**REPUBLIC OF KENYA**

# SECTOR PLAN

# FOR

# INFORMATION, COMMUNICATIONS AND TECHNOLOGY

The Principal Secretary
State Department for Information, communications and innovation
Ministry of Information, Communications and Technology
Teleposta Towers, P.O. Box 30025-00100 Nairobi, Kenya.
Tel: +254204920000
e-mail: info@information.go.ke
Website:www.ict.go.ke

**STATEMENT BY THE CABINET SECRETARY THE NATIONAL TREASURY AND PLANNING**

Kenya's long term development blue-print, Kenya Vision 2030, is in its third implementation phase under the Third Medium Term Plan (MTP III) 2018-2022. A total of 28MTP III Sector Plans have concurrently been prepared through25 MTP Working Groups and three (3) Thematic Working Groups. The Plans provides in detail policies, programmes and projects to be implemented in each sector for the period 2018-2022. The Plans also incorporate policies, programmes and projects necessary for the effective implementation of the "Big Four" initiatives namely: industrialization, manufacturing and agro-processing; affordable housing; food and nutrition security; and universal health care. Ongoing flagship projects and other priority programmes and projects carried forward from the previous Medium Term Plans will also be implemented. The Sector Plans have also mainstreamed key priorities outlined in the Manifesto of the Jubilee Government.

The MTP III and the Sector Plans have been prepared through a participatory and inclusive process involving representatives from the government, development partners, private sector, Civil Society, NGOs, organizations representing vulnerable groups, faith-based organizations and professional associations, among others and in line with the constitutional requirements.

The Sector Plans detail specific programmes and projects for implementation during the plan period, 2018-2022.The programmes and projects outlined in these plans will be implemented in close consultation and collaboration with county governments and in line with the Fourth Schedule of the Constitution. The Public Private Partnerships (PPPs) framework will be the vehicle through which the private sector will contribute to the implementation of programmes and projects highlighted in the plans.

The County Integrated Development Plans, County Spatial Plans and Ministries, Departments and Agencies (MDAs) Strategic Plans (2018-2022) will be aligned to the MTPIII and the National Spatial Plan. Implementation of these plans will also be linked to the Results-Based Management Framework through Performance Contracts and Staff Performance Appraisal System.

A robust monitoring and evaluation framework will be put in place. In this regard, National Integrated Monitoring and Evaluation System (NIMES), County Integrated Monitoring and Evaluation System (CIMES) and the electronic Project Monitoring Information System (e-ProMIS) will be fully integrated with other governmental financial systems. This will ensure effective tracking of implementation of programmes and projects and also boost Public Investment Management.

In conclusion, I would like to appreciate the respective Cabinet Secretaries, Chief Administrative Secretaries, Principal Secretaries, staff in the MDAs and all those involved in the preparation of the Sector Plans for their valuable inputs. In addition, I commend staff from State Department for Planning led by Principal Secretary, Planning for the effective coordination of the MTP III preparation process.

**HENRY ROTICH, E.G.H.,**
*Cabinet Secretary,*
*The National Treasury and Planning.*

**FOREWORD**

The development of Information, Communications and Technology (ICT) Sector is one of the main priorities of the Government towards the attainment of the development goals and objectives of the Kenya Vision 2030. The implementation of the Medium Term Plan III (MTP III) of the Kenya Vision 2030, will lead to the transformation of Kenya into a leading information and knowledge hub of the region. The MTP III will take on board the lessons learnt from the MTP II (2012-2017), complete projects and programmes initiated under MTP II and initiate new programmes and projects for implementation.

The MP III for the ICT Sector has prioritized the following areas of focus; the development of national ICTs policies, legal regulatory and institutional frameworks, infrastructure development, universal access, Information security and e-government.

The Sector will regularly review and develop ICT policies, legal and regulatory frameworks in tandem with the rapid global technological advances of ICT, changing public needs and evolving global trends. The rapid changes occasioned by new and emerging ICT technologies pause serious regulatory, management and administrative challenges hence the need for policy review and institutional reforms.

ICT infrastructure remains a key priority without which, it would be difficult to provide ICT services. Infrastructure is thus the core foundation of an integrated ICT eco-system. The government will facilitate the development of ICT infrastructure with the primary focus of providing broadband to all regions across Kenya which is connected to the undersea submarine fiber optic cables. The overall objective is to provide seamless connectivity which will facilitate proactive collaboration at local, regional and international levels.

The digital divide between rural and urban communities continues to be a major concern for the Government. Some parts of the country are either unserved or underserved with ICT services. To address this problem the government initiated universal access

fund to roll out services to all areas and thereby ensure universal coverage of ICT services.

The rapid growth and use of ICT has also resulted in increased cases of cyber-crime which negatively affect networks and service delivery. To address this problem the Government will put in place measures and strategies to enhance cyber security, in addition to already existing legislation.

The overall goal of e-Government is to make the Government more result-oriented, efficient and citizen-centered. The e-Government strategy will focus on redefining the relationship between Government and citizens with the objective of empowering them through increased and better access to government services. The e-Government initiative will be a shared vision between the National and County Governments and the private sector and the implementation process will involve all stakeholders.

In conclusion, it is my conviction that this Sector Plan shall continue to set the pace in the right direction for further development of our ICT Sector in particular and the economy in general, while ensuring that all stakeholders benefit fully from the consequent benefits

**JOE MUCHERU, E.G.H.,**
*Cabinet Secretary,*
*Ministry of Information, Communications & Technology.*

**PREFACE**

The ICT sector plays a key role in enabling socio-economic empowerment of the society. During Medium Plan Two (MTP II) the Sector made remarkable progress in transformation of the Kenyan people to a technology enabled and knowledge based society. The use of social media platform and electronic cash transfer through mobile telephony platform have played an important role in enabling access to information and services. The 2018-2022MTP III sector strategic priorities are drawn from the achievements of the MTP II, the lessons learnt, emerging issues and challenges. This Plan has prioritized various programmes and projects for implementation. In fulfilment of Article 10 of the Constitution the Sector adopted a participatory approach where senior staff in the Ministry and its Semi-Autonomous Government Agencies (SAGAs), the Kenya Private Sector Alliance (KEPSA), the Academia and other major stakeholders participated in the development of MTP III including holding a validation workshop.

This Plan would not have been effectively delivered without the full commitment and dedication of the Ministry of ICT officials who coordinated and managed the process. As we embark on the implementation phase of MTP III, the ICT Sector will work closely with other sectors whose services contribute to its outcomes to ensure all projects and programmes are implemented successfully. Specifically, the availability and distribution of electricity is important in the application of ICTs; access roads and way-leaves are required to reach many of our sites while security and water are basic and critical requirements in areas of our interest.

The ICT Sector will strive to implement MTP III through strategic plans, medium term expenditure frameworks, and annual budgets. In addition, a monitoring and evaluation framework will be used to track the implementation of programmes and projects.

In conclusion, I wish to thank all those who participated in the preparation of MTP III, including all Government Ministries, Departments and Agencies, Community Based Organizations,

Non-Governmental Organizations and the Private Sector whose diverse contributions made this exercise a success.

**JEROME OCHIENG**
*Principal Secretary,*
*State Department for ICT,*
*Ministry of Information, Communications and Technology.*

# TABLE OF CONTENTS

x

**LIST OF ACRONYMS**

| | |
|---|---|
| 2G | Second Generation |
| 4G | Fourth Generation |
| BPO | Business Process Outsourcing |
| CA | Communications Authority |
| CCK | Communication Commission of Kenya |
| CCP | County Connectivity Project |
| COMESA | Common Market for Eastern and Southern Africa |
| EAC | East African Community |
| EARTTDFP | Eastern Africa Regional Transport, Trade and Trade Development Facilitation Project |
| FM | Frequency Modulation |
| Gbps | Gigabytes per second |
| GAA | Government Advertising Agency |
| GCCN | Government Common Core Network |
| GDC | Government Data Centre |
| GDP | Gross Domestic Product |
| GOK | Government of Kenya |
| Gov-CIRT | Government Computer Incidence Response Team |
| ITES | Information Technology Enabled Services |
| IDS | Intrusion Detection System |
| ICT | Information and Communication Technology |
| ICTA | Information Communication Technology Authority |
| IPS | Intrusion Protection System |
| KM | Kilometers |
| KBC | Kenya Broadcasting Corporation |
| KIMC | Kenya Institute of Mass Communication |
| KLMIS | Kenya Labor Market Information System |
| KNA | Kenya News Agency |

| | |
|---|---|
| KoTDA | KonzaTechnopolis Development Authority |
| LAN | Local Area Networks |
| Mb/s | Megabytes per Second |
| MCK | Media Council of Kenya |
| MDA | Ministries Departments and Agencies |
| MOICT | Ministry of Information, Communication and Technology |
| MTP | Medium Term Plan |
| MW | Medium Wave |
| NAS | National Addressing System |
| NOC | Network Operation Centre |
| NOFBI | National Optic Fiber Backbone Infrastructure |
| NTSA | National Transport and Safety Authority |
| NETIP | Northern Eastern Corridor Transport Improvement Project |
| PCK | Postal Corporation of Kenya |
| SOC | Security Operations Center |
| TIMS | Transport Information Management System |
| TV | Television |
| NID | National ID |
| EIS | e-judiciary Information System |
| NEMIS | National Education Management Information System |
| IFMIS | Integrated Financial Management System |
| GHRIS | Government Human Resource Information System |
| CSHSMS | Civil Servants Housing Scheme Management System |
| KODI | Kenya Open Data Initiative |
| NETIP | Northern Eastern Corridor Transport Improvement Project |
| VOIP | Voice over Internet Protocol |

**EXECUTIVE SUMMARY**

Vision 2030 has identified ICT as a key enabler for other sectors of the economy. ICT enhances efficiency of production processes. It also creates employment opportunities, improves service delivery as well as competitive advantage. Kenya has made great strides in laying the foundation for exponential growth of the ICT Sector during the last two decades. It is important to build on the gains already made as Kenya prepares to advance into the fourth industrial revolution. This requires that the country develops quality ICT regulatory and business environment, deploys appropriate national ICT infrastructure, develops ICT human capacity, promotes ICTs usage and investments among others.

Over the Medium Term Plan II (MTP II) which covered the period (2013 –2017), the ICT Sector registered an average annual growth rate of 10%(Economic Survey 2017), making it one of the fastest growing and most attractive sectors of the Kenyan economy. Although the Sector contribution has remained low at about 1.4 percent of Gross Domestic Product (GDP), it has grown in terms of volume from KSh. 228 billion in 2013 to about KSh. 345 billion in 2017. Internet users were estimated at 14 million translating into 23% by December 2012.butInternet users had increased to 26 million by December 2016 translating into internet penetration of 64%. Mobile phone subscriptions grew from 33.6 million in 2013 to about 42.8million by December 2017. This increased the mobile phone penetration ratio from 78 percent to 88 percent. In addition, the Government and the private sector developed 60 percent of the ICT infrastructure and 78 percent of digital television infrastructure. The bandwidth capacity increased from 862,474 mbps in 2013 to 3,181,151 mbps in 2017. Mobile money transfer agents grew by 94.8% from 93,689 in 2013 to about 182,472 in 2017.

During the MTP III period, the sector plans to build on the gains made during the MTP II period, complete the on-going projects by increasing investments as well as implement new projects and programmes in order to position the Sector as a key enabler for the Kenya Vision 2030. The Sector will encourage innovation, development of local content and export oriented IT enabled industries. The sector priority programmes will also support other sectors through development of information management systems

to improve efficiency in service delivery. The targeted sectors include Agriculture, Tourism, Transport, Environment, Security and Public Administration, Energy, Education, Judiciary and Financial among others. The priority programmes/projects planned for MTP III include development of; ICT infrastructure, e-government services, policy legal and institutional frameworks, cyber security and promotion of universal access to ICT.

The Sector experienced some emerging issues which include e-waste management, and fast changing new and emerging technologies. It faced many challenges such as; rural urban digital divide, inadequate safeguards against cyber-crime and social media abuse, slow adoption of ICT services, vandalism of ICT infrastructure,  and unreliable power supply.

## 1.0 INTRODUCTION

In the Kenya Vision 2030 ICT is a key enabler to socio-economic growth and development. Evidence has shown that the Sector provides impetus for accelerating productivity by reducing both the cost and effort required in the production process across all other sectors. It is in this regard that the government has invested heavily in ICT projects aimed at transforming Kenya into a knowledge based society. Kenya has laid a strong foundation for advancement into the fourth industrial revolution that brings together digital, biological and physical technologies. However, the extent to which Kenya fully benefits from this revolution depends more on factors such as the quality of ICT regulatory and business environment, national infrastructure, human capacity, ICTs usage and investments among others.

During the MTP II period, the key achievement of the Sector was the development of 60% of the national ICT infrastructure, which involved: connecting Kenya to the international broadband highway as well as connecting all major towns in the country through the national fiber optic cable. The sector also prioritized capacity building in ICT, leveraged on ICT to create employment and facilitated growth of the other sectors in the economy. It also promoted county and regional integration. In addition the sector reviewed and developed ICT policies, legal, institutional and regulatory frameworks and improved public service delivery through the use of ICT applications. In a nutshell the programmes and projects pursued contributed to tremendous growth of the sector creating more opportunities for further development.

During the MTP III period, the Sector plans to build on the gains made during the MTP II period, complete the on-going projects by increasing investments as well as implementing new projects and programmes. It will encourage innovation, development of local content and export oriented IT enabled industries. The Sector priority programmes will also support other sectors through development of information management systems to improve efficiency in service delivery. The targeted sectors include Agriculture, Tourism, Transport, Environment, Security and Public Administration, Energy, Education, Judiciary and Financial Services.

It is worth noting that the sector plans to: promote competitiveness and diversification of the economy, support social development, public participation and transparency, stimulate demand and supply of local ICT products to create employment and increase GDP contribution, distribute the benefits of ICT to all citizens and geographic areas and increase productivity and enhance high quality ICT services to all individuals and organizations in the country.

## 2.0   SITUATIONAL ANALYSIS

Over the Medium Term Plan II (MTP II), which covered the period (2013 –20 17), the ICT Sector registered an average annual growth rate of 10% percent (Economic Survey 2017) annually, making it one of the fastest growing and most attractive sectors of the Kenyan economy. Although the Sector contribution has remained low at about 1.41 percent of Gross Domestic Product (GDP), it has grown in terms of volume from KSh. 228 Billion in 2013 to about KShs.345 Billion in 2017. Internet users were estimated at 14 million translating into 23% percent by December 2012. But by December 2016 the Internet users had increased to 26 million by December 2016 translating into internet penetration of 64% percent. Mobile phone subscriptions grew from 33.631 million in 2013 to about 42.8 million by December 2017. This increased the mobile phone penetration ratio from 78 percent to 88 percent. In addition, the Government and the private sector developed 60 percent of the ICT infrastructure and 78 percent of digital television infrastructure. The bandwidth capacity increased from 862,474 mbps in 2013 to 3,181,151 mbps in 2017. Mobile money transfer agents grew by 94.8238 % from 93,689 in 2013 to about 182,472 in 2017. The following are the highlights of the achievements during the period under review:

**National ICT Infrastructure:** The National Optic Fibre Backbone Infrastructure (NOFBI) cable network was extended from 4,300 km in 2012 to 6,400 km by 2017, linking all the 47 county headquarters to the national optic fiber backbone infrastructure. This has increased internet access speeds by availing more than 500Mb/s capacity per county.

**NOFBI BACKBONE FIBRE OPTICAL TRANSMISSION NETWORK**
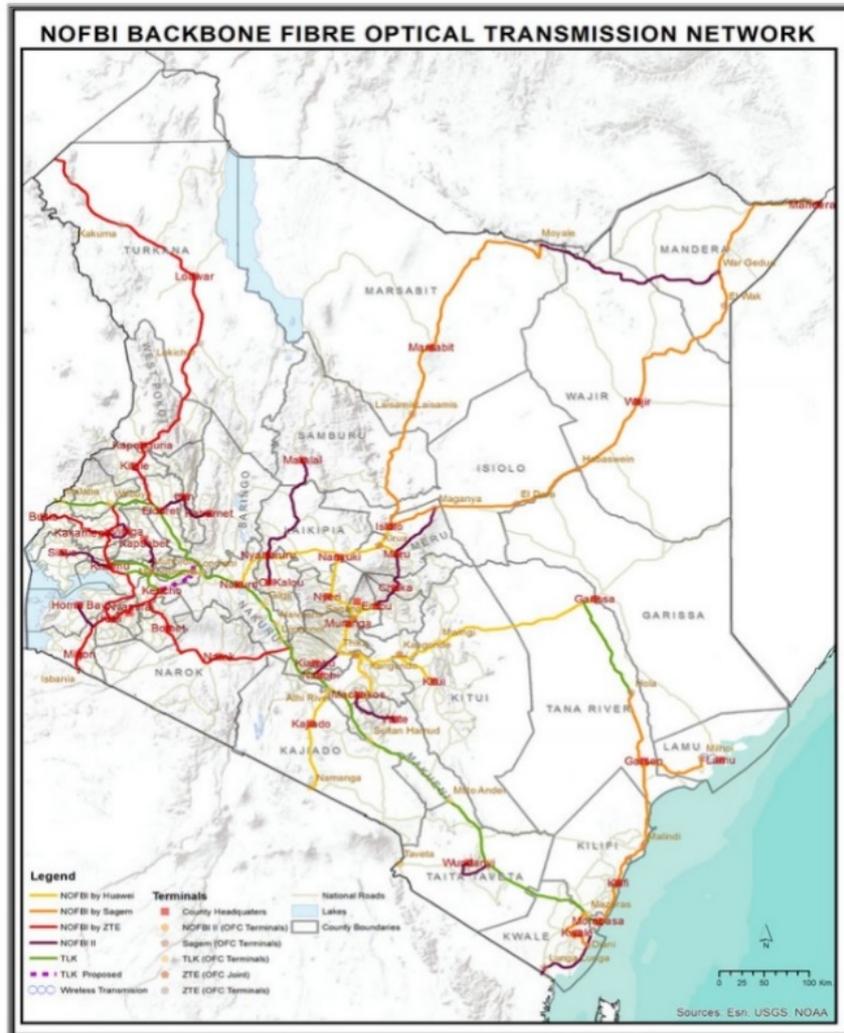
i. The Government also initiated the County Connectivity project to complement NOFBI by providing last mile connectivity to all the 47 County Government headquarters and other national government buildings via wireless technologies.

ii. Other public and private sector organizations have complemented the government efforts through rollout of over 5,000km of fibre across the country.

iii. The Government Common Core Network (GCCN) in Nairobi was extended to cover over 50 State Agencies that are housed in private buildings within and outside Nairobi. Government Data Centre (GDC) Private Cloud facility was upgraded with a 10 Gbps link capacity to support applications from Government organizations.

iv. Cloud-computing infrastructure was implemented to increase consolidation of the existing database systems and provide sharing of big data among Ministries Departments and Agencies (MDAs,) Counties and Sub-counties.

**The GCCN Network for the period under review**



i. Local Area Network (LANs) were upgraded and expanded to various government organizations and all the forty seven (47) County and National government offices.

i. The Government also established and operationalized one (1) Network Operation Centre (NOC) to provide users of the GCCN, NOFBI, and CCP unified support services.

ii. The Government through the Communications Authority licensed telecommunication operators to roll out 4G

Networks in 2014 starting with Nairobi, Mombasa and Kisumu. The 4G network has since been expanded to other towns.

iii. The migration from analogue to digital TV was completed in time to meet the global deadline of 17th June, 2015. The roll out of public digital infrastructure project achieved 78% coverage rate. The number of operational TV channels increased from 228 in 2012 to 312in 2016. Kenya Broadcasting Corporation (KBC) migrated 60% from Medium Wave to Frequency Modulation (FM) radio transmission as at June, 2017.

iv. The Government signed a contract for the implementation of the Eastern Africa Regional Transport, Trade and Trade Development Facilitation Project (EARTTDFP) which will involve laying of 600 km Fiber Optic Cable from Eldoret in Kenya to Nadapal along the common border with South Sudan. This project will enable South Sudan access the undersea marine cable and thus facilitate trade and enhance communications between the two Northern Corridor member states.

v. The National Addressing System (NAS) project was initiated with a view to accelerate the development and mainstreaming of e-commerce. It is also expected to play a critical role in provision of common services to the general public through the easily identifiable physical address system. So far a draft NAS Policy, Standards, Financing Model and database have been developed.

**Universal Access to ICT:** The Government is committed to providing ICT services to all parts of the country. In this regard the following initiatives were undertaken:

i. The CA initiated the implementation of the basic voice infrastructure project to connect 78 Sub-counties which had no coverage with 2G network and 480 public secondary schools with broadband.

ii.    The Government initiated universal access fund to roll out services in unserved and underserved areas to help address the digital divide between rural and urban communities.

**National Information Security:** The rapid growth and use of ICT has also resulted in increased cases of cyber-attacks affecting networks and service delivery. To address this challenge the Government adopted the following measures—

i.    Integration of online government services with the national public key infrastructure to enhance secure online transactions (e.g. iTax)

ii.    Enhanced the government computer incidence response team (Gov-CIRT) to respond and advice on cyber security incidents within the Government

iii.    Developed information security policy to guide in secure use of ICT within Government

**e-Government Services:** As part of the effort to improve on service delivery the sector realized the following:

i.    Integrated Population Registry System (IPRS) was operationalized;

ii.    e-Passport was launched to facilitate ease of travel while taking care of security concerns;

iii.    e-Citizen web portal was launched to facilitate provision of efficient various government services online;

iv.    Developed and implemented Transport information management system (TIMS)-NTSA;

v.    Developed Kenya Open Data portal (opendata.go.ke);

vi.    Developed and rolled out Open Budget App. (available at budget.opendata.go.ke);

vii.    Rolled out IFMIS to the counties;

viii.    Developed Kenya Labor Market Information System (KLMIS);

ix.    Developed Multi - Agency Task-Force Portal - Ongea - Anonymous reporting system;

x. Upgraded 50 MDA's websites to conform with the set standards; and

xi. Configured 37 MDAs mailing system to ensure availability and use of official email for official communication.

**Digitization of Government Records:** The Sector established various electronic systems to streamline tracking, retrieval and storage of documents within the public sector. It involved development of workflow for conversion of Physical document and integrated already digitized registries like Civil Registration Bureau. Some of the achievements include:

i. Digitized 107 Civil Registration Centers.

ii. Digitized25 million records of Company registry.

iii. Marriage records scanned in readiness for digitization.

iv. Workflow for conversion of physical documents and integrate already digitized registries like civil registration bureau and Ministry of Lands.

v. The digitization of records to cover 13centers inNairobi, Bungoma, Kisumu, Eldoret, Nakuru, Thika, Meru, Kajiado, Machakos, Kwale, Kilifi and Mombasa was accelerated. Five (5) other centers are in the process of being finalized.

**Regional Integration:** The major achievements of various ongoing regional initiatives under EAC, COMESA and Northern Corridor are as follows:-

i. The implementation of One Network Area for telecommunications with a harmonized EAC rate of 10 US cents per minute for outgoing calls and zero charges for incoming calls between Kenya, Uganda and Rwanda.

ii. The signing of the Eastern Africa Regional Transport, Trade and Trade Development Facilitation Project (EARTTDFP).

**Partnership with County Governments:** The following programmes were implemented to support Counties:

i. **Development of 44 ICT Roadmaps:** The Government conducted County e-readiness assessment in all the counties to identify gaps to improve counties efficiency and

effectiveness in public service delivery. Forty four (44) counties received ICT Roadmaps and equipment was procured and provided to each county to support the acceleration of project implementations and provision of services to the citizens at the county level.

ii. **ICT Skills Development at the Counties:** Training and certification was conducted to 285 County ICT professional staff across the 47 counties on business process reengineering, cyber security, project management and IT service management. This is in accordance with the requirement of the Constitution that the National Government provide support to the County Governments.

iii. **Capacity Building:** 700 county staff across the 47 counties were trained to enhance their productivity.

iv. **Unified Communications System:** A Unified Communications System was developed for Nairobi City County.

**Policies, Legal and Institutional Reforms:** The Government, in partnership with other stakeholders, instituted various policies, legal and institutional reforms aimed at creating an enabling environment to foster faster growth of the sector. This covered the following:

i. Draft Digitization policy;

ii. Reviewed the National ICT Policy 2006;

iii. Amended Kenya Information and Communications Act 2014;

iv. Amended Postal Corporation Act No. 2 (2013);

v. Amended Media Council Act (2013);

vi. Developed National Public Communication Policy;

vii. Developed National Broadband Strategy;

viii. Developed National Language Policy 2015;

ix. Policies, legal and Regulatory frameworks for regional integration harmonization;

x. Developed a draft Computer and Cybercrimes Bill 2016;

xi. Developed National Cyber Security Master Plan and Strategy;

xii. Developed National ICT Master Plan;

xiii. Developed National ICT Standards; and

xiv. Reviewed the Information and Communications Regulation Guidelines (2010).

In order to create appropriate regulatory environment for the Sector the following institutional reforms were undertaken:

i. Communication Commission of Kenya (CCK) was transformed to Communication Authority due to its expanded and enhanced mandate;

ii. Establishment of Universal Service Fund Advisory Council, Media Council of Kenya, Media Complaints Commission, Communications and Multimedia Appeals Tribunal and Government Advertising Agency (GAA);

iii. Kenya Institute of Mass Communications was upgrades to a Semi-Autonomous Government Agency;

iv. Restructuring of Postal Corporation of Kenya (PCK) and Kenya Broadcasting Corporation (KBC) was initiated.

## 3.0 EMERGING ISSUES CHALLENGES AND LESSONS LEARNT

### 3.1 Emerging Issues

The dynamic nature of ICT continues to create new and emerging issues which pose new challenges in the governing, administration and regulation of ICT usage. Technological changes in ICT demand that there is corresponding changes in ICT infrastructure, applications, devices, legal and regulatory environment among others. These technological changes come with immense challenges in terms of resources, skills, infrastructure, and other amenities required in order to adapt to the new and emerging ICT technologies. Some of the emerging issues in ICT include—

   i. **E-Waste Disposal:** The growth in the Sector has resulted in a lot of e-waste from obsolete equipment such as mobile phones, computers, chargers, batteries and many others. The e-waste management and disposal is becoming a major issue as there is no existing framework to address the problem comprehensively and the e-waste contains hazardous elements which are harmful to health of animals and human beings.

   ii. **Fast Changing Technology:** Due to rapid change in new and emerging technologies, the country needs to adopt new strategies and policies as well as new investments in this area. This requires that the sector keeps abreast with the latest development in ICT industry.

   iii. **Social Media.** The growth of ICT has also enhanced the expansion of social media as a means of communication that has been adopted worldwide.

   iv. **Cyber Security:** Technological innovation and increased adoption of the electronic platform in the delivery of services has moved the Internet and related platforms from the periphery to the core of deliberations on the efficient utilization of technologies. Cyber security spans a wide range of technologies, systems, and users.

It should be noted that globalization and the penetration of the Internet have given rise to new types of needs, rights and vulnerabilities. For secure electronic transactions to occur, an

environment of trust must be created and sustained through the legal and regulatory apparatus. Cyber- criminals around the world are constantly seeking loopholes through which to perform illegal or illicit businesses. Any country that has inadequate cyber-law is essentially offering a safe-haven for cyber-criminals. In this regard, it is essential to articulate new strategies that are integrated and comprehensive so that cyber security issues can be approached in a holistic manner.

## 3.2 Challenges

The sector faced the following challenges in implementation of its programmes/projects:

i. Inadequate safeguards against cyber-crime and social media abuse;

ii. Bridging digital divide between the rural and urban areas;

iii. Slow adoption of ICT services;

iv. Inadequate information resource centers in the rural areas;

v. Vandalism of ICT infrastructure;

vi. Unreliable power supply;

vii. Weak enforcement in the management of dominance and fair competition in the ICT sector;

viii. Limited human capacity for research and development in ICT and mass communications and

ix. Inadequate financing coupled with delayed disbursement.

## 3.3 Lessons Learnt

i. Cyber Security and safeguards against media abuse are critical for the development of this sector, it is therefore important to adopt appropriate strategies and policies that will secure the various ICT networks;

ii. Providing additional incentives for the private sector to upscale their services will go a long way in bridging the digital divide between the rural and urban areas;

iii. Enhancing uptake of ICT technology improves service delivery;

iv. Provision of adequate information resource centers in the rural areas will facilitate bridging rural urban digital divide;

v. Reliable supply of electric power is necessary for the provision of ICT services;

vi. Proper management of dominance and fair competition in the ICT sector will lead to improved and affordable services;

vii. Adequate and timely financing will ensure timely implementation of ICT programmes/projects;

viii. Investment in human capacity for research and development in ICT will facilitate more innovations.

## 4.0    PROGRAMMES AND PROJECTS FOR 2018-2022

During the MTP III (2018 – 2022) period, the Sector will complete the ongoing projects under the MTP II and implement the following new programmes and projects that have been identified.

**National Optic Fibre Infrastructure**

i.    **National Optic Fiber Backbone Infrastructure :**

The NOFBI II Expansion project is part of the National ICT Infrastructure development program aimed at extending broadband communication in line with the National ICT Master Plan and the National Broadband Strategy.

The project involves laying of an additional 2,500Km of Fibre to connect at least 290 offices at the Sub-county level, Level 4 hospitals and above, as well as other institutions such as educational centres, police stations and key county government offices. The public will benefit from better Government service delivery, while the private sector will utilize the available additional capacity to extend their services further to the grassroots.

ii.    **County Connectivity Program (CCP Phase III)**

The County Connectivity Project phase III will interconnect all 47 counties through a last mile wired and wireless network into one homogenous governmental network, using the National Fiber Optic Infrastructure (NOFBI) as the primary backhaul medium. The project components involve the following: VOIP, internet services, video conferencing services and other government applications including improved internet network security

iii.    **Government Common Core Network (GCCN):**

The objective of the project is to facilitate ICT business planning, shared infrastructure, skills and leverage on new technology opportunities. The network objective is to allow implementation of logical networks to facilitate connectivity among users and defined sets of service delivery points, which provide independent/autonomous departments with secure usage within the physical network. The GCCN will be redesigned and expanded to include a redundancy link to all MDAs within Nairobi fora robust, reliable, and secure government core connectivity network. The

project will also include revamping of the Network Operation center with help desk and network monitoring technologies.

### iv. Government Unified Communication System

This will involve the completion of an integral network through which government officials can share information more securely and efficiently. The objective of the project is to reduce communication costs through establishment of a whole government e-mail service complete with voice and video interconnectivity system for easy communication, information sharing and collaboration within the government MDAs. During MTP III the system will be expanded and up-graded with new features like calendaring, active directory to the all MDAs and counties.

### v. Eastern Africa Regional Transport, Trade and Trade Development Facilitation Project (EARTTDFP)

This project involves laying of 600Km Fiber Optic Cable from Eldoret in Kenya to Nadapal at the common border with South Sudan as part of the Eastern Africa Regional Transport, Trade and Development Facilitation Project

### vi. Northern Eastern Corridor Transport Improvement Project (NETIP)

The project will involve construction of fiber spurs rings and also provisions made for connecting to institutions and communities along the Northern Eastern road corridor between Isiolo and Mandera. In addition schools, hospitals and other strategic locations including pastoralist, roadside markets, rest stops and community and service centres along the way, will also be connected.

### vii. Government Cloud Solutions

This project involves upgrading and maintenance of the existing data centres covering the Government data centre in Ruaraka and the Government Computing Center in Herufi House. It will also equip the ongoing Disaster Recovery Center in Naivasha with electrical, mechanical and computing equipment and operationalise it. In addition, there will be development of a new data center at Konza Techno City to cater for the growing

demands of computing resources both at the national and county levels. This project is geared towards centralized use of data storage and computing resources for ease in management, enhanced security management, as well efficient use of resources. The project will also offer smart facilities to Konza Techno City.

### viii. Unique Identifier

The project will create a digital platform that will be able to provide a single six-digit number that will link all identities given by all MDAs in Kenya. This identifier will also be used to track Government services being offered to citizens from birth to death by keeping track of all records.

### ix. Digital Terrestrial Television Coverage Roll-Out

The project entails rolling out digital TV transmission signals throughout the country. So far the project has achieved 78 percent national coverage. Coverage to unserved and underserved areas is progressing well with installation of digital transmitters to 10 sites set to be completed by June, 2017.The remaining parts of the country will be covered during the MTP III period.

### x. Migration from Medium Wave to FM Radio Transmission

The project involves migrating from MW to FM transmission. During the MTP period the project was completed up to 60%. Implementation of the remaining 40% is to be completed in MTP III period by: -installation of 12 FM transmitters i.e. 3 transmitters each per site for Radio Taifa, English service and vernacular service and further 2 FM transmitters to Limuru and Timboroa to replace old transmitters for English Service.

### xi. Establishment of e-waste Management Centres

The project will entail establishment of centres in six (6) economic zones across the country Partnership with the private sector will be established for sustainability of the centers.

### xii. National Addressing System (NAS)

The project will entail rolling out NAS throughout the country. It will involve assigning numbers to all properties in Kenya, postcodes, road/street signage, hydrography, digital mapping, capacity building, and cadastral survey among others.

### xiii. National Information Security

The Government will create and sustain a secure cyber-law environment, in addition to already existing legislation. This will entail—

i. Enhancement of GCCN Security which will include Implementation of Security Operations Center (SOC), Deployment of Intrusion Prevention System (IPS) and Intrusion Detection System (IDS) in the gateways and in the MDA's;

ii. Implementation of security policies, straining of staffs, deployment of firewall at the gateways; and

iii. Development and implementation of security framework for the entire GoK Cloud that will lead to less environmental complexity and less potential vulnerability. This will also help bring out the essential interoperability across various cloud environments in the country.

### Universal Access to ICT

The Government is committed to ensuring that ICT services are available throughout the country and will support the universal service availability and the widest access to such services.. In this regard the following will be undertaken: -

**i. Provision of basic Voice Infrastructure under Universal Service Obligation**

This project will involve provision of Basic Mobile Infrastructure for 2G network to unserved and underserved areas currently with population coverage gaps of more than 50%, and their broadband connection to the national backbone.

**ii. Provision of Broadband Connectivity to schools under Universal Service Obligation**

The project involves identification and selection of secondary schools and tertiary institutions to be provided with broadband internet connectivity (5mbps downlink and 1 mbps uplink). The roll out will then follow.

### e-Government Services

This programme will entail the following projects—

17

### a) Digitization of Government Records

Citizen-centric services such as land records registration, driving license issuance, property registration and trade license issuance involving extensive handling of documents that are critical for effective service delivery. Quick service delivery through multiple modes/outlets is possible only if the documents that are necessary for decision making are available immediately. Additionally, at the time of availing a particular service, a citizen may be required to fill in an application form and furnish supporting documents as proof of his/her identity, date of birth or address. All these documents, once submitted by the applicant, should be archived electronically for future reference. Documents once digitised and stored in a central archive, can be made available anytime, anywhere to all key stakeholders. This gives the impetus to the whole decision making process and results in faster delivery of services to citizens.

The Sector will therefore carry out the following—

   i. establish a central repository to act as a single source for all digitized information. It will involve scanning, storing and sharing of millions of documents through a portal or website;

   ii. establish a digitation centre which will centralize the services;

   iii. acquire, develop and customize the application and hardware needed to support the initiative;

   iv. implement and roll-out the system;

   v. capacity building;

   vi. support to sustain the project.

### b) Digital Government Economy Programmes

The ICT Sector in collaboration with other sectors will be implementing the following ICT related projects aimed at improving service delivery—

   i. National Integrated Health Management Systems, Integrated Security, Intelligence &Surveillance Information System;

18

ii. National Land Information System;

iii. National Commodity Exchange Portal;

iv. National Integrated Identity Management System (NIIMS);

v. Transport Integrated Management System(TIMS);

vi. Third Generation National ID and Smartcard System (NID);

vii. State Law Office Information Systems (EIS);

viii. National Education Management Information System (NEMIS);

ix. e-Judiciary;

x. Integrated Financial Management System (IFMIS);

xi. Government Human Resource Information System (GHRIS);

xii. Civil Servants Housing Scheme Management System (CSHSMS);

xiii. Digitization of Archives Materials;

xiv. Kenya Maritime Integrated Management System;

xv. Integrated Labour Management System;

xvi. Environment Management Information Systems (Min. of Environment, water and Natural Resources);

xvii. Integrated Border Control and Management System;

xviii. E-Tourism and Magical Kenya Portals e-Soko and Agriculture;

xix. e-NIMES and e-ProMIS.

**c) Kenya Open Data Initiative (KODI)**

The project involves partnering with county and national government agencies to make public data sets accessible and in a re-usable format to provide timely information to citizens.

**Regional Initiatives**

The regional initiatives that will be implemented during MTP III period will include: harmonization of policies across the region, infrastructure projects East Africa Regional Transport, Trade and

Development Facilitation Project (EARTTDFP) and Northern Kenya Transport Improvement Project (NETIP) and interconnection of networks across the border among others.

**Partnership with County Governments**

To enhance provision of ICT services at county level, the sector in partnership with the county governments will undertake the following—

i. counties will be provided with ICT roadmaps and equipment to support the acceleration of project implementations and provision of services to the citizens;

ii. training and certification will be conducted in all the counties on business process reengineering, cyber security, project management and IT service management. This is as per the requirement of the Kenyan Constitution that the National Government provide support to the County Governments;

iii. development of a Unified Communications system at the county level.

## 5.0 POLICY LEGAL, INSTITUTIONAL AND REGULATORY FRAMEWORKS

### 5.1 Policy Reforms

The Sector will review, formulate and implement the following policies, legal and regulatory frameworks to support the implementation of the identified programmes and projects—

i.   Finalize the National ICT Policy 2017 and develop and implementation framework;

ii.  Develop National Language Policy and implementation framework;

iii. Review the National ICT Master Plan, the National Broadband Strategy and the National Cyber Security Strategy in-line with the National ICT Policy 2017;

iv.  Review Information Communication Technology Regulations to address local content and participation of local investors and local public learning institutions for knowledge and capacity transfer;

v.   Review the e-Waste Management Policy and develop an implementation framework;

vi.  Develop and implement Digitization Strategy, Roadmap and Standards;

vii. Develop National Addressing System Policies.

### 5.2 Legal Reforms

i.   Fast-track the enactment of critical Infrastructure Bill to guard against the destruction of ICT infrastructure;

ii.  Develop ICT Sector Standards for industry self-regulation;

iii. Review Kenya Information Communications Act;

iv.  Develop National Addressing System Standards and Regulations;

v.   Review Kenya Broadcasting Corporation (KBC), Postal Corporation of Kenya (PCK), Government Advertising Agency (GAA) and Kenya News Agency (KNA) Bills, Acts and Gazette Notices.

### 5.3    Institutional Reforms:

The Government will restructure the following institutions—

   i.    Communications Authority (CA);

   ii.   Kenya Broadcasting Corporation (KBC);

   iii.  Postal Corporation of Kenya (PCK);

   iv.   Government Advertising Agency (GAA);

   v.    Kenya News Agency (KNA);

   vi.   Media Council;

   vii.  Kenya Year book Editorial Board.

## 6.0 MONITORING AND EVALUATION (M&E)

The Constitution, the County Governments Act (2012), the Intergovernmental Relations Act (2012), and the Public Finance Management Act (2012) anchors M&E as an important governance tool to be embraced by all government agencies. Monitoring and Evaluation will ensure that transparency, integrity, access to information and accountability principles are embraced in resource allocation and management. It will be anchored on the National Integrated Monitoring and Evaluation System (NIMES) and the approved draft of the Kenya National M&E Policy.

The ICT Sector will establish structures for M&E to be chaired by the Principal Secretary. The MTP III Sector Chairs and their respective Secretaries will in turn be responsible for the monitoring and evaluation of the Plan. The State Department M&E Committee will be established and will be responsible for reporting on the implementation of the Plan. The Committee will develop an M&E framework; identify sub-sector indicators; establish compliance with reporting standards and ensure consistency of indicators and reporting formats of the Government. Respective Central Planning and Project Monitoring Units (CPPMUs) will be secretariats for the committees.

For effective and efficient monitoring and evaluation, the sector will form partnerships and collaborations with the Monitoring and Evaluation Department of The National Treasury and Ministry of Planning. Monitoring and Evaluation forms a key pillar in knowledge management for organizational improvement and sustainability. During the MTP III period, the Sector shall develop and prepare monitoring and evaluation reports in a bi-annual and annual basis to track the implementation of the envisaged policies, programmes and projects. Mid-term and end-term evaluations for the Sector will be undertaken to assess the achieved results of the Plan. The Sector will communicate the M&E results to ensure that the information and findings are widely and timely used for evidence-based decision-making. The Sector will also explore the most cost-effective way of sharing and disseminating M&E information as outlined in Article 35 of the Constitution. At least 1% of the development budget will be set aside for M&E work as authorized by the approved draft M&E Policy.

# IMPLEMENTATION MATRIX

| Projects/ Programs | Objectives/Program | Expected outcomes/ Outputs | Performance Indicators | Implementing Agency | Time Frame | Sources of Funds | Total Budget (KSh. millions) | Indicative Budget (KSh. millions) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 |
| **National ICT Infrastructure** | | | | | | | | | | | | |
| NOFBI phase II | To improve access to ICT services | Km of fiber cable laid | No. of km laid | MoICT | 2017/18-2019/20 | GoK/Donor | 7,250 | 125 | 112.5 | 122 | 122.66 | - |
| NOFBI phase II Expansion | To improve access to ICT service | Km of fiber cable laid | No. of km laid | MoICT | 2017/18-2020/21 | GoK /Donor | 10,337 | 100 | 90 | 98 | 98.13 | – |
| County connectivity program (CCP phase III | To improve access to ICT services | Km of fiber cable laid | No. of km laid | MoICT | 2017/18-2019/20 | GoK /Donor | 3165 | 155 | 139.5 | 151 | 152.1 | |
| Government Common Core Network (GCCN) | To provide reliable and stable interconnectivity between MDAs for efficient delivery of Government services | Reliable and stable interconnectivity in MDA's availed | No. of MDA's with stable reliable connectivity | MoICT | 2017-2022 | GoK | 10,000 | 550 | 495 | 538 | 539.72 | 540 |
| Data Disaster Recovery Centre (DRC) | To Ensure continuity in Government operations | DRC established | A functional DRC | MoICT | 2017-2022 | GoK | 5,500 | 300 | 1,000 | 1,000 | 1,000 | 1,000 |
| Government Unified Communication System | To enable easy communication, information sharing and collaboration within the MDAs. | communication and information sharing system established | No. of MDA's on the system | ICTA, MoICT | 2017-2021 | GoK | 3000 | 500 | 1000 | 500 | 500 | 500 |
| Eastern Africa regional transport, trade and trade development facilitation | To provide broadband connectivity | Kms of fibre laid | No of Kms | MoICT | 2018-2021 | GoK | 2900 | 800 | – | 950 | 950 | |

| Projects/ Programs | Objectives/Program | Expected outcomes/ Outputs | Performance Indicators | Implementing Agency | Time Frame | Sources of Funds | Total Budget (KSh. millions) | Indicative Budget (KSh. millions) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 |
| project (EARTTDFP | | | | | | | | | | | | |
| Northern Eastern Corridor Transport Improvement Project (NETIP) | To provide broadband connectivity | Kms of fiber laid | No of Kms | MoICT | 2018-2021 | GoK | 33000 | 11000 | 11000 | 11000 | | |
| Unique Identifier | To create a trusted centralized digital identity system for | Unique identifier established | A functioning unique identified | ICTA, MoICT | 2017-2022 | GoK | 4,200 | – | 1000 | 1200 | 1000 | 1200 |
| Cloud based data Centre | To enhance security of data | Cloud data centre established | No. of government agencies using cloud computing | MoICT | 2018-22 | GoK | 20,000 | - | 5000 | 5000 | 5000 | 5000 |
| Digital Terrestrial Television Coverage Roll Out | To enhance access to digital TV broadcasting | Digital TV signal coverage | Proportion of the country covered by digital signal | MoICT, KBC, CA Treasury | 2018-2022 | GoK | 1,423.6 | 300 | 223.6 | 300 | 300 | 300 |
| Migration from Medium wave to FM Radio Transmission | Improve quality of radio broadcasting | FM Radio Transmission | No of KBC radio services migrated to FM | MoICT, KBC, CA Treasury | 2018-2022 | GoK Donor | 490 | 100 | 90 | 100 | 100 | 100 |
| Establishment of e-Waste Centres | Provide mechanisms for disposal of e-waste materials | E-waste centers established, | No of e-waste centers established | ICTA, MoICT | 2018-2022 | GoK | | - | 2000 | 2000 | 1000 | 1200 |
| National Addressing System | To provide infrastructure for commerce | NAS infrastructure rolled out | % of National coverage | MoICT | 2018-2022 | GoK | 20,000 | | 5000 | 5000 | 5000 | 5000 |
| Regional | Promotion of | Common | No. of reports | MoICT | 2017/18 to | GoK | 25 | 5 | 5 | 5 | 5 | 5 |

| Projects/ Programs | Objectives/Program | Expected outcomes/ Outputs | Performance Indicators | Implementing Agency | Time Frame | Sources of Funds | Total Budget (KSh. millions) | Indicative Budget (KSh. millions) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 |
| Integration | regional cooperation | Market | from regional meetings | | 2021/22 | | | | | | | |
| Partnership with County Governments | Coordination of ICT at the Counties | ICT projects and programmes effectively implemented | No. of ICT Officers deployed at the counties | ICTA | 2017/18 to 2021/22 | GoK | 250 | 50 | 50 | 50 | 50 | 50 |
| **National Information Security Infrastructure** | | | | | | | | | | | | |
| Cyber Security Infrastructure | To reduce cyber-attack incidence | Cyber Space Secured National ICT Security established NIPDs deployed NPKI developed | No of cyber-attack incidences | ICTA, MoICT | 2018-2022 | GoK | 6,500 | 1500 | 1500 | 1500 | 1000 | 1000 |
| **Universal Access to ICT** | | | | | | | | | | | | |
| Provision of basic Voice Infrastructure | To enhance Universal access to ICT | 2G connectivity in all unserved and underserved areas in the country | Proportion of unserved and underserved areas covered | CA, Universal Access fund Board, County governments | 2017-2022 | GoK, Operators | 6,072 | 1,372 | 1,500 | 1,400 | 1,100 | 700 |
| Provision of Broadband Connectivity to Schools | To provide broadband Internet connectivity | Connectivity to public secondary schools and tertiary institutions provided. | No of schools and tertiary institutions connected | CA, MOEST, Operators, | 2017-2022 | GoK/ Operators | 1,642 | 283 | 440 | 417 | 502 | - |
| **National ICT Integrated Information Infrastructure and E-government Services** | | | | | | | | | | | | |
| Digitization of Government Records | To improve delivery of public services | Government records digitized | No of agencies with digitized | MoICT | 2018-2022 | GoK | 12,000 | 3000 | 3000 | 3000 | 3000 | 3000 |

| Projects/ Programs | Objectives/Program | Expected outcomes/ Outputs | Performance Indicators | Implementing Agency | Time Frame | Sources of Funds | Total Budget (KSh. millions) | Indicative Budget (KSh. millions) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 |
| | | | records | | | | | | | | | |
| Kenya Open Data Initiative (KODI) | To improve access to government data | Accessible Government datasets | No of data sets accessed | MoICT | 2018-2022 | GoK | 1,000 | 200 | 200 | 200 | 200 | 200 |
| Digital Government economy Programmes | To promote Digital Economy | Online ICT Applications developed | No of online ICT Applications developed | MDA's | 2018-2022 | GoK | 100,000 | 20000 | 20000 | 20000 | 20000 | 20000 |
| **Policy, Legal and Institutional Reforms** | | | | | | | | | | | | |
| Policy and Legal Frameworks | To provide strategic directives | Policies and legal frameworks developed and reviewed | No of policies and legal frameworks developed | MDA's | 2018-2022 | GoK | 6,330 | 1100 | 1430 | 1300 | 1250 | 1230 |
| Institutional Reforms | To streamline institutions | Restructured institutions | No of institutions restructured | MoICT, | 2018-2022 | GoK | 12,650 | 450 | 2000 | 3,400 | 4500 | 2300 |
| **Monitoring and Evaluation** | | | | | | | | | | | | |
| M & E | To monitor and evaluate implementation of projects | M & E reports | No. of M & E reports | MoICT CPPMU | 2018-2022 | GoK | 50 | 10 | 10 | 10 | 10 | 10 |
| | | | | **GRAND TOTAL** | | | 267,485 | 40400 | 55785.6 | 57741 | 46379.61 | 42335 |

**MONITORING AND EVALUATION MATRIX**

| Projects/ Programs | Objectives/Program | Expected outcomes/ Outputs | Performance Indicators | Implementing Agency | Time Frame | Annual Targets | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 |
| NOFBI phase II | To improve access to ICT services | Km of fiber cable laid | No. of km laid | MoICT | 2017/18-2019/20 | 200 | 200 | 200 | 200 | - |
| NOFBI phase II Expansion | To improve access to ICT service | Km of fiber cable laid | No. of km laid | MoICT | 2017/18-2020/21 | 600 | 600 | 600 | 700 | – |
| County connectivity program (CCP phase III | To improve access to ICT services | Km of fiber cable laid | No. of MDs connected with wireless connectivity | MoICT | 2017/18-2019/20 | 50 | 50 | 50 | 50 | |
| Government Common Core Network (GCCN) | To provide reliable and stable interconnectivity between MDAs for efficient delivery of Government services | Reliable and stable interconnectivity in MDA's availed | No. of MDA's with stable reliable connectivity | MoICT | 2017-2022 | 50 | 50 | 50 | 50 | 50 |
| Data Disaster Recovery Centre (DRC) | To Ensure continuity in Government operations | DRC established | % of completion | MoICT | 2017-2022 | 60 | 70 | 80 | 90 | 100 |
| Government Unified Communication System | To enable easy communication, information sharing and collaboration within the MDAs. | communication and information sharing system established | No. of MDA's on the system | ICTA, MoICT | 2017-2021 | 50 | 50 | 50 | 50 | 50 |
| Eastern Africa regional transport, trade and trade development facilitation project (EARTTDFP | To provide broadband connectivity | Kms of fibre laid | No of Kms | MoICT | 2018-2021 | - | – | 300 | 300 | |
| Northern Eastern Corridor Transport | To provide broadband | Kms of fiber laid | No of Kms | MoICT | 2018-2021 | 600 | 700 | 1000 | | |

| Projects/ Programs | Objectives/Program | Expected outcomes/ Outputs | Performance Indicators | Implementing Agency | Time Frame | Annual Targets | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 |
| Improvement Project (NETIP) | connectivity | | | | | | | | | |
| Unique Identifier | To create a trusted centralized digital identity system for | Unique identifier established | % of implementation | ICTA, MoICT | 2017-2022 | – | 20 | 30 | 60 | 100 |
| Cloud based data Centre | To enhance security of data | Cloud data centre established | No. of government agencies using cloud computing | MoICT | 2018-22 | - | 50 | 50 | 50 | 50 |
| Digital Terrestrial Television Coverage Roll Out | To enhance access to digital TV broadcasting | Digital TV signal coverage | Proportion of the country covered by digital signal | MoICT, KBC, CA Treasury | 2018-2022 | 78 | 80 | 85 | 90 | 100 |
| Migration from Medium wave to FM Radio Transmission | Improve quality of radio broadcasting | FM Radio Transmission | No of KBC radio services migrated to FM | MoICT, KBC, CA Treasury | 2018-2022 | 60 | 70 | 80 | 90 | 100 |
| Establishment of e-Waste Centres | Provide mechanisms for disposal of e-waste materials | E-waste centers established, | No of e-waste centers established | ICTA, MoICT | 2018-2022 | - | 1 | 1 | 2 | 2 |
| National Addressing System | To provide infrastructure for commerce | NAS infrastructure rolled out | % of National coverage | MoICT | 2018-2022 | | 20 | 50 | 70 | 100 |
| Regional Integration | Promotion of regional cooperation | Common Market | No. of reports from regional meetings | MoICT | 2017/18 to 2021/22 | 5 | 5 | 5 | 5 | 5 |
| Partnership with County Governments | Coordination of ICT at the Counties | ICT projects and programmes effectively implemented | No. of ICT Officers deployed at the counties | ICTA | 2017/18 to 2021/22 | 47 | 50 | 60 | 100 | 200 |
| Cyber Security Infrastructure | To reduce cyber-attack incidence | Cyber Space Secured National ICT Security established | % of implementation | ICTA, MoICT | 2018-2022 | 20 | 30 | 40 | 50 | 60 |

| Projects/ Programs | Objectives/Program | Expected outcomes/ Outputs | Performance Indicators | Implementing Agency | Time Frame | Annual Targets | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 |
| | | NIPDs deployed NPKI developed | | | | | | | | |
| Provision of basic Voice Infrastructure | To enhance Universal access to ICT | 2G connectivity in all unserved and underserved areas in the country | No of locations covered | CA, Universal Access fund Board, County governments | 2017-2022 | 50 | 100 | 200 | 300 | 400 |
| Provision of Broadband Connectivity to Schools | To provide broadband Internet connectivity | Connectivity to public secondary schools and tertiary institutions provided. | No of schools and tertiary institutions connected | CA, MOEST, Operators, | 2017-2022 | 100 | 200 | 300 | 300 | - |
| Digitization of Government Records | To improve delivery of public services | Government records digitized | No of agencies with digitized records | MoICT | 2018-2022 | 50 | 60 | 70 | 80 | 90 |
| Kenya Open Data Initiative (KODI) | To improve access to government data | Accessible Government datasets | No of data sets accessed | MoICT | 2018-2022 | 100 | 200 | 300 | 400 | 500 |
| Digital Government economy Programmes | To promote Digital Economy | Online ICT Applications developed | No of online ICT Applications developed | MDA's | 2018-2022 | 50 | 100 | 150 | 200 | 250 |
| Policy and Legal Frameworks | To provide strategic directives | Policies and legal frameworks developed and reviewed | No of policies and legal frameworks developed | MDA's | 2018-2022 | 3 | 4 | 5 | 6 | 7 |
| Institutional Reforms | To streamline institutions | Restructured institutions | No of institutions restructured | MoICT, | 2018-2022 | 1 | 2 | 3 | 4 | 5 |
| M & E | To monitor and evaluate implementation of projects | M & E reports | No. of M & E reports | MoICT CPPMU | 2018-2022 | 4 | 8 | 10 | 12 | 15 |