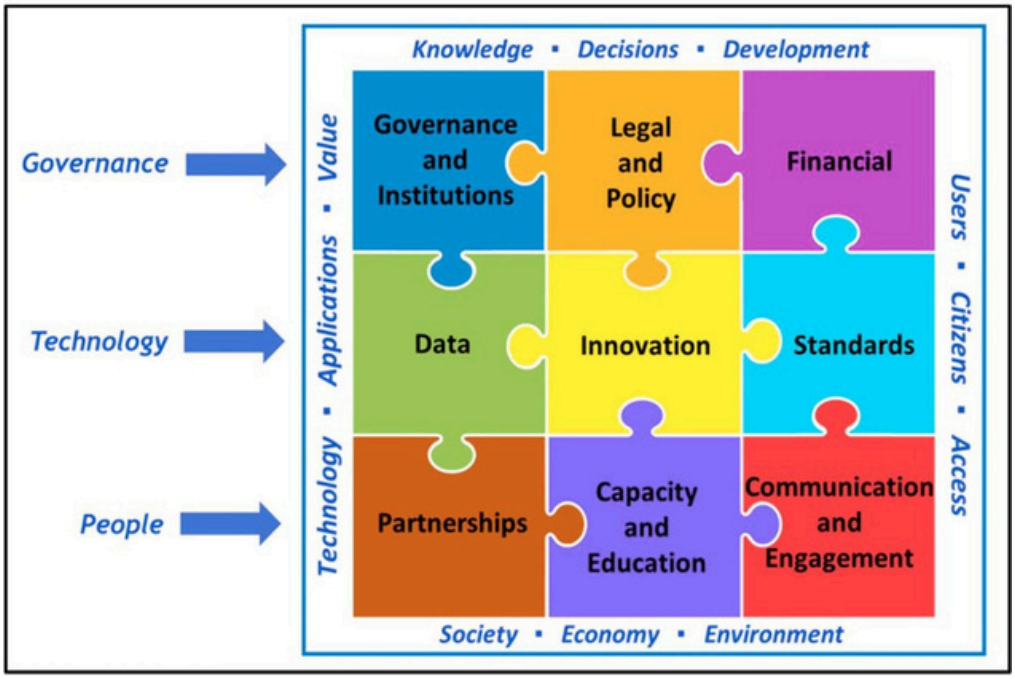
The Framework is anchored by nine (9) strategic pathways in three (3) main areas of influence, The strategic pathways include the following:

The key strategic pathways highlighted include:



The objective of these strategic pathways is to guide governments towards implementing integrated geospatial information systems in a way that will deliver a vision for sustainable social, economic and environmental development.

Figure 2: IGIF Strategic Pathways



Source: UN-GGIM

1.2 Kenyan Adoption of IGIF Underpinning Principles Matrix

This strategic pathway establishes (1) leadership, (2) governance model, (3) institutional arrangements and (4) clear value proposition to strengthen multi-disciplinary and multi-sectoral participation and a commitment to achieving an Integrated Geospatial Information Framework.

The objectives behind this strategic pathway include:

1. Attaining political endorsement,
2. Strengthening institutional mandates and
3. Building a cooperative data sharing environment through a shared understanding of the value of an IGIF and the roles and responsibilities to achieve the vision

IGIF Theme	Current State	Proposed Application in Kenya	Key Actors/Stakeholder
Governance Model	Kenya has no official EO data sharing governance model	1-Establishment of National Earth Observation Council (NEOC) to be called National Earth Observation Data Council (NEODC) as a stand-alone or as a technical committee as part of national data governance committee as proposed in draft national data governance policy	1-KSA 2-KNBS 3-DRSRS 4-COG 5-ODPC 6-ISK 7-KEBS 8-Metrological Department 9-Others as proposed in communities of practice-CoPs

Leadership	1-Kenya has no official EO data sharing leadership structure	1- National Earth Observation Data Council (NEODC) membership composed of 1.Kenya Space Agency (KSA) 2.Kenya National Bureau of Statistics (KNBS) 3.Survey of Kenya (SoK) 4.National Land Commission (NLC) 5.Directorate of Resource Surveys and Remote Sensing (DRSRS)	1.Council of Governors (CoG) 2.Independent Electoral and Boundaries Commission (IEBC) 3.ICT Authority (ICTA) 4.Professional Member Organization in EO Ecosystem 5.Office of the Data Protection Commissioner (ODPC) 6.Kenya Bureau of Standards (KEBS) 7.Kenya Meteorological Department (KMD) 8.KONZA Technopolis Development Authority (KOTDA) 9.Representative of Academia 10.Private sector representative 11.Security Agencies CSOs, Development Partners and UN Agencies
Institutional Structures	-Kenya has no official EO data sharing institutional structure	1-Chairmanship: Kenya Space Agency 3-Vice-Chairs: The remaining agencies serve as vice-chairs, each overseeing a sub-committee 4-Secretariat: KSA offers to host the Secretariat, with dedicated staff for administrative support.	1.Kenya Space Agency (KSA) 2.Kenya National Bureau of Statistics (KNBS) 3.Survey of Kenya (SoK) 4.National Land Commission (NLC) 5.Directorate of Resource Surveys and Remote Sensing (DRSRS)
Value Proposition		1-Promote Resource Mobilisation 2-Promote knowledge transfer across agencies 3-Increased PPP and collaboration 4-Increased innovation and job creation among Kenyan youth	

2.2. STRATEGIC PATHWAY 2: Legal and Policy

The Legal and Policy strategic pathway establishes a robust legal and policy framework that is essential to institute appropriate national geospatial information legislation and policy that enables the availability, accessibility, exchange, application and management of geospatial information.

The key objectives behind this strategic pathway include:

1. Addressing current legal and policy issues by improving the laws and policies associated and impacting geospatial information management.
2. Monitoring the legal and policy environment around designating the official responsibility to produce data, and regards to the issues raised by emerging technologies and the evolving innovative and creative use of geospatial information.

Figure 4: Proposed Kenya EO Data Sharing Legal and Policy Framework

IGIF Theme	Current State	Proposed Application in Kenya	Key Actors/Stakeholder
Legislation	Sample Acts on data handling available: 1-Data Protection act- 2-Data controller act, 3-National ICT policy 4-National statistics act 5-Survey Act	1-Review and amend respective institutional legislations where necessary to enable data sharing among the institutions. 2-Establish legislation on non-personal data (geospatial data) aligned to the proposed data governance policy 3-Capacity building of government data producer to ensure seamless compliance to the requirements and transition	1-Min of ICT 2-ODPC 3-Professional bodies such as Institutions of Surveyors of Kenya (ISK) 4-Relevant government institutions 5- Development partners 6-Academia
Norms, Policies and Guidelines	Sample available policy: 1-Kenya space policy which has not been fully operationalized 2-National data governance policy is work in progress 3-Open standards approach is taken by the different producers and users of the data 4-Inadequate synergy and coordination among stakeholder and actors	1-Approval and implementation of Kenya space policy and bill	1-KSA 2-RCMRD 3-DRSRS 4-KMD 5-KEBS 6-SOK 7-KNBS 8-IEBC 9-KCAA
Implementation and Accountability	1-Notable overlapping and duplicating mandates creating gaps in who is the lead agency or lead mandate 2-Gaps in policies where geospatial data is not clearly defined	1-Clear definition and alignment of mandates of key government data producers 2-Ecosystem prioritization of key activities and programs to enable effective implementation of the data sharing framework	1-KSA 2-KNBS 3-RCMRD 4-DRSRS 5-KMD 6-KEBS 7-SOK 8-COG 9-IEBC
Data Protection and Licensing	1-Current Data protection act covers only personal data	1- Alignment of EO Data Protection and Licensing practices to existing policies such as proposed data governance policy and AI and emerging data policy.	1-Min of ICT 2-KSA 3-KNBS 4-RCMRD 5-DRSRS 6-KMD 7-KEBS 8-SOK 9-COG 10-IEBC

2.3. STRATEGIC PATHWAY 3: Financial

The Financial strategic pathway establishes: (1) Business model, (2) financial partnerships and opportunities (3) Identifies investment needs and funding sources for delivering integrated geospatial information management and (4) recognizing the benefits realization milestones that will achieve and maintain momentum.

The key objectives behind this strategic pathway include:

1. Achieving an understanding of the implementation costs and ongoing financial commitment necessary to deliver integrated geospatial information management that can be sustained and maintained in the longer term.

Figure 5: Proposed Kenya EO Data Sharing Financial Framework

IGIF Theme	Current State	Proposed Application in Kenya	Key Actors/Stakeholder
Business Models	1-Resources generated through membership fees, trainings, licencing, donations etc 2-Private players within the industry sell data 3-Subscription basis 4-For profit access 5-Grant, donor funds and donations 5-Cost recovery by Government institutions	1-Establishment of a multi-disciplinary platform for sharing EO data through agreed upon model such as subscription basis among others with each data generator owning their data with respective charges 2-Government of Kenya to invest in acquiring EO across the ecosystem and availing for free on a single platform to stimulate innovation and entrepreneurship 3-Establishment of tiered EO data platform that's free for startups with progressive charges based on turnover or business size and premium charges on time sensitive data.	1-Professional bodies such as Institutions of Surveyors of Kenya (ISK) 2-Private institutions (Geo-Dev 3-Government institutions such as DRSRS, KNBS, NLC, IEBC, KSA, Kenya Met etc) 4- Development partners such as World Bank 5-Academia 6-FAO
Partnerships and Opportunities	1-Inadequate institutional collaboration leading to fragmented sources and data catalogue; consequently, driving duplication of efforts and resource waste 2-Lack of streamlined standards, framework of engagement and protocols 3-Inadequate translation of policies into actions	1-Establishment of EO data subsidy program for Kenyan startups 2-PPP between government and private sector in establishment and management of EO data sharing platform with archived data 3-Promote capacity building on financial data value and strategic financial data opportunities to government agencies holding EO data and startups, private sector and academia	1-Professional bodies such as Institutions of Surveyors of Kenya (ISK) 2-Private institutions 3-Government institutions such as DRSRS, KNBS, NLC, IEBC, KSA, Kenya Met etc) 4- Development partners 5-Academia
Investment	1-Poor/Low investment in data collection, sharing and archiving	1-Capacity building program for EO data producers on packaging EO data with clear return on investments 2-Categorization/classification framework of EO data based on importance/sensitivity and apportion value per institution in alignment with national data governance policy 3-PPP that enables youth collect and digitize data for government data producers 4-Investment in cloud-based infrastructure for analytic and cloud services.	1-KONZA 2-Cloud private sector players 3-Professional bodies such as Institutions of Surveyors of Kenya (ISK) 4-Private institutions (Geo-Dev, 5-Government institutions such as DRSRS, KNBS, NLC, IEBC, KSA, Kenya Met etc) 6- Development partners such as World Bank 7-Academia

Benefits Realisation		1-Establishment of ROI tracking framework that shows cost benefit to stakeholders 2-Strengthen and operationalize the Kenya National Data infrastructure investment 3-Public engagement on the benefits of EO data 6-Clear laid protocols of data sharing among government EO data producers	-Professional bodies such as Institutions of Surveyors of Kenya (ISK) 2-Private institutions 3-Government institutions such as DRSRS, KNBS, NLC, IEBC, KSA, Kenya Met etc 4- Development partners 5-Academia

2.4. STRATEGIC PATHWAY 4: Data

The Data strategic pathway establishes a geospatial data framework and custodianship guidelines for best practice collection and management of integrated geospatial information that is appropriate to cross sector and multidisciplinary collaboration.

The key objectives behind this strategic pathway include:

1. Enabling data custodians to meet their data management,
2. Sharing and reuse obligations to government and the user community through the execution of well-defined data supply chains for organizing, planning, acquiring, integrating, managing, maintaining, curating, publishing and archiving geospatial information.

Figure 6: Proposed Kenya EO Data Sharing Geospatial Data Framework and Custodianship Guidelines

IGIF Theme	Current State	Proposed Application in Kenya	Key Actors/Stakeholder
Fundamental Data Themes	1-Fragmented landscape: Multiple agencies produce geospatial data independently with no unified national EO data catalogue or clearinghouse. 2-Key EO datasets exist in silos: Land cover/use maps (RCMRD, DRSRS), topographic data (Survey of Kenya), census/demographic data (KNBS), meteorological/climate data (KMD), and forest cover data (KEFRI/KFS) are held separately. 3-Private Sector provides continental analysis-ready EO data but local adoption and integration remain limited. 4-No formally gazetted list of fundamental/core EO data	1-Define and gazette Kenya's Fundamental EO Data Themes aligned with IGIF and UN-GGIM: land cover/use, elevation/terrain, hydrography, administrative boundaries, geodetic reference, transportation networks, built environment, agriculture, and environmental monitoring. 2-Establish a Kenya National EO Data Catalogue hosted by KSA as a metadata clearinghouse for all fundamental themes. 3-Mandate thematic data custodians for each fundamental theme through a formal government directive or policy gazette. 4-Leverage DEA and SERVIR-ESA platforms as source infrastructure for analysis-ready satellite data.	1- Lead: Kenya Space Agency (KSA) 2-Co-Lead: Survey of Kenya (SOK) Key Partners: - RCMRD (regional EO data hub SERVIR-ESA host) - KNBS (census, demographic and statistical data) - Kenya Meteorological Dept (KMD) (climate/weather data) - Dept of Resource Surveys & Remote Sensing (DRSRS) - Kenya Forest Service (KFS) / KEFRI -KMFRI - National Land Commission (NLC) - Ministry of Lands & Physical Planning - Water Resources Authority (WRA) - NEMA (environmental data) - County Governments (local spatial data) - Digital Earth Africa (DEA) - SERVIR-Eastern & Southern Africa

Custodianship, Acquisition and Management	1-No formal data sharing framework: Agencies produce and hold data without clearly defined custodial roles, responsibilities, or accountability mechanisms for EO data. 2-Data duplication is widespread as multiple agencies independently acquire similar satellite imagery and derived products (e.g., land cover maps produced by RCMRD, DRSRS, and various NGOs). 3-SOK is the statutory national mapping agency but lacks resources and mandate clarity for EO data custodianship beyond traditional topographic mapping. 4-KSA DataHub established as a GIS and Remote Sensing data platform but not yet positioned as the authoritative national EO data custodian. 5-KNSDI stagnated as of 2016 with the national geoportal inaccessible; custodianship and data sharing policies remain undeveloped. 6-Acquisition is project-driven: Most EO data acquisition is tied to donor-funded projects (JICA, USAID/SERVIR, World Bank) rather than systematic national procurement	1-Establish a National EO Data Custodianship charter that formally describe custodians/leads for each fundamental EO data theme with clear roles: data acquisition, quality assurance, metadata maintenance, update cycles, and access provision. 2-Create a Custodianship Registry managed by KSA listing all designated custodians, their data holdings, update schedules, and data quality standards. 3-Implement centralized bulk acquisition of commercial satellite imagery (e.g., through national licensing agreements with providers like Airbus, Maxar, Planet) coordinated by KSA to eliminate duplication and reduce costs. 4-Develop standard data management protocols including metadata standards (ISO 19115/19139), data quality frameworks, version control, and archival policies. 5-Relaunch and operationalize KNSDI with KSA as coordinating body and SOK maintaining fundamental framework datasets.	1-KSA 2- National Treasury (funding coordination) 3- COG-County Governments (sub-national data) 4- Private sector EO companies (LocateIT, Esri EA) 5- International partners: JICA, World Bank, USAID-Clear mandate of facilitating 6- Geospatial Society of Kenya (GeoSK)
Data Supply Chain Interlinkages	1-Weak inter-agency data supply chains: No formalized pipelines exist for the flow of raw EO data from acquisition through processing, integration, and delivery to end-users across government. 2-Siloed processing environments: Each agency processes EO data independently using different tools, standards, and formats, making interoperability difficult. 3-SERVIR-ESA hub at RCMRD provides some integration between NASA/ESA data and local decision-support tools but primarily serves project-specific needs. 4-KSA MIDST project uses Google Earth Engine and ArcGIS for processing but integration with other agency systems is limited. 5-No standardized data exchange protocols between national and county governments for EO-derived products. 6-Limited machine-readable metadata making automated data discovery and chaining across agencies nearly impossible. Individual and Siloed Delivery.	1-Design and implement an end-to-end National EO Data Supply Chain Architecture defining stages: Raw Data Acquisition → Processing & Analysis → Product Generation → Quality Assurance → Cataloguing → Dissemination → Archiving. 2-Establish interoperability standards using OGC web services (WMS, WFS, WCS, CSW) and STAC (SpatioTemporal Asset Catalog) for all EO data exchanges between agencies. 3-Build a National EO Data Pipeline leveraging cloud infrastructure (DEA, Google Earth Engine, or national cloud) with automated ingestion, processing, and dissemination workflows. 4-Create formal data sharing agreements (DSAs) and MOUs between all producing and consuming agencies, defining data formats, update frequencies, access levels, and SLAs. 5-Develop County-National data exchange protocols enabling two-way flow of EO data and derived products between the 47 counties and national agencies.	Lead: Kenya Space Agency (KSA) Co-Lead: ICT Authority (ICTA) Key Partners: - RCMRD / SERVIR-ESA (technical architecture) - Survey of Kenya (SOK) - Digital Earth Africa (DEA) - KNBS (data exchange model reference) - KMD (meteorological data pipelines) - Ministry of ICT & Digital Economy - Council of Governors (county integration) - 47 County Governments (sub-national nodes) - University of Nairobi (Dept of Geospatial & Space Tech) - JKUAT (research & innovation) - Strathmore University (ARDC partner) - Open Institute / KICTANet (open data advocacy) - Global Partnership for Sustainable Development Data

Data Curation and Delivery	1-Limited data curation capacity: Most agencies lack dedicated data curation teams, proper archival systems, or long-term preservation strategies for EO data. 2-KSA DataHub exists as a nascent geospatial data portal but is not yet a comprehensive, operational delivery platform with full catalogue, search, and download capabilities. 3-Analysis-ready EO data is largely unavailable domestically; users depend on international platforms (DEA, Google Earth Engine, Copernicus Hub) for processed data. 4-Kenya Open Data Initiative (opendata.go.ke) provides some datasets but geospatial/EO data is minimally represented. 5-No national standards for EO data product packaging, documentation, or delivery formats.	1-Operationalize the Kenya National EO Data Portal (evolving KSA DataHub) as a one-stop-shop for discovering, previewing, and downloading EO data products with full metadata, OGC-compliant web services, and API access. 2-Establish a National EO Data Archive with long-term preservation policies, redundant storage, and systematic versioning of all nationally significant EO datasets. 3-Develop standardized EO data product specifications for each fundamental theme, including format (GeoTIFF, Cloud-Optimized GeoTIFF), resolution, projection, metadata schema, and documentation requirements. 4-Implement tiered delivery mechanisms: (1) Open/free data for public-good products, (2) Licensed access for sensitive/commercial data, (3) API-based automated delivery for machine-to-machine integration, (4) Bespoke products for specialized users. 5-Integrate EO data delivery with the Kenya Open Data Portal and E-Citizen platform for seamless citizen and government access. 6-Build capacity for county-level data curation through training programs and deployment of standardized curation tools	Lead: Kenya Space Agency (KSA) Co-Lead: ICT Authority (ICTA) Key Partners: - RCMRD (curation expertise & regional hub) - Survey of Kenya (SOK) (framework data delivery) - KNBS (data dissemination best practices) - KMD (climate data delivery model) - Digital Earth Africa (platform & tools) - Ministry of ICT & Digital Economy - Kenya Open Data Initiative (opendata.go.ke) - Council of Governors / County GIS units - Universities: UoN, JKUAT, Strathmore (R&D) - Private sector: LocateIT, Esri EA, Planet - USAID / NASA (SERVIR support) - FCDO / RIS (UK development support) - Viffa Consult (framework development partner)

2.5. STRATEGIC PATHWAY 5: Innovation

The Innovation strategic pathway focuses on (1) Technology advancement (2) process improvement (3) Promoting innovation and creativity (4) Bridging digital divide.

The key objectives behind this strategic pathway include:

1. Stimulating the use of the latest cost-effective technologies,
2. Processing improvements and innovations so that governments may leapfrog to state-of-the-art geospatial information management systems and practices.

Figure 7: Proposed Kenya EO Data Sharing Innovation Framework

IGIF Theme	Current State	Proposed Application in Kenya	Key Actors/Stakeholder
Technological Advances	**1-Hyperspectral Data-** Hyperspectral data remains underutilised within the national geospatial ecosystem. While global platforms and select satellite missions provide access to hyperspectral imagery, local institutional capacity for acquisition, processing, storage, and application remains limited. There is minimal integration of hyperspectral analytics into sectoral planning (e.g., agriculture, mineral exploration, environmental monitoring), and awareness among end-users is still relatively low. **2-Drone Technology (UAVs) and Manned Aerial Vehicles as Data Collection Tools:** Increasing adoption of Unmanned Aerial Vehicles (UAVs) and manned aerial platforms for geospatial data acquisition. Compared to traditional satellite-based methods which were historically lengthy, bureaucratic, and costly these technologies offer improved efficiency, reduced costs, faster turnaround times, and greater operational flexibility. **3-Evolution of Digital Data Collection Tools:** Progressive shift from limited data collection platforms such as ODK to expanded alternatives including Kobo Collect and global reference datasets. Increased integration of crowdsourcing mechanisms to enhance real-time and community-level data acquisition.	1-Fast track Drone technology uptake in MDACs 2-Dissemination of Improved data collection tools and fast track uptake of these tools to all MDACs. 3-Integrate hyperspectral data into the National Space Data Sharing Framework through a coordinated, standards-based, and capacity-driven approach that strengthens acquisition, processing, accessibility, and sectoral application. This should encompass the development of a national strategy for hyperspectral data management; investment in technical capacity for data processing, spectral analytics, and interpretation; establishment of interoperability and metadata standards; integration into cloud-based platforms for shared access; and piloting of high-impact use cases in priority sectors such as agriculture, environmental monitoring, mineral exploration, and land management to demonstrate socio-economic value. 4-Strengthen national capacity in advanced algorithm development and scalable data processing platforms to enhance the efficiency, accuracy, and real-time application of space-derived and geospatial data. This should include investment in artificial intelligence and machine learning capabilities for automated feature extraction, predictive analytics, and decision-support systems; adoption of interoperable, cloud-based processing platforms; development of locally relevant analytical models tailored to national and county priorities; and establishment of institutional standards to ensure transparency, reproducibility, and data governance in algorithm deployment.	1.CoG 2.KNBS 3.KCAA 4.KSA 5.Communication Authority of Kenya 6.Director of Surveys (DOS) 7.DRSRS 8.RCMRD 9.Academia 10.Kenya Meteorological Department

	4-Duplication of Mandates and Fragmented Data Systems: Overlapping institutional mandates leading to inconsistencies in standards. Datasets are stored in heterogeneous formats across agencies, significantly hindering interoperability and structured data sharing. **5-Advancement in Feature Extraction Techniques:** Transition from manual digitisation of geospatial features to automated feature extraction using advanced geospatial analytics and machine learning tools, improving accuracy, scalability, and processing time. **6-Modernisation of Meteorological Infrastructure:** Upgraded equipment within the Meteorological Department enabling near real-time reception of imagery and atmospheric data, reducing latency in weather monitoring and forecasting. **7-Enhanced Use of Satellite-Based Radar and Optical Systems**. While satellite-based radar systems have the potential to expand spatial coverage and improve observation capabilities compared to ground-based radar, their operational use remains limited. Similarly, optical satellite systems critical for high-resolution imagery, environmental monitoring, and land-use analysis are underutilised due to capacity constraints, lack of local processing infrastructure, and limited integration into national and county-level workflows. **8-Improved Rainfall Measurement and Monitoring:** Enhanced utilisation of Global Precipitation Measurement (GPM) systems. Previously limited to 24-hour output cycles, rainfall data can now be accessed within hours, strengthening forecasting and planning capacity. 9-Strengthened Early Warning Systems: Integration of advanced technologies such as lightning imagers to enhance early warning mechanisms and improve disaster preparedness and response. **10-3D-Printed Automated Weather Stations:** Deployment of locally produced, 3D-printed automated weather stations, reducing costs by approximately 90% while expanding monitoring coverage. **11-Emerging Applications (e.g., KAWOP):** Development of innovative applications such as KAWOP aimed at enhancing access, analysis, and operationalisation of geospatial and environmental data.	5-Develop and operationalise a coordinated national framework for multi-sensor satellite data including radar and optical systems by building technical capacity, establishing standards and interoperability protocols, and promoting pilot applications that demonstrate tangible value for disaster monitoring, environmental management, and resource mapping at both National and County levels.	

	12-Establishment of County-Level GIS Laboratories: Presence of GIS laboratories in counties equipped with modern infrastructure (plotters, desktops, scanners, projectors). However, operationalisation and sustained utilisation remain key challenges. **13-Slow Uptake at County Level:** Despite infrastructure investments, adoption and integration of geospatial and space-derived data into county planning and decision-making processes remain gradual. **14-Cloud Computing Platforms (e.g., Google Earth Engine):** Growing utilisation of cloud-based geospatial processing platforms such as Google Earth Engine to enable large-scale data analysis, storage, and collaborative access. **15-Advanced Algorithm**- There has been notable progress in the application of advanced algorithms, including artificial intelligence and machine learning, for geospatial analytics, automated feature extraction, and predictive modelling. Cloud-based platforms are increasingly being utilised to process large earth		
Process Improvement	**1-Advanced Technologies (e.g., Fibre Optic Networks):** Expansion of fibre optic infrastructure has enabled faster transmission of high-resolution geospatial and space-derived data, significantly reducing latency in data access and processing. **2-Transition of Geospatial Activities from Ad Hoc to Operational:** Geospatial activities in Kenya have historically been conducted in an ad hoc manner, often driven by project-specific needs or isolated institutional mandates. This has led to fragmented datasets, inconsistent standards, and limited integration of geospatial insights into national and county-level decision-making. While investments in infrastructure, GIS laboratories, and drone and satellite platforms exist, their utilisation remains largely project-based rather than systematically operationalised. **3-Global Data Access:** Increased accessibility to international geospatial and earth observation datasets, enhancing benchmarking, comparative analysis, and integration with global monitoring systems. **4-Digitised and Automated Workforce:** Progressive digitisation of workflows and automation of analytical processes, strengthening efficiency, reducing manual errors, and enhancing institutional productivity in data management.	1-Enforcement of Data Quality Standards across MDACs. 2-Establish geospatial activities as fully operational, institutionally embedded functions across national and county agencies. This should include: (a) Standardising data collection, processing, and sharing protocols to ensure interoperability. (b). Integrating geospatial workflows into regular planning, monitoring, and decision-making cycles. (c). Leveraging cloud platforms and automated processing tools to support continuous, real-time data availability. (d). Promoting capacity building and institutionalisation of geospatial roles within agencies to move from reactive, ad hoc usage to proactive, sustained operations. 3-Adopt edge processing approaches to enable localised, near-real-time processing of geospatial and sensor data at or near the point of collection. This should include: (a). Deploying computing resources at field sites, UAVs, drones, and sensor nodes to pre-process, filter, and analyse data before transmission. (b). Reducing latency and bandwidth requirements for cloud or centralised processing. (c). Integrating edge-processed outputs into national geospatial platforms for immediate operational use. (d). Building technical capacity and standard operating procedures for edge processing to ensure consistency, reliability, and interoperability.	1.CoG 2.KNBS 3.KCAA 4.KSA 5.Communication Authority of Kenya 6.Director of Surveys (DOS) 7.DRSRS 8.RCMRD 9.Academia 10.Kenya Meteorological Department

	5-Expanded Coverage in Data Collection and Dissemination: Broader spatial and thematic coverage in both data acquisition and dissemination of geospatial products, improving inclusivity and reach across sectors and regions. **6-Timely Interventions Through Fast Data Processing:** Improved processing speeds enabling near real-time analysis, thereby supporting rapid decision-making, early warning systems, and responsive policy interventions. **7-Edge Processing for Geospatial and Space Data:** Most geospatial and remote sensing data in Kenya is currently processed centrally, often in national or cloud-based servers. This results in delays, high data transfer requirements, and limited real-time applicability for decision-making at the point of data collection. With the increasing volume of high-resolution satellite imagery, UAV data, and IoT sensor streams, centralised processing is becoming a bottleneck, particularly for time-sensitive applications such as disaster response, precision agriculture, and early warning systems.		
Promoting Innovation and Creativity	**1-Limited Data Accessibility as a Constraint to Innovation:** Restricted access to geospatial and space-derived datasets continues to hinder innovation, research, private-sector development, and creative problem-solving. Limited openness reduces opportunities for value addition, local solution development, and evidence-based planning. **2-Collaboration and Partnerships as Critical Enablers:** Strengthened inter-agency coordination, public private partnerships, academia government linkages, and regional/international cooperation are essential enablers for innovation and maximising the socio-economic value of space-derived data.	1-Promote research initiatives on EO data in Kenya 2-Promote ease of access of data to researchers and innovators 3-Institution to avail data to train AI models aligned to Kenya AI and emerging technology policy 4-Establishment of Interoperable Open data portals	1.CoG 2.KNBS 3.KCAA 4.KSA 5.Communication Authority of Kenya 6.Director of Surveys (DOS) 7.DRSRS 8.RCMRD 9.Academia 10.Kenya Meteorological Department

Bridging the Digital Divide	**1-Globalisation and Increased Proximity to Data:** The world has increasingly become a global village, facilitating closer interaction among people, institutions, and markets. This interconnectedness has equally brought users closer to data, enhancing accessibility, cross-border collaboration, and knowledge exchange in geospatial and space-derived information. **2-Ongoing Technological Advancement Amid Evolving User Needs:** Continuous technological advancements within the country are progressively reducing the digital divide in terms of infrastructure and access. However, while connectivity and digital tools are improving, the sophistication and diversity of user needs are expanding at a faster rate, creating emerging gaps in data usability, relevance, and application capacity. **3-Drone Technology for Aerial Mapping and Research:** The Konza National Drone Corridor has been established as a dedicated testbed for drone-based research, experimentation, and demonstration. It provides a controlled environment for testing UAV applications, regulatory compliance, and innovation in aerial data collection. 4-The Directorate of Resource Surveys and Remote Sensing (DRSRS) possesses high-resolution drones capable of advanced aerial mapping, geospatial surveys, and remote sensing applications. However, utilisation of these platforms for national and county-level projects is currently limited, with opportunities for integration into broader geospatial and space data initiatives underexplored.	1-Continued capacity building to increase uptake of Technology 2-Leverage existing drone infrastructure including the Konza National Drone Corridor and high-resolution drones at DRSRS to operationalise aerial mapping and geospatial research. This includes: ·Expanding the use of drones for high-resolution data acquisition, environmental monitoring, and resource mapping. ·Integrating drone-collected datasets with satellite (radar and optical) and UAV systems to enhance multi-scale, multi-sensor geospatial analyses. ·Developing technical capacity, standard operating procedures, and data-sharing protocols to ensure consistent and interoperable outputs across national and county agencies. ·Promoting pilot projects in key sectors (agriculture, infrastructure, climate monitoring, disaster management) to demonstrate value and inform policy.	1.CoG 2.KNBS 3.KCAA 4.KSA 5.Communication Authority of Kenya 6.Director of Surveys (DOS) 7.DRSRS 8.RCMRD 9.Academia 10.Kenya Meteorological Department


KSA
KENYA SPACE AGENCY


KSA
KENYA SPACE AGENCY
MANDATE
CORE VALUES
EXCELLENCE
PROFESSIONALISM
INTEGRITY
COMMITMENT

2.7. STRATEGIC PATHWAY 7: Partnerships

The Partnerships strategic pathway establishes effective (1) cross-sector and interdisciplinary cooperation, (2) Industry and private sector partnerships, (4) Community and (3) international cooperation as an important premise to developing a sustainable Integrated Geospatial Information Framework.

The key objectives behind this strategic pathway include:

1.1. Creating and sustaining the value of geospatial information through a culture based on trusted partnerships and strategic alliances that recognizes common needs and aspirations and national priorities.

Figure 9: Proposed Kenya EO Data Sharing Partnership Framework

IGIF Theme	Current State	Proposed Application in Kenya	Key Actors/Stakeholder
Cross-sector and Interdisciplinary	1-Sub optimal cross sector collaboration	1-Joint grant and funding applications underpinned on the data sharing framework 2-Establishment of exchange programs 3- Development of a Shared National Geospatial Data Portal 4- Joint Capacity Building and Training Programs 5- Signing of Memoranda of Understanding (MoUs) and Public-Private Partnerships.	1.CoG 2.KNBS 3.KCAA 4.KSA 5.Communication Authority of Kenya 6.Director of Surveys (DOS) 7.DRSRS 8.RCMRD 9.Academia 10.Kenya Meteorological Department
Industry partnerships and Joint Ventures	1-Sub optimal industry partnerships and JVs	1-Joint proposal development and execution among agencies and private sector 2-Strategic plan alignment among agencies 3-Insitution mandate alignment among agencies	1.CoG 2.KNBS 3.KCAA 4.KSA 5.Communication Authority of Kenya 6.Director of Surveys (DOS) 7.DRSRS 8.RCMRD 9.Academia 10.Kenya Meteorological Department
Community Participation	1-Sub optimal community participation	1-Establishment of periodic multi-Stakeholder Workshops and Consultative Forums 2-Participatory GIS (PGIS) and Community Mapping Initiatives -Implement PGIS programs where communities use mobile apps or web portals developed by private sector to contribute geospatial data on various thematic areas 2-Open Data Portals with Community Feedback Mechanisms	1.CoG 2.KNBS 3.KCAA 4.KSA 5.Communication Authority of Kenya 6.Director of Surveys (DOS) 7.DRSRS 8.RCMRD 9.Academia 10.Kenya Meteorological Department
International Collaboration	1-Sub optimal international collaboration	1-Establish PPPs for Geospatial Infrastructure Development 2-Foster Capacity Building and Knowledge Transfer Programs 3-Develop Joint Data Sharing and Standardization Agreements 4-Promote Research and Innovation through Multi-Stakeholder Consortia	1.CoG 2.KNBS 3.KCAA 4.KSA 5.Communication Authority of Kenya 6.Director of Surveys (DOS) 7.DRSRS 8.RCMRD 9.Academia 10.Kenya Meteorological Department 11.AG 12.Min of Foreign affairs

2.8. STRATEGIC PATHWAY 8: Capacity and Education

This strategic pathway establishes capacity building programs and education systems so that geospatial information management and entrepreneurship can be sustained in the longer term. It covers (1) awareness raising (2) formal education (3) entrepreneurship (4) professional workplace training

The key objectives behind this strategic pathway include:

1. Increasing the awareness and level of understanding of geospatial information science.

Figure 9: Proposed Kenya EO Data Sharing Partnership Framework

IGIF Theme	Current State	Proposed Application in Kenya	Key Actors/Stakeholder
Awareness Raising	1-Sub optimal awareness across the ecosystem	1-Stakeholder Workshops and Sensitization Sessions 2-Public Awareness Campaigns and Media Engagement 3-Collaborative Pilot Projects and Innovation Challenge: Initiate joint projects to demonstrate IGIF's value through real-world applications, such as integrated mapping for climate resilience or urban development.	1.CoG 2.KNBS 3.KCAA 4.KSA 5.Communication Authority of Kenya 6.Director of Surveys (DOS) 7.DRSRS 8.RCMRD 9.Academia 10.Kenya Meteorological Department
Formal Education	1-Sub optimal STEM uptake by public	1-Promote the value of geospatial information for national development, targeting policymakers, communities, and youth to build broad support for IGIF. 2-Embed geospatial curricula in schools, TVETs, and universities to build foundational skills, aligning with Kenya's National Education Sector Strategic Plan (2023-2027) and Competency-Based Curriculum (CBC).	1.CoG 2.KNBS 3.KCAA 4.KSA 5.Communication Authority of Kenya 6.Director of Surveys (DOS) 7.DRSRS 8.RCMRD 9.Academia 10.Kenya Meteorological Department
Entrepreneurship	1-Limited entrepreneurship opportunities due to sub optimal access to EO data	1-Foster geospatial innovation through startups and public-private collaborations to address real-world challenges. 2- Establish a National Geospatial Innovation Hub 3-Introduce tiered data licensing frameworks where government agencies share non-sensitive geospatial data at low or no cost to entrepreneurs, while charging for commercial high-resolution uses. 4-Roll out certified training modules on GIS, remote sensing, and AI integration, targeting youth and women entrepreneurs to build skills for IGIF implementation. 5-Establish a Geospatial Venture Fund to provide seed capital, grants, and equity for startups in the sector	1.CoG 2.KNBS 3.KCAA 4.KSA 5.Communication Authority of Kenya 6.Director of Surveys (DOS) 7.DRSRS 8.RCMRD 9.Academia 10.Kenya Meteorological Department

Professional Workplace Training	1-Ad hoc professional training	1-Joint Certification Programs in Geospatial Technologies 2-Public-Private Partnership Workshops and Hackathons: Organize thematic workshops and hackathons to solve real-world geospatial challenges 3-On-the-Job Training and Mentorship Exchanges. Establish exchange programs where government staff embed in private firms and vice versa for practical training in geospatial tools and workflows.	1.CoG 2.KNBS 3.KCAA 4.KSA 5.Communication Authority of Kenya 6.Director of Surveys (DOS) 7.DRSRS 8.RCMRD 9.Academia 10.Kenya Meteorological Department

2.9. STRATEGIC PATHWAY 9: Communication and Engagement

This strategic pathway recognizes that stakeholders (including the general community) are integral to the implementation of integrated geospatial information management systems and that their buy-in and commitment is critical to success. This strategic pathway focuses on (1) stakeholder identification (2) integrated engagement strategies (3) planning and execution (4) monitoring and evaluation.

The key objectives behind this strategic pathway include -Delivering effective and efficient communication and engagement processes to encourage greater input from stakeholders to achieve transparent decision-making processes when implementing the Integrated Geospatial Information Framework.

Figure 9: Proposed Kenya EO Data Sharing Partnership Framework

IGIF Theme	Current State	Proposed Application in Kenya	Key Actors/Stakeholder
Stakeholder Identification	1-Sub optimal comprehensive stakeholder mapping	1-Comprehensive Stakeholder Mapping and Analysis:	1.CoG 2.KNBS 3.KCAA 4.KSA 5.Communication Authority of Kenya 6.Director of Surveys (DOS) 7.DRSRS 8.RCMRD 9.Academia 10.Kenya Meteorological Department
Integrated Engagement Strategies	1-Institutions operating in silos with independent and incoherent strategies	1-Establishment of coherent IGIF implementation framework at institutional and ecosystem levels	1.CoG 2.KNBS 3.KCAA 4.KSA 5.Communication Authority of Kenya 6.Director of Surveys (DOS) 7.DRSRS 8.RCMRD 9.Academia 10.Kenya Meteorological Department
Planning and Execution	1-Sub optimal joint planning and execution	1-Conduct framework adoption Needs Assessment and Gap Analysis of key institutions 2-Develop a institution Level Action Plan in addressing gaps 3-Secure Initial Funding and Resources	1.CoG 2.KNBS 3.KCAA 4.KSA 5.Communication Authority of Kenya 6.Director of Surveys (DOS) 7.DRSRS 8.RCMRD 9.Academia 10.Kenya Meteorological Department
Monitoring and Evaluation		1-Establish a National IGIF Coordination Body with M&E Mandate 2-Develop Country-Level Action Plans with Integrated M&E Indicators 3-Adopt Technology-Driven M&E Tools and Reporting	1.CoG 2.KNBS 3.KCAA 4.KSA 5.Communication Authority of Kenya 6.Director of Surveys (DOS) 7.DRSRS 8.RCMRD 9.Academia 10.Kenya Meteorological Department

LIST OF PARTICPATING ORGANISATIONS

1. African Development and Emergency Org.
2. Antugrow
3. Council Of Governors
4. County Government of Nairobi City
5. Directorate of Resource Surveys and Remote Sensing
6. Famine Early Warning Systems Network
7. Humanitarian OpenStreetMap Team
8. ICT Authority
9. Institution of Surveyors of Kenya
10. Kenya Forest Service
11. Kenya Forestry Research Institute
12. Kenya Meteorological Department
13. Kenya National Bureau of Statistics
14. Konza Technopolis Development Authority
15. Local Development Research Institute
16. Locate IT
17. Ministry of Interior
18. National Environment Management Authority
19. National Land Commission
20. Planet Labs
21. Regional Centre For Mapping Of Resources For Development
22. State Department for Lands and Physical Planning
23. Taita Taveta University
24. The Food and Agriculture Organization of the United Nations
25. Women In Space Kenya
26. World Resources Institute

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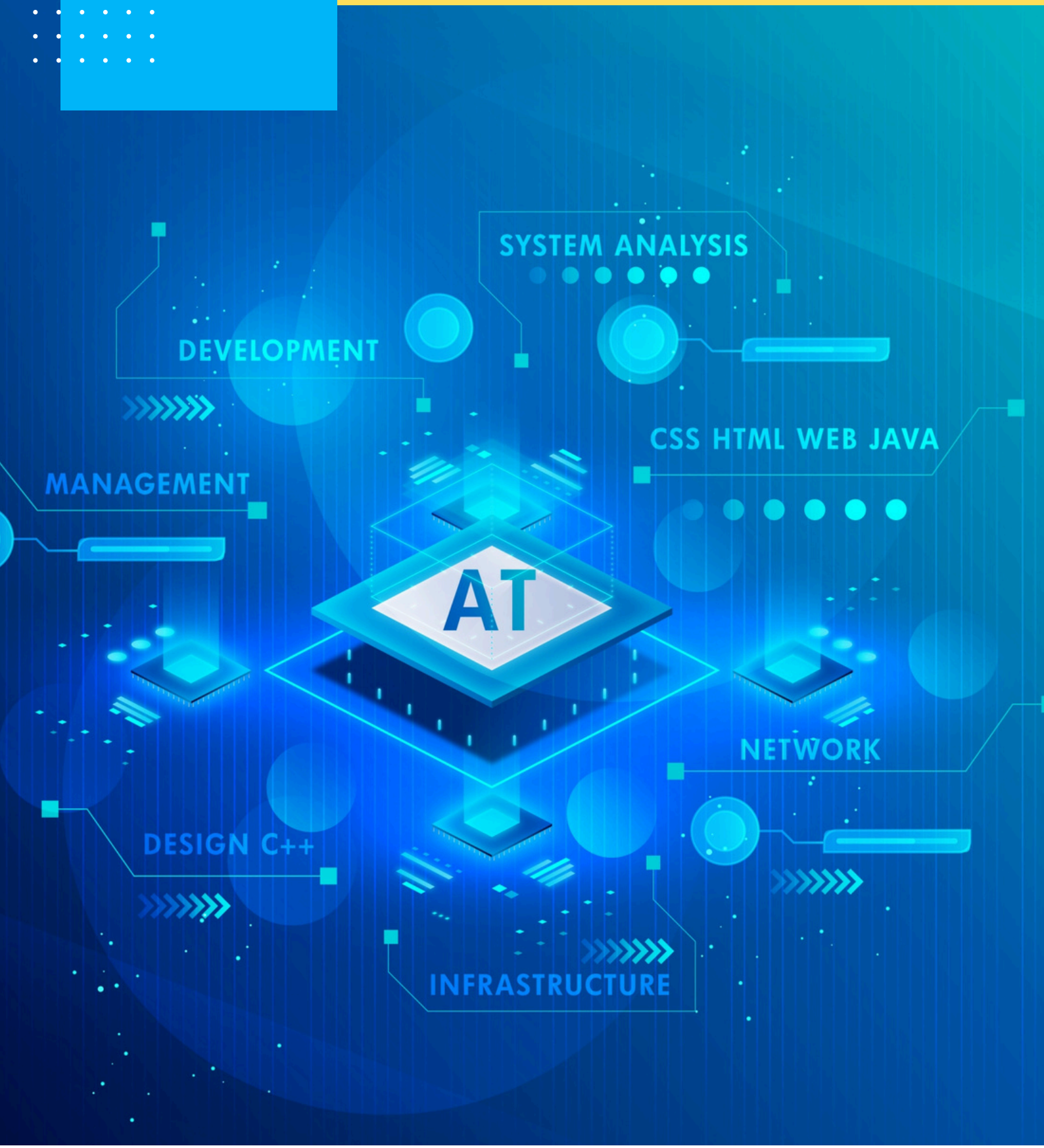

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