KENYA SPACE AGENCY

STRATEGIC PLAN

2023 - 2027

POPULAR VERSION

Kenya Space Agency (KSA) Strategic Plan is published in Nairobi, Kenya

ABOUT US

The Kenya Space Agency was established through the Kenya Space Agency Order 2017, Legal Notice No. 22 of 7 March 2017, with the mandate to promote, coordinate and regulate space-related activities in the country. The Agency seeks to enhance utilization of space science, technologies and applications in public sector entities for decision support, planning and predictive analytics. It also seeks to develop national space capability to support national socioeconomic development as well as defence and national security.

Other priorities include the promotion and nurturing of the growth of the domestic space industry and space economy through creation of an enabling environment and providing support to startups and the space innovation ecosystem.

The Agency also seeks to create awareness among stakeholders and the wider Kenyan public on the utility and benefits that can be derived from exploitation and exploration of space opportunities.

The KSA Strategic Plan 2023-2027 charts an ambitious path for the Agency's strategies for nurturing Kenya's budding space economy to develop and contribute meaningfully to national socioeconomic development over the next four years.
The focus is on nurturing the growth of the sector while laying the requisite policy, legal and regulatory framework to facilitate the growth of a viable and thriving domestic space industry. The Agency will increasingly assume its regulatory mandate as the sector matures.

> **OUR MANDATE IS TO PROMOTE, COORDINATE AND REGULATE SPACE-RELATED ACTIVITIES IN KENYA**

VISION

Effective utilization of space capabilities for national development

MISSION

To promote development of national space capabilities and nurture the growth of the space sector in order to maximize utilization of the space economy for national development.

CORE VALUES

Excellence

Professionalism

Integrity

Commitment

OUR HISTORY

The history of Space activities in Kenya dates to the 1960s with the establishment of a Satellite Launching and Tracking Base in Malindi.

Kenya first established a framework of cooperation with the Italian Government on the establishment of the San Marco Project in Malindi in 1964. The facility was designed for launching of sounding rockets and astronomy satellites, with the first satellite successfully launched into orbit from the facility in 1967.

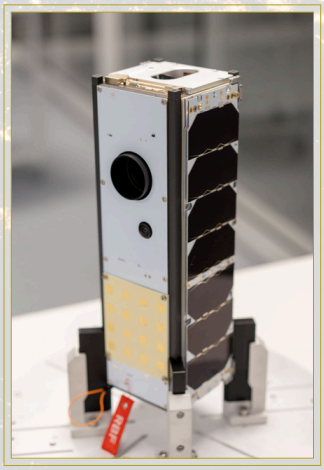
Over twenty (20) sounding rockets and nine (9) satellites were launched from the facility between 1967 and 1988.

The facility is still operational and now operates as the Luigi Broglio Malindi Space Centre focussing on providing satellite telemetry, tracking and command (TT&C) services and continues to provide crucial astronomy and scientific data to the research community around the world.

However, it was not until 2009 that national focus was made on the space sector with the establishment of the National Space Secretariat, the predecessor to the current Kenya Space Agency, with more keen interest in the benefits that the country could derive from the cooperation agreement with the Italian Government. The National Space Policy and National Space Strategy were developed in 2015 which paved the way for establishment of the Kenya Space Agency. The Kenya Space Agency (KSA) was established through Executive Order Legal Notice No. 22 of 7 March 2017, with the mandate to promote, coordinate and regulate space-related activities in the country.

Oversight over the Agency is exercised by a Board of Directors, with the Chairman appointed by the President, seven Board Members representing key government MDAs and three independent members in addition to the Chairperson. The inaugural Board was appointed vide Gazette Notices No. 7253 and 7259 dated 16 July 2018 and 20 July 2018, respectively. The terms of the Chairman and independent Members of the inaugural Board were renewed on 6 October 2021 for a period of three (3) years.

Kenya's first satellite 1st Kenya University Nano Satellite - Precursor Flight (1KUNS-PF) was deployed into orbit from the International Space Station on 11th May 2018. Kenya's first operational Earth observation satellite, TAIFA-1 was launched into orbit on 15th April 2023.



Taifa 1 - Kenya's First operational Earth Observation Satellite

FUNCTIONS OF THE KENYA SPACE AGENCY

In implementation of the Kenya Space Policy and the Kenya Space Strategy for the national space programme, the Agency is guided by the functions specified in the founding instrument, the Kenya Space Agency Order 2017. The functions include the following:

- Coordinate and regulate space-related activities in the country.
- Implement the Kenya Space Policy and any related programmes.
- Recommend and advise the Government on the development of relevant legislation to facilitate the successful implementation of Kenya Space Programme.
- Advise the Government on the legislative and other measures necessary for the implementation of the relevant Conventions, Treaties and Agreements that Kenya is a party.
- Recommend national space policies, strategies and programmes;
- Promote capacity building in space science and technology and its applications.
- Establish centres of excellence in space science.
- Enter into mutually beneficial bilateral and multilateral agreements with persons, agencies, governments or bodies in furtherance of its mandate.
- Identify, prepare and facilitate the implementation of inventions and innovations in space technologies.
- Provide leadership in coordinating and supporting research in space science and technology.
- Liaise with the relevant institutions and Government agencies to ensure funding and implementation of space programmes.
- Promote awareness and appreciation at all levels of Kenyan society on the relevance and benefits of space science and technology.
- Perform such other functions as the Cabinet Secretary may, from time to time, assign the Agency.

KSA STRATEGIC PLAN 2023-2027 KEY RESULT AREAS

Based on situational analysis of the global, regional and domestic environment impacting on Kenya's national space programme and its aspirations, KSA has prioritized six (6) key result areas in the implementation of the national space programme in the period 2023-2027. These include:

1. Coordination and Regulation of Space Activities

KSA seeks to enhance governance and coordination of the Space sector through:

- Enhanced coordination and stakeholder engagement activities.
- Coordination of development of appropriate policies for implementation of the aspirations in the national space programme.
- Provision of advice and coordination of the institution of the necessary policy, legal and regulatory framework.
- Capacity building on space policy, legal and regulatory regime.
- Enforcement of compliance with established relevant Space policies, laws, and regulations.

2. National Space Capability Development

KSA seeks to enhance National Space capability through:

- Human and technical capacity building.
- Development of Space-related infrastructure and facilities.
- Development of data infrastructure facilities and applications.
- Support establishment of specialized space-related facilities in Kenyan institutions.
- Promotion of the growth of the domestic Space ecosystem.
- Support to startups and innovation in the domestic space ecosystem.
- Collaboration on joint projects with other partner institutions and agencies.

3. Utilization of Space Services and Technologies

The Agency seeks to enhance utilization of Space services and technologies through:

- Carrying out joint pilot projects with stakeholders to demonstrate utility of space-derived data for decision support and planning.
- Development of decision-support tools and applications that harness space-derived data.
- Development and implementation of space-derived data governance frameworks.
- Awareness creation on the utility and benefits of Space science, technologies and applications.
- Capacity building on space services, technologies and applications.

4. Space Research, Innovation and Development

KSA seeks to enhance research, innovation, and development in the Space ecosystem through:

- Promotion of research and innovation.
- Collaborative research and development activities with institutions of higher learning.
- Supporting development of innovations and inventions.
- Collaboration with partners on space research missions and other research projects.

5. Resource Mobilization

KSA seeks to increase resource allocation for implementation of the national space programme through:

- Liaison and coordination with relevant government ministries, departments, counties and agencies towards allocation of more resources towards development of capacities for utilization of space services and technologies.

- Collaboration with regional and international partners on access to data and sharing of infrastructure and capabilities.
- Investment in space capabilities that yield return on investments including revenue generation.
- Establishing Space Industry Development Fund.
- Entering into mutually beneficial frameworks of collaboration with partners.

6. Strengthening Institutional Capacity

The Agency seeks to enhance organisational performance, productivity and institutional sustainability through:

- Recruitment and staffing with suitably qualified professionals.
- Training and human capacity development.
- Effective performance management system including monitoring and evaluation systems.
- Acquisition of Assets and Infrastructure
- Institution of quality management systems.
- Enhanced public awareness activities.
- Wide stakeholder consultation and regular engagements
- Participating in corporate social responsibility activities.

Space science, technologies and applications can be leveraged to enhance and support the realization of the government's priorities espoused under the Bottom-Up Economic Transformation Agenda (BETA) through the following ways:

Agriculture

Space technologies and applications can be used to enhance Agriculture and Food security through:

- Provision and promotion of use of satellite imagery and analytics thereof to draw insights for monitoring crop health and crop condition for appropriate early interventions.
- Use of satellite imagery for crop mapping, monitoring of crop growth and crop yield estimation, to inform early interventions on food security.
- Use of satellite remote sensing to monitor soil moisture for optimizing irrigation, stock rating of rangelands, and determination of vegetation indices for drought prediction analytics.
- Use of satellite remote sensing technologies for estimation of soil nutrients for use in optimization of fertilizer application.

Transforming Micro, Small and Medium Enterprises (MSMEs) Economy

Employment of space technologies and applications create opportunities for the MSMEs sector through:

- Provision of opportunities for startups in the space ecosystem for innovations in development of decision-support tools and applications that harness space-derived data to solve problems.
- Creation of the market for services in satellite communications, navigation and positioning; earth observations and other geospatial applications, including but not limited to mapping of business outlets, mapping of utilities and amenities as well as land use/land cover, among others.
- Opportunities for space-derived data management, processing, analytics and repository.

Housing and Settlement

Use of space technologies and applications to support urban planning, housing and settlement through:

- Use satellite imagery and geospatial data for land and physical planning, infrastructure and utilities mapping.
- Use of earth observation and other remote sensing data for disaster risk reduction and response.

Healthcare

Space technologies and applications can be used to enhance Healthcare through:

- Enabling and enhancing telemedicine services through extended digital broadband connectivity provided by satellite communications to remote locations allowing access to healthcare services, medical expertise and information.
- Supporting and promoting use of satellite data to monitor environmental factors influencing public health, such as disease vectors and water quality.
- Use of satellite geospatial data to support assessment of impact of health emergencies and natural disasters, to allow timely and effective response efforts using satellite data.

Digital Superhighway and Creative Economy

Space technologies and applications can support the digital superhighway and creative economy though:

- Enhancement and extension of the digital footprint and broadband connectivity to enable digital economy and other economic activities.
- Enabling utilization of frontier technologies and providing additional opportunities for digital jobs.
- Support the creative economy by providing satellite data for content creation, such as Earth observation images for artistic and educational purposes.
- Collaborate with digital and creative enterprises to explore innovative applications of satellite technology in areas such as augmented reality, virtual reality and immersive experiences.

Environment and Climate Change

Space technologies and applications are useful for environmental monitoring and mitigating climate change through:

- Accurate predictions of weather and climate.
- Provision of mechanism for monitoring carbon sinks such as forests and tree cover.
- Effective monitoring of afforestation / deforestation activities to allow timely intervention.
- Effective monitoring of concentration of gases in the atmosphere.

SPACE APPLICATIONS TOWARDS ACHIEVEMENT OF SDGS

Space Science, technologies and applications in earth observation and remote sensing; satellite communications; navigation, positioning and timing; and weather forecasting, among other applications, have direct benefits in addressing societal challenges and in the realization of the Sustainable Development Goals through the following ways:

SDG #2: Zero Hunger:
Use of Satellite technology to monitor and manage agricultural practices, assess crop health, and provide early warning systems for potential food shortages.

SDG #3: Good Health and Well-being:
Using satellite data for health mapping, disease monitoring, and tracking the spread of infectious diseases.

SDG #4: Quality Education:
Provision of satellite-based educational resources, supporting remote learning through satellite internet, and facilitate global collaboration in science and education.

SDG #6: Clean Water and Sanitation:
Monitoring water resources through satellite imagery, assessing water quality, and support the management of water-related challenges.

SDG #9: Industry, Innovation and Infrastructure:
Driving innovation in technology and engineering, contributing to the development of new materials, communication technologies, and infrastructure planning.

SDG #11: Sustainable Cities and Communities: Supporting urban and infrastructure planning, smart cities, smart waste management systems, air quality monitoring, disaster management.

SDG #12: Responsible Consumption and Production:
Supporting smart Agriculture, natural resources management, tracking of endangered species, monitoring illegal fishing, deforestation, pollution of water bodies.

SDG #13: Climate Action:
Using space derived data and technology to support climate change monitoring and mitigation, weather forecasting, monitoring of greenhouse gases and enabling climate smart technologies.

SDG #14: Life Below Water:
Promoting use of Space technologies to support monitoring of life under water and sustainable use of marine resources to enhance blue economy.

SDG #15: Life on Land:
Utilising Global Navigation Satellite Systems, Earth Observation and Communication Satellites to support land use.

SDG #17: Partnerships:
Supporting international cooperation initiatives, exchange of data and information, open-source databases, sharing of infrastructure and exchange of technical know-how.

IMPLEMENTATION AND COORDINATION FRAMEWORK

The Agency seeks to establish an implementation and coordination framework to ensure effective implementation of this Strategic Plan.

Implementation Plan

To execute this strategic plan, clear deliverables have been set out and responsibilities assigned with budgets and timelines. Action plans, work plans, and performance contracting targets shall be developed and reviewed in line with this strategic plan.

Key activities prioritised in the action plan include:

- Development and implementation of national space legislation.
- Capacity-building in space policy, law, science, systems engineering, operations and applications.
- Establishment of space-related infrastructure and facilities.
- Support incubation and nurturing of start-ups, small and medium-sized enterprises.
- Development of decision-support tools and applications.
- Promotion of education, outreach and public awareness on space science and technology.
- Undertake research and mobilize funding for research and development
- Commercialize space infrastructure and facilities such as spaceport, Earth Observation system, microsatellite development facility, communication satellite and multi-satellite ground station.
- Recruitment and human capital development.
- Establish partnerships for collaboration and resource mobilization.

Organizational Structure

KSA has an organizational structure comprising 7 Directorates and 20 Departments. The executive head of the organization is the Director General (DG) who is also the Chief Executive Officer (CEO). The DG/CEO reports to the KSA Board, which in turn reports to the CS for Defence.

Leadership and Governance Framework

The Board of Directors provides strategic oversight and direction over the Agency. The Board will oversee implementation of this strategic plan and continuously receive and review reports from management and give appropriate guidance to management. The DG will provide strategic leadership in promotion, coordination, and regulation of Space-related activities.

As the chief accounting officer, the Director General will oversee the development, implementation, and review of the Agency's policies, strategies, and projects.

The Directors will implement, monitor and assess the execution of strategic plan. To ensure effective execution of the Strategic Plan activities relevant to each KRA, the Agency will form Strategic Theme Teams with respect to KRAs. The Director General shall appoint the chairperson, secretary, and members of each Strategic Theme Teams.

IMPLEMENTATION AND COORDINATION FRAMEWORK

Coordination Framework

Implementation of this strategic plan will be coordinated by the Directorate of Strategy, Standards and Quality Assurance. The Director General shall appoint a Strategic Plan Committee to track implementation of the strategic plan and carry out monitoring, evaluation and reporting. The committee will further ensure the planned targets are cascaded to departmental work plans, budgets, and performance contracts. Committee members will be drawn from all departments, who are also members of Strategic Theme Teams. The director in charge of coordinating strategic plan implementation will spear-head formation of strategic theme teams at the start of each financial year.

Risk Management Framework

Risks are, in the context of this Strategic Plan implementation, factors which may compromise achievement of strategic objectives. This Strategic Plan has been prepared taking into consideration prevailing internal and external factors that could impact on execution of its mandate. This Plan has therefore anticipated and identified possible risks and mitigation measures to ensure successful implementation.

RESOURCE MOBILIZATION STRATEGIES

To effectively mobilize and secure both financial and non-financial support needed to achieve goals outlined in this strategic plan, the Agency will identify strategic partners, prioritize collaboration efforts and commit to responsible resource management. In this regard, KSA will focus on the following approach:

- **Collaboration with stakeholders:** KSA will engage diverse stakeholders and resource partners to bridge identified resources gap through the establishment of Public-Private Partnership (PPP) frameworks, Memorandum of Understanding, sharing existing space related infrastructure as well as seeking grants and donations in support of the implementation of the Space Programme.

- **Commercialization of space services:** KSA will seek to individually or jointly establish and/or operate space-related facilities and infrastructure to deliver services which will be charged at commercial rates for revenue generation. Additionally, KSA will levy nominal fees and charges for licensing space activities, provision of advisory and for other services as provided for by the relevant space legislation.

- **Space Industry Development Fund:** KSA will advocate for and coordinate the establishment of a dedicated fund to spur innovation and entrepreneurship in support of the growth of the space industry by availing requisite financial resources to nurture startups, support research and development initiatives, and facilitate the commercialization of space technologies.

KSA will institute measures for prudent and efficient resource management which is critical for guaranteeing the Agency's financial health, sustainability, resilience and bolster stakeholder confidence. The Agency will Ensure compliance and adherence with all Government guidelines on financial management.

MONITORING, EVALUATION AND REPORTING

KSA will establish monitoring, evaluation, and reporting mechanisms to enhance performance, accountability, learning, resource optimization, risk management, and continuous improve during the implementation period of the strategic plan. In this regard, KSA will establish a system for tracking progress in implementation of this strategic plan. Evaluations will be carried out to determine achievement of targets, efficiency, effectiveness, impact, and sustainability of the Agency in the realization of the strategic plan priorities.

Monitoring will be undertaken through continuous data and information collection during the implementation period based on the key indicators derived from the implementation matrix (output indicators), and the outcome matrix (outcome indicators). Review of the implementation of this Strategic Plan and reporting on the progress will be done annually.

PUBLISHED BY KENYA SPACE AGENCY (KSA)
Pitman House, 4th Floor, Jakaya Kikwete Rd
P.o. Box: 7046-00200 NAIROBI, KENYA
Tel: +254 709 298200
Website: https://ksa.go.ke
Email: info@ksa.go.ke