THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF INFORMATION, COMMUNICATION AND INFORMATION TECHNOLOGY

TANZANIA DIGITAL ECONOMY STRATEGIC FRAMEWORK

2024 – 2034

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STATEMENT
BY THE PRESIDENT OF THE UNITED REPUBLIC OF TANZANIA

I unveil Tanzania's Digital Economy Strategic Framework 2024–2034 as one of key pillars of Digital Transformation. This framework signifies our firm commitment to the future and serves as a guiding light as we endeavor to build an inclusive, resilient, and competitive digital economy.

We are at the forefront of a new era, where the current Industrial Revolution is transforming economies and expanding the realm of possibilities. Digital technologies have permeated every aspect of our socio-economic landscape, including agriculture, manufacturing, health, education, finance, governance and service delivery. As the rest of the world embraces the digital age, Tanzania is also dedicated to adapting, leading, and innovating in the digital sphere. The time for change is upon us, and we must capitalize on our national strengths and opportunities to chart a course toward new horizons.

Our National Information and Communications Technology (ICT) Policy emphasizes the crucial role of ICT in our nation's journey to achieving socio-economic goals. Our vision, as articulated in the National Five-Year Development Plan 2021/22–2025/26, with thematic competitiveness, industrialization, service provision and trade, can be realized by the immense adoption of digital technologies. This strategic framework is a testament to these commitments, aiming to harness opportunities, overcome challenges, and craft a digital legacy that future generations will cherish.

Our aspirations extend beyond our borders. As proud global community members, we align our efforts to attain the 2030 Agenda for Sustainable Development and the pan-African drive embodied in Agenda-2063. Our solemn duty is to promote sustainable and resilient infrastructure, foster innovation, and ensure that the fruits of the digital age are accessible to all on an equal basis.

I commend all the experts and stakeholders involved in this initiative and bank on their continued support as we champion our digital transformation journey.

H.E. Dr. Samia Suluhu Hassan

President of The United Republic of Tanzania and
Chairperson of the Tanzania National Business Council (TNBC)

FOREWORD BY THE MINISTER

As we embark on a new decade, the digital economy presents both opportunities and challenges that require strategic navigation. The launch of this Digital Economy Strategic Framework signifies our unwavering commitment to fostering prosperity and digital inclusivity. While drawing from global pillars of a robust digital economy, our Tanzanian strategy is uniquely tailored to our essence, reflecting our distinct mission and soul.

Our Tanzanian mission is clear: to integrate the digital realm deeply into our economy and society, leveraging technology as an enabler, connector, and equalizer. As the Minister leading this transformative journey, I acknowledge the significant responsibility we bear - to utilize digital technology as a bridge between present aspirations and future accomplishments.

In recent years, Tanzania has made notable technological advancements, from expanding mobile connectivity to enhancing sectors such as Agriculture, Finance, Tourism, and Governance. These achievements pave the way for the monumental transformation outlined in this strategic framework.

Our mission transcends mere technology adoption; it entails crafting a digital narrative intertwined with our cultural identity, resonating with the Tanzanian spirit, and uplifting individuals across urban centers and rural landscapes alike.

The road ahead is both thrilling and challenging. While a thriving digital economy promises substantial gains in job creation and trade capacities, we are mindful of the hurdles we face. Addressing these challenges will necessitate robust policies, strategic investments, and, most importantly, synergy among government, private sector, civil society, and the people of Tanzania.

Together, let us stride towards a brighter, digitally empowered Tanzania!

Hon. Jerry William Silaa (MP)

Minister of Information, Communication and Information Technology &
Chairman of TNBC's Ministerial Public-Private Dialogue (MPPD)

PREFACE
BY THE PERMANENT SECRETARY

The United Republic of Tanzania has experienced a remarkable surge in digitalization over the past decade, which has impacted every sector of its economy. The overarching vision of the National Digital Economy Strategic Framework 2024-2034 is to establish a highly advanced and digitally empowered economy in the country.

Our mission seeks to propel Tanzania towards economic modernization and industrialization by fostering the development, deployment, and promotion of the sustainable exploitation of the digital economy for the benefit of every citizen.

This endeavor is consistent with our aspirations of fulfilling the Tanzania Development Vision as well as aligning with the current Ruling Party (CCM) Election Manifesto and the Third National Five-Year Development Plan (2021/22-2025/26) and potentially their subsequent editions. Tanzania strives to fully harness the power of digitalization and steer towards a future filled with prosperity.

On this journey, we intend to harness the full potential of emerging technologies to bridge the digital gap that has impeded the development of an inclusive and sustainable digital economy. The digital initiatives and objectives outlined in this framework are to be implemented across all sectors of the economy.

The National Digital Economy Strategic Framework covers a broad range of areas, including but not limited to the digital infrastructure for the digital economy, a digital Identity ecosystem, cyber security, digital literacy and essential skills development, startup ecosystem, emerging technologies, digital payments, and e-commerce platforms, as well as a growing and vibrant blue economy.

Finally, we extend our deepest appreciation to all participants from the public and private sectors, whose invaluable contributions have greatly enriched the content of this Digital Economy Strategic Framework.

Our heartfelt gratitude is further extended to senior policymakers, with special acknowledgment to all stakeholders, including the World Bank, for its pivotal role in providing the essential resources required to launch this framework.

Mohammed Khamis Abdulla

Permanent Secretary of Ministry of Information, Communication and Information Technology &
Chairman of TNBC's Digital Transformation Working Group (DTWG)

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ABBREVIATIONS

ABIS	Automated Biometric Identification System
AFIS	Automated Fingerprint Identification System
AI	Artificial Intelligence
AIS	Automatic Identification System
BOT	Bank of Tanzania
CA	Certification Authorities
CBDC	Central Bank Digital Currency
CBOs	Community Based Organizations
CDNs	Content Developers Networks
CEIR	Central Equipment Identification Registry
CERT	Computer Emergency Response Team
CRPD	Convention on the Rights of Persons with Disabilities
CSOs	Civil Society Organizations
DRC	Democratic Republic of Congo
DSFA	Deep Sea Fishing Authority
DTP	Digital Tanzania Project
DTWG	Digital Transformation Working Group
e-GA	e-Government Authority
e-GovRIDC	e-Government Research, Innovation and Development Centre
eGSOC	e-Government Security Operations Centre
EHRs	Electronic Health Records
EMR	Electronic Medical Records
FBOs	Faith Based Organizations
G2B	Government to Business
G2C	Government to Citizens
G2E	Government to Employees
GePG	Government electronic Payment Gateway
GoVESB	Government Enterprise Service Bus
GovNet	Government Network
GTMI	GovTech Maturity Index
IaaS	Infrastructure-as-a-Service
ICTC	Information and Communication Technologies Commission
ILMIS	Integrated Lands Management Information System
IoT	Internet of Things

IUU	Illegal, Unregulated, and Unreported
IXPs	Internet Exchange Points
JNIA	Julius Nyerere International Airport
LATRA	Land Transport Regulatory Authority
LGAs	Local Government Authorities
MajiIS	Water Utilities Information System
MCAS	Ministry of Culture Arts and Sports
MCDGWSG	Ministry of Community Development, Gender, Women and Special Groups
MCLA	Ministry of Constitutional and Legal Affairs
MDAs	Ministries, Departments and Agencies.
MFAEAC	Ministry of Foreign Affairs and East African Co-operation
MICIT	Ministry of Information, Communication and Information Technology
MIT	Ministry of Industry and Trade
ML	Machine Learning
MLF	Ministry of Livestock and Fisheries
MLHSD	Ministry of Lands, Housing and Human Settlements Development
MNO	Mobile Network Operator
MNRT	Ministry of Natural Resources and Tourism
MoA	Ministry of Agriculture
MoDaNS	Ministry of Defence and National Service
MoE	Ministry of Energy
MoEST	Ministry of Education, Science and Technology
MoF	Ministry of Finance
MoH	Ministry of Health
MoHA	Ministry of Home Affairs
MoIC	Ministry of Infrastructure and Communications
MoLF	Ministry of Livestock and Fisheries
MoM	Ministry of Minerals
MoT	Ministry of Transport
MoW	Ministry of Water
MoWs	Ministry of Works
MPPD	Ministerial Public-Private Dialogue
NaPA	National Physical Addressing
Jamii X-Change	Jamii Data X-Change Platform
NesT	National e-Procurement System of Tanzania
NGOs	Non-Government Organizations
NICTBB	National ICT Broadband Backbone
NIDA	The National Identification Authority
NIDC	National Internet Data Centre
NIN	National Identification Number

OTAs	Online Travel Agencies
PKI	Public Key Infrastructure
PMO	Prime Minister's Office
PMO-LYED	Prime Minister's Office – Labour, Youth, Employment and Persons with Disabilities.
PMO-PPAC	Prime Minister's Office – Policy, Parliamentary Affairs & Coordination
PO-PI	President's Office - Planning and Investment
PO-PSMGG	President's Office Public Service Management and Good Governance's
PO-RALG	President's Office - Regional Administration and Local Government
PPP	Private Public Partnerships
PPRA	Public Procurement Regulatory Authority
PS	Permanent Secretary
RoGZ	Revolutionary Government of Zanzibar
RoW	Right of Way
RPA	Robotic Process Automation
SaaS	Software-as-a-Service
SDG	Sustainable Development Goals
SEO	Search Engine Optimization
SEZs	Special Economic Zones
TAA	Tanzania Airports Authority
TASAC	Tanzania Shipping Agencies Corporation
TCAA	Tanzania Civil Aviation Authority
TCRA	Tanzania Communications Regulatory Authority
TIPS	Tanzania Instant Payment Instant System
TNBC	Tanzania National Business Council
TPA	Tanzania Ports Authority
TRC	Tanzania Railways Corporation
TSD	Tanzania Service Directory
TTCL	Tanzania Telecommunications Corporation
TUDI	Tanzania Unique Digital Identifier
UCSAF	Universal Communications Service Access Fund
UDI	Unique Digital Identifier
UI	User Interface
UX	User Experience
VMS	Vessel Monitoring System
ZHSF	Zanzibar Health Service Foundation

CHAPTER 1
INTRODUCTION

This digital economy strategic framework presents a conceptual model that describes key components and principles of a modern economy driven by advances in digital technologies and digital platforms. It is in essence a paradigm shift that outlines how Tanzania harnesses the power of digital technologies to boost economic growth, create jobs, and improve the livelihoods of its citizens and residents.

1.1 Background

Digitalization has made a profound impact on all sectors of Tanzania's economy, much like in other countries. It has revolutionized how Tanzanians engage with government services, make payments, carry out their work, pursue education, foster innovation, engage in shopping, socialize, and receive various services.

These transformative changes in digital technologies have ushered in a new era of the digital economy, which is evident in various diverse sectors. The rapid advancement of digital technologies is anticipated to have an immediate influence on several economic sectors. The most profound effects of digital transformation are anticipated in these key sectors:

1.1.1 Manufacturing Sector

Digital transformation in manufacturing involves the integration of automation, data analytics, Internet of Things (IoT), Machine Learning (ML), and Artificial Intelligence (AI) technologies into production processes. This enables the digitization of manufacturing operations, predictive maintenance, real-time monitoring, and customization of products. The result is increased productivity, improved quality control, and reduced costs.

1.1.2 Health Sector

Through the implementation of digital health solutions such as electronic medical records (EMR) systems, telemedicine, electronic health records (EHRs), AI-assisted diagnostics and telehealth, digital transformation is expected to transform and reshape the healthcare industry. These solutions facilitate and enhance patient care and delivery of health services. In addition, operational efficiency will be improved by replacing the manual processes, which presently dominate in the overwhelming majority of hospitals and health centers in Tanzania, with automated processes.

1.1.3 Transportation Sector

The transportation industry is experiencing a paradigm shift with the introduction of digital-based business models like ride-sharing platforms and on-demand transport services, which have changed the travel landscape in Tanzania.

Moreover, digital innovations like Global Positioning Systems (GPS), IoT, and AI are revolutionizing route planning, traffic management, and fleet operations, thereby shortening travel durations, decreasing fuel consumption, and increasing overall system efficiency. These digital tools are also being employed by logistics companies for improved supply chain management, including the real-time tracking of deliveries and the optimization of routes.

1.1.4 Financial Sector

The financial sector will continue to experience significant digital disruption with the emergence of mobile money services and fintech companies. Digital technologies have enabled online banking, mobile payment solutions and digital currencies. These advancements have streamlined financial transactions, improved accessibility to financial services, and introduced innovative business models such as peer-to-peer lending. The government on its part has introduced the Government electronic Payment Gateway (GePG) to facilitate the collection and reporting of taxes, fees and other payments. This eliminated leakage, resulting in significant surge in revenue collection.

As Tanzania embarks on its digital transformation journey, a host of other countries are already exploring further advancements in the digital revolution of the financial realm, possibly encompassing the implementation of a Virtual or Central Bank Digital Currency (CBDC). Virtual currencies, including the US Digital Dollar issued by the US Federal Reserve and the Chinese Digital Yuan from the People's Bank of China, represent digital currencies that are components of a Core Banking System under the authority and control of their respective central banking institutions. In Tanzania, the expected currency might be a Digital Tanzania Shilling. CBDCs will exist alongside physical cash and traditional bank deposits.

1.1.5 Retail Sector

A significant transformation in the retail sector is imminent due to the advent of highly efficient and accessible e-commerce platforms. This enables consumers to enjoy the convenience of online shopping, leading to changes in buying behaviors and necessitating a robust online presence for businesses. In Tanzania, the emergence of specialized 'boda-boda' (motorbike) delivery services is a key element for supporting the digital economy. The implementation of the national address and postcode system by the Ministry of Information Communication and Information Technology (MICIT) is another innovation that will bolster these crucial delivery services.

1.1.6 Education Sector

The impact of digital transformation on education in developing countries has been multifaceted and significant. It includes improved access to education by enabling remote learning, particularly beneficial in rural or remote areas where traditional educational resources are limited.

The deployment of online platforms, educational apps, and e-learning tools is pivotal in broadening educational accessibility, thereby promoting equitable education. Such inclusivity is vital for overcoming the digital divide, a concern that stands at the forefront for both policymakers and educators.

Furthermore, digital transformation has led to the availability of a wide range of learning materials online, including e-books, interactive modules, educational videos, and more. This variety can enrich the learning experience, and provide resources that might not be affordable or available locally.

1.1.7 Tourism Sector

Digital connectivity and the use of digital platforms significantly transforms the business of the tourism sector. Through digital platforms, tourist regulators, operators, customers, and other stakeholders communicate easily and efficiently; service providers improve products and innovate new ones; services delivery is modernised and improved; the tax base is expanded; and revenues collection process is simplified.

In the same vein, digital platforms, such as websites, online booking platforms, social media, blogs, and mobile applications (over the top), are used to advertise tourism destinations to reach out to global audience of potential tourists, and make it easier for them to find details about places to visit, stay, and activities to do at their destinations.

Moreover, travel blogs and Vlogs created by independent travellers provide valuable content that includes travel, tips and recommendations which influence travel decisions and help travellers discover new and exciting tourist destinations. This convenience in accessing information simplifies trip planning, flight and hotels booking, and identifying qualified recreational centres for increasing the number of tourists and foreign exchange.

1.1.8 Mining Sector

In the mining sector, embracing digital transformation opens doors to significantly

improving efficiency, safety, and sustainability. Advanced digital technologies, including automation, IoT, and AI, can greatly enhance operational efficiency and productivity in mining operations. These technologies can be used to improve the precision of drilling and blasting, optimize transportation, and minimize downtime through predictive maintenance.

Additionally, digital tools offer mining companies superior resource management options. By employing techniques like 3D modeling and real-time data analysis, they can achieve a more precise understanding of resource availability, enhance extraction efficiency and reduce waste.

1.1.9 Agriculture Sector

Digital transformation would offer numerous opportunities for innovation and improvement in the agricultural and livestock sectors. The availability of information platforms for farmers and livestock keepers and associated mobile apps would enable them to access to markets prices, weather forecasts, and agricultural advice; hence helping them to make better decisions about what to plant or animals to keep, when to harvest, and where to sell produce. For a country like Tanzania, where agriculture and livestock keeping are the mainstay of the economy, the impact of applying digital solutions can potentially be significant in improving productivity.

Furthermore, technologies like drones, AI, and IoT sensors enable real-time monitoring of crops and livestock, soil conditions, and weather patterns as well as predicting infectious diseases. Such data helps in making informed decisions, improving livestock and crop health, and reducing the risk of disease and pest infestations.

Some financial institutions have announced to their customers in the agriculture, livestock, and fisheries value chain to start offering loans at affordable interest rates. The beneficiaries of these affordable loans are farmers, suppliers of farm inputs, service providers, entrepreneurs, small and medium processors engaging in all activities in the agriculture, livestock, and fishing sectors.

1.1.10 Media, Creative and Entertainment Sectors

Digital transformation covers a deep imprint on the media, creative, and entertainment sectors. Conventional media is being steadily replaced by digital alternatives such as streaming services, internet news portals, and various social media platforms. This shift has eased the process of creating and distributing content, enabling more personalized viewing experiences and targeted advertising opportunities.

These provide platforms for information dissemination, engagement, and interactions to achieve intended goals across various sectors of the economy. Media platforms facilitate the sharing of Tanzanian goods and services with a wider audience, promote innovations, culture and local contents, attract investors, showcase nature, promote tourist sites and destinations, thereby contributing to economic growth and improving livelihoods. The print media, broadcast media and Internet platforms such as social media provide powerful tools to reach the public, individuals and businesses.

1.1.11 Blue Economic Sector

The concept of the blue economy recognizes the immense potential of the ocean surrounding Tanzania and Zanzibar to contribute to economic development and human well-being. The overarching objective of the blue economy initiative is to unlock the potential of sea-land, great lakes and rivers opportunities for inclusive and sustainable economic growth.

Digital platforms, developed for the blue economy, can serve several purposes. They can be used to integrate satellite imagery, remote sensing technologies, and sensor networks to monitor ocean conditions, detect changes in marine ecosystems, and track and combat illegal, unreported, and unregulated (IUU) activities. For example, Digital Real-time Monitoring and Surveillance platforms implemented and operated by The Deep-Sea Fishing Authority can be integrate with monitoring technologies such as satellite tracking systems, Automatic Identification System (AIS), and Vessel Monitoring System (VMS) to track the movement and activities of fishing vessels. These platforms enable authorities to monitor fishing vessels in real-time, detect suspicious or unauthorized activities, and respond promptly to potential IUU fishing incidents. This real-time information can aid in the enforcement of regulations, identify illegal practices, and improve the overall understanding of marine environments. Similarly, digital solutions can be deployed for other activities such as linking the demand and supply chains of the seafood industry, securing markets, and traceability and certification of seafood products.

The key components of the blue economy are:

Fisheries and Aquaculture: Fisheries is a major contributor to the economy. The sector is dominated by artisanal fishing, with a focus on sustainable fisheries management and value addition to products. Aquaculture, the farming of fish and other marine organisms, is also growing in importance, offering opportunities for increased production and employment.

Maritime Trade and Infrastructure: Tanzania and Zanzibar have strategic locations along major shipping routes and hubs for maritime trade. The development of modern port infrastructure, efficient logistics services, and maritime regulations plays a crucial role in facilitating trade and boosting economic activity.

Energy: The blue economy provides opportunities for harnessing renewable energy sources from the ocean, such as offshore wind and wave energy. These sustainable energy sources can contribute to Zanzibar's energy independence, reducing reliance on imported fossil fuels and promoting clean energy production.

Tourism: Zanzibar's pristine coastline, rich marine biodiversity, and cultural heritage make it a popular tourist destination. Sustainable and responsible tourism practices are essential to protect the marine environment while maximizing the economic benefits of tourism.

By investing in these key components of the blue economy, Zanzibar can harness the potential of the blue economy to achieve sustainable economic growth, create jobs, and improve the well-being of Zanzibaris. The blue economy offers a pathway to a prosperous and resilient future for Zanzibar, ensuring that its marine resources are utilized responsibly for the benefit of generations to come.

These are just a few examples of how digital

transformation is facilitating the digital economy. As digital technologies continue to evolve, it is expected to see even more ways in which digital transformation can be used to create new economic opportunities and improve the way Tanzanians live and work.

1.2 Digital Economy Strategic Framework Imperative

The digital economy is a breeding ground for new business growth and innovation opportunities. It's equally a hub for creating novel jobs and enabling more individuals to tap into the global economic network. The implications of this evolution are extensive, impacting everything from employment dynamics and consumer patterns to business models and the overall pace of economic expansion. It will serve as a catalyst for economic diversification in Tanzania, steering the country's focus away from long-standing industries such as agriculture and manufacturing towards more varied economic pursuits.

The inherent global nature of the digital economy means that it connects businesses and individuals to markets far beyond their immediate geographical boundaries, offering a platform for global interaction and expansion. This opens up unparalleled market opportunities and access to customers from every corner of the world. Additionally, it has the power to level the playing field by providing previously excluded rural communities with access to new business and employment opportunities. Digital technologies, in particular, offer the potential to bring educational, healthcare, and financial services to people in rural and remote areas of Tanzania that traditionally lacked most of these services.

Tanzania's digital transformation in governmental services and the economy has markedly enhanced service delivery, streamlined tax collection, improved the payments' infrastructure, and opened up new employment avenues. These achievements have been made possible through the synergistic efforts of the public and private sectors. Essentially, embracing the digital economy is propelling Tanzania towards accelerated economic development, increased global connectivity, superior public services, and an economic framework that is both inclusive and sustainable.

According to the comprehensive data resource Statista.com, known for its extensive statistical collections and business intelligence, Egypt led Africa in the 2021 digital competitiveness index, with the Gambia and Tanzania ranking second and third, respectively. This ranking underscores the urgency for Tanzania to craft effective policies and strategic measures aimed at bolstering innovation, achieving digital inclusion, managing cybersecurity and privacy concerns, and promoting digital competencies and literacy. Thus, this Digital Economy Strategic Framework articulates a distinct and clear vision, ensuring that national digital resources and initiatives are harmonized to achieve a cohesive digital economy.

CHAPTER 2

STATUS OF DIGITAL TRANSFORMATION INITIATIVES

2.1 Foundations of the Digital Economy

In response to the imperative of digitalization, Tanzania has been prompted to establish this Digital Economy Strategic Framework. This framework is pivotal, setting the foundation and offering guidance for the cohesive design and implementation of the digital economy. It rests on a uniform foundation encompassing all systems, policies, laws, regulations, strategies, initiatives, and programs in Tanzanian. It rests on a uniform foundation encompassing all systems, policies, laws, regulations, strategies, initiatives, and programs in Tanzanian.

Over a decade ago, the Government had the foresight to launch several initiatives aiming to bolster digitalization in the country. Key among these were the construction of the National ICT Broadband Backbone (NICTBB) and the establishment of a modern National Internet Data Centre (NIDC).

These initial steps towards digitalization were further strengthened by the development of a supportive and adaptable ICT regulatory framework. The creation of such a framework was crucial for fostering an environment that is nurtures innovation, attracts investments, safeguards consumer interests, and keeps pace with the fast-evolving digital landscape, thus ensuring efficient and lasting digitalization.

Alongside these initiatives, the Government has

adapted and rolled out a range of other insightful policies, strategic plans, and development blueprints, all of which are crucial components of the digital economy's foundation. These include:

- Tanzania Development Vision 2025
- National Five-Year Development Plan- III (2021/22-2025/26)
- National Information and Communications Technology Policy (2016)
- Sustainable Development Goals 2030 (SDG-2030)
- Africa Agenda 2063
- National Cyber Security Strategy 2016
- e-Government Cyber Security Strategy 2022
- Financial Sector Development Master Plan

2.2 National Information and Communications Technology Policy

The National ICT Policy, 2016 (NICTP-2016) and its subsequent reviews, recognizes the crucial role that the development, deployment, and the exploitation of ICT to digitalize the economy towards the achievement of the nation's socio-economic goals. The policy has put in place measures and mechanisms to accelerate broadband penetration and access by individuals and organizations, as well as strengthen ICT cybersecurity measures.

Policies are also in place to enhance the management and efficient utilization of radio frequency spectrum. This is valuable for promoting local content development and strengthening national capacity in protection of cyber space users.

Some of the initiatives to be addressed in the NICTP - 2016 include:

- Successfully engagement of ICT professionals in a knowledge economy and socio-economic development.
- Accessible, reliable and affordable electric power for adoption of e-Services, successfully deploying and operationalizing ICT infrastructures like data centers and hosting digital platforms.
- Translation of ICT contents and processes into Swahili, which is the predominant language for active participation and access to e-Services for the majority.

2.3 Digital Innovations

Digital innovations refer to significant improvements or new developments in the realm of digital technologies such as the Internet, computing, mobile devices, artificial intelligence (AI), blockchain, and the Internet of Things (IoT), to create new or significantly improved processes, services, or business models. Digital innovations can be leveraged to play a crucial role in shaping and driving the digital economy. Innovations are fundamental to the growth and development of the digital economy because they not only foster economic growth and job creations, but also they enhance consumer experiences, encourage entrepreneurship, and support global market expansion, among other benefits.

Tanzania is enjoying a growing trend in the acquisition, adoption, and utilization of evolving digital technologies in the public and private sector. These innovations have been leveraged in many sectors ranging from telecommunications to finance, governance, marketing, healthcare, agriculture, livestock, forestry, mining, education, and banking. But the most visible impact of these digital innovations is demonstrated in Government payment services, mobile money transactions, and banking.

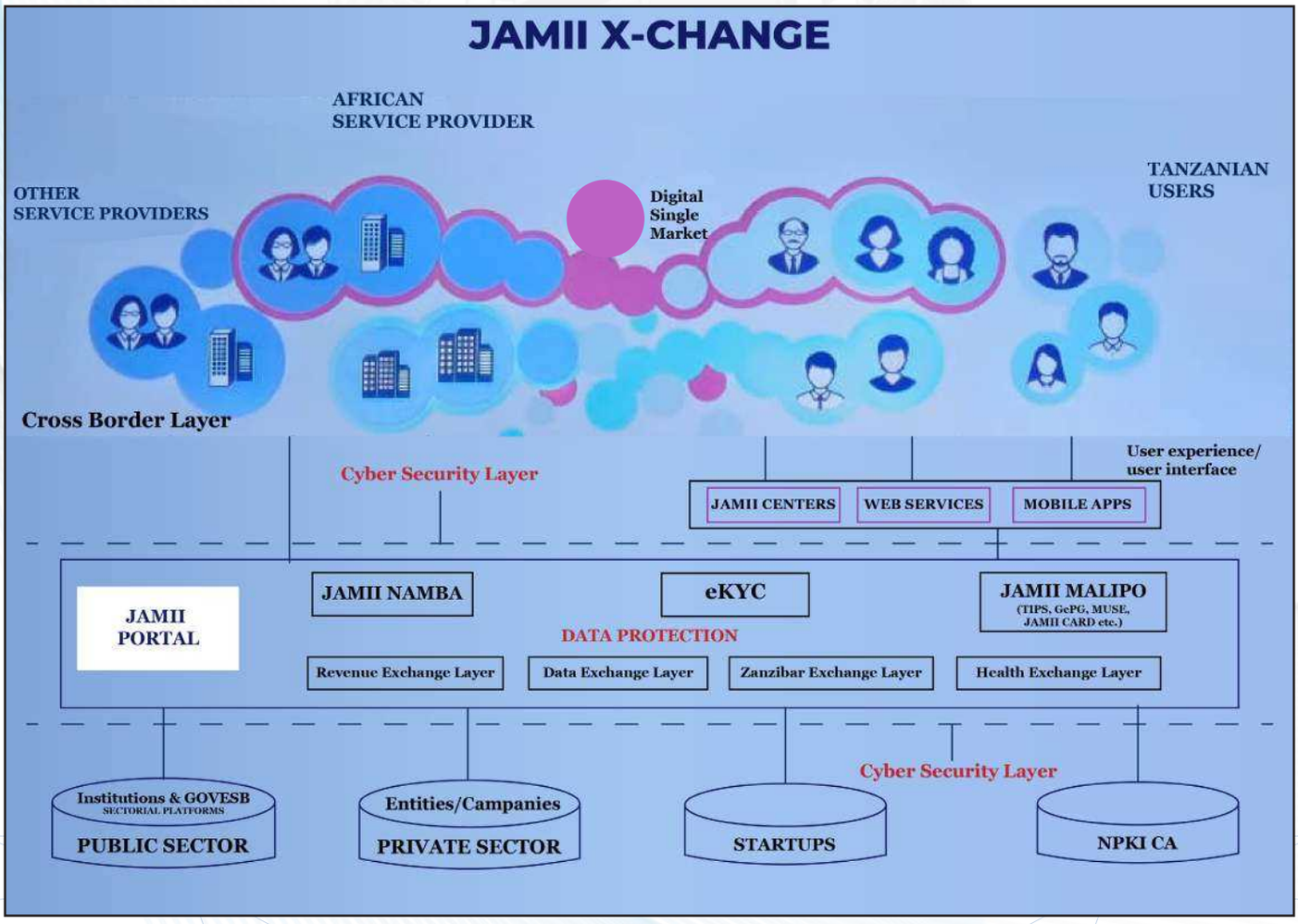
Government electronic Payment Gateway (GePG) has revolutionized revenue collection and has led to a substantial increase in government revenues from 951 billion in 2018 to an impressive 4,367 billion in 2022. The GePG is integrated with all Mobile Network Operators (MNOs) mobile payment channels as well as commercial banks to issue control numbers for Government payments. Various digital initiatives will facilitate the integration of digital service platforms in the public and private sectors.

Under the Digital Tanzania Project (DTP), funded by the World Bank, the One Stop Service Center, known as Jamii Center, will allow clients to transfer service levies or fees directly to various government bank accounts. This innovation reduces the need to engage with multiple Government institutions for payment purposes. The rollout of the Jamii Payment platform, which is linked to a person's unique lifetime digital identity known as the Jamii Namba, will not only streamline the payment process but will also simultaneously decreased the risk of fraud.

Jamii Pay one-stop single bill payment concept benefits include the convenience of being able to pay all of government services under one bill and let the digital platform distribute the funds to various institutional accounts. This saves time and effort, as the client would no longer have to log into multiple websites or call different government institutions to make government payments.

Jamii X-Change also known as Jamii Data Exchange Platform, bolstered by consent mechanisms, where data owners have a say on how, where, and when their data is moved around. The Jamii X-Change has inbuilt tech and governance attributes including data privacy, accountability and oversight mechanisms, that benefits both citizens and service providers.

The systems have been designed with trust at the core, hence relevant Acts and institutions like the Personal Data Protection Commission are in place. This enhances the digital transformation through interoperability and data exchange, eliminating the presence of siloed systems. In use, is the "once-only principle", i.e. businesses and citizens have to supply information for government authorities or private sector only once and data is available through the data exchange layer across different agencies.



2.4 Industrial Revolution

The Industrial Revolutions (4IR & 5IR) are global phenomenon characterized by the ongoing transformation of society and the economy through the integration of digital technologies, such as Artificial Intelligence (AI), Robotics, the Internet of Things (IoT), Automation, Big Data, Cyber Security, Next generations 5G and other emerging technologies.

The 4IR is characterized by the fusion of physical, digital, and biological systems, leading to unprecedented levels of connectivity and data exchange. It is revolutionizing the digital economy by enabling the transformation of industries, redefining business models, and reshaping the way we live and work thus have a profound impact on digital economy. The 5IR, on the other hand, builds upon the Fourth Industrial Revolution by incorporating concepts such as "sustainability," "human-centeredness," and "concern for the environment." It is characterized by a balanced relationship between increasing smart technologies and human beings.

In this period of transformative change, Tanzania has made a progressive and ultimate achievements on establishing nation's position on global digital landscape. These achievements set the stage for the massive transformation that this strategic framework proposes.

2.4.1 New and Emerging Technologies

With mobile phones, application developers, network providers, mobile money, and internet services, Tanzania is digitizing and prospering. It has a substantial amount of the communications infrastructure required to facilitate the adoption of artificial intelligence, big data analytics, blockchains, 3D printing, and other similar technologies, which is critical given the productivity gains these technologies deliver and the fundamental transformation they may bring to Tanzania. The IoT and 5G technologies are discussed herein under as examples.

Internet of Things (IoT): IoT refers to the network of interconnected physical devices embedded with sensors, software, and connectivity, enabling them to collect and exchange data. The IoT facilitates smart homes, smart cities, industrial automation, and enhanced monitoring of assets, leading to improved efficiency, productivity, and resource management. The concept of IoT is gaining recognition and significance in Tanzania, as it has the potential to drive digital transformation across various sectors. Currently, NM-IST and SUA are actively being involved in IoT research and its application in agriculture. They explore IoT-based solutions for various agricultural challenges, such as smart irrigation systems, livestock monitoring, and pest detection. On the other hand, Muhimbili National Hospital has implemented IoT solutions to monitor patient health remotely, track medical equipment, and manage energy consumption.

Likewise, IoT can contribute to the development of smart cities where by connected devices and sensors can optimize urban infrastructure, including traffic management, waste management, sustainable energy solutions, digital infrastructure and energy distribution. For instance, the upcoming Bagamoyo Smart City project, the evolution of connected devices

and their benefits for Tanzanian households (smart homes) with smart lightning systems and advanced surveillance and protection.

5G Wireless technology: The fifth-generation (5G) wireless technology has the potential to transform various industries, including healthcare, transportation, and manufacturing. It is ideal for a wide range of applications, including streaming video, gaming, and real-time data collection. Tanzania has auctioned 5G spectrum to Mobile Network Operators (MNOs) to allow 5G network rollout. Currently, three (3) MNOs have deployed the 5G technology, which deliver faster internet speeds with low latency and increased broadband capacity compared to preceded technologies. Hence, 5G facilitates great transformation towards adoption of emerging technologies such as IoT, AI, Robotics and ML for digital services including remote access of health care, education, transportation, tourism and agriculture.

2.4.2 Economic Impact of Technology Evolution

Various nations' economies have been revolutionized via digital migration and transformation, in which socio-economic activities have been digitalized through the use of digital technology. With mobile phones, application developers, network providers, mobile money, and internet services, Tanzania is digitizing and prospering. For instance, there is a remarkable increase in registered mobile phone subscriptions, rising from 58.1 million in September, 2022 to 67.1 million in September, 2023 marking a 15.5 per cent surge; Internet users have similarly expanded from 31.1 million in September, 2022 to 34.5 million in September, 2023, signifying a 11.0 per cent. Also, mobile broadband population coverage has increased from 72% in September, 2022 to 83% in September, 2023 recording a 11-percentage point increase.

In addition, Tanzania has a substantial amount of the communication infrastructure required to facilitate the adoption of artificial intelligence, big data analytics, blockchains, 3D printing, and other new and emerging technologies, which are critical for fundamental transformation in productivity gains. Globally, technology is evolving at dizzying speed. However, it is not just adoption that determines opportunities for employment in a digital economy, but also the supply of digital products and services, integration inspired by cross-border data flows, and quality of life.

2.4.3 Digital Transformation for Global Competitiveness

Tanzania keeps up with the rate of digital transformation to maintain its global competitiveness that is embraced at all levels in the public and private sectors. Recent economic projections for Tanzania forecast that the economy will expand at an annual average of 6.9 over the medium term (2021–2025). Adoption and adaptation of digital technologies in the economy will bolster economic development and accelerate the realization of economic expansion. The global digital explosion has so far resulted in the creation of immense wealth in record time, but this wealth is highly concentrated among a small number of countries, businesses, and individuals. It has also presented policymakers with fundamental challenges they must now confront. Harnessing

the potential of 4IR and 5IR for the benefit of the many, not just a select few, requires creative and innovative thinking, as well as policy experimentation to boot. It also calls for increased international cooperation to prevent the north-south income gap and digital divide from widening.

2.4.4 New Digital Business Opportunities

The integration of advanced automation technologies and AI systems in industries enhances productivity, accuracy, and scalability. It leads to the automation of repetitive tasks, improved precision, and the ability to process vast amounts of data for valuable insights. This can result in increased productivity, reduced costs, and improved customer experiences. Also, the 4IR enables businesses to digitize their operations and processes, leading to increased efficiency, cost savings, and new business models. It allows organizations to leverage data and analytics to gain valuable insights, make informed decisions, and deliver personalized products and services to customers. In Tanzania, the 4IR is still at a nascent stage. More still needs to be done by the Government to promote the 4IR enabling technologies such as Artificial Intelligence, Machine Learning, Blockchain, Autonomous Drones, Robotics Process Automation, and 5G Wireless.

2.4.5 Cyber Security

Cybersecurity provides for security measures based on the identity of devices, networks, software and electronic data. Tanzania has a satisfactory level of preparedness in cyber security considering legal, technical, institutional, capacity, and international cooperation measures. This is demonstrated by the adequate set of cyber security systems, and efficient institutional framework. Further, the Government has put in a lot of effort to address cyber-security issues. This includes the establishment of Computer Emergency Response Team (CERT), the establishment of Cybercrime Unit under the Tanzania Police Force and establishment of Central Equipment Identification Registry (CEIR). Also, the Government has established an e-Government Security Operations Centre (eGSOC) to coordinate cyber security matters within the public service.

2.4.6 Other Digital Technologies

Artificial Intelligence (AI): refers to the development of computer systems that can perform tasks that typically mimic human intelligence. It involves creating algorithms and models that enable machines to perceive, reason, learn, and make decisions based on data and experiences. AI encompasses various subfields such as machine learning, natural language processing, computer vision, and robotics. In the digital economy, AI is used for a wide range of applications, including Data Analysis and Insights, Automation and Robotics, Fraud Detection and Cybersecurity, Customer Service and Support, Predictive Analytics, etc.

Machine Learning (ML): is a subset of AI that focuses on enabling computers to learn and improve from experience without being explicitly programmed. It involves the development of algorithms and statistical models that allow systems to automatically

analyze and interpret data, identify patterns, and make predictions or decisions. Machine learning is being used in various fields Predictive Analytics in which machine learning algorithms can analyze historical data to make predictions about future outcomes

Robotic Process Automation (RPA): involves the use of software robots or bots to automate repetitive, rule-based tasks or processes. RPA bots mimic human interactions with computer systems, performing tasks like data entry, data extraction, form filling, and system integration. RPA is being used in various industries and sectors for Data Entry and Processing, Report Generation, and System Integration and Workflow Automation. RPA bots can be programmed to mimic the actions of a human user, and they can be used to automate a wide range of tasks, such as data entry, invoice processing, and customer service.

Blockchain: is a distributed ledger technology that is used to record transactions in a secure and transparent way. It is being used for a wide range of applications, including financial transactions, supply chain management, and voting. It has the potential to transform industries by enabling secure and tamper-proof transactions, streamlining supply chains, facilitating smart contracts, and enhancing trust and transparency.

Cloud Computing: offers scalable and on-demand access to computing resources and services over the internet. It enables organizations to store, process, and analyze large volumes of data, collaborate remotely, and leverage cost-effective IT infrastructure, fostering innovation, agility, and flexibility.

Biotechnology and Bioinformatics: are the latest technological advances in genetic engineering, personalized medicine and biological data analysis that are driving breakthroughs in healthcare and agriculture.

2.5 Digital Government Initiatives

2.5.1 Tanzania e-Government Initiatives

Various e-Government initiatives have been an instrument in providing convenient access to Government services. This also has led to the beginning of bridging the 'digital divide' between urban and rural areas and harnessing the digital revolution for positive change and social betterment. Some of the prominent e-Government Initiatives include:

Legal and Regulatory Instruments: The enactment of e-Government Act, 2019 and its Regulations 2020, establishment of e-Government Strategy 2022, e-Government Cyber Security Strategy 2022, that provide conducive environment for implementation of ICT in the Government. Establishing a Government cybersecurity strategy is fundamental to the successful and secure operation of e-Government services. It ensures the protection of critical data, maintains public trust, and safeguards against evolving cyber threats, all of which are essential for the effective functioning of digital government services. Transformation of the e-Government into a fully-fledged and strengthened e-Government Authority in 2019, with responsibility for coordination, overseeing and promotion of e-Government initiatives and enforcement of e-Government policies, laws, regulations, standards and guidelines was of a big step towards digital transformation in the Government.

Digital Taxation: The Government of the United Republic of Tanzania has approved a new organizational structure for the Tanzania Revenue Authority (TRA) to address the challenges of transitioning from traditional brick-and-mortar to click-and-mortar service delivery processes. That includes a dedicated Digital Economy unit focusing on the taxation of digital transactions. This section is tasked with monitoring global taxation practices of the digital economy and aligning Tanzania's approach with international standards.

Through recent initiatives, significant digital players operating in Tanzania without a physical presence, including dominant Big Tech companies, are now incorporated into the country's tax base. These companies contribute to government revenues, indicating a move towards increased fiscal responsibility in the digital economy. The Tanzania Revenue Authority (TRA) has facilitated this by launching a simplified online registration portal, enhancing tax compliance efficiency. This platform simplifies taxpayer registration, return filing, and tax payment processes. The implementation has significantly increased revenue and company participation in its second year, showing promising growth in domestic revenue mobilization through the digital economy.

Government Network (GovNet): The implementation of the Government Network (GovNet) enhances public service delivery. The growing demand for ICT applications and online services increased significantly when the Government implemented the high-capacity fiber optic based National ICT Broadband Backbone (NICTBB) with national coverage.

As of September 2023, 83% of the population is covered by a broadband network.

e-Government Services: The Government of The United Republic of Tanzania has launched a number of initiatives towards Development and operationalization of key Government ICT systems including: the Government electronic Payment Gateway (GePG) at MoF; the Water Utilities Information System (MajiIS) at the Ministry of Water; the Integrated Lands Management Information System (ILMIS) at the Ministry of Lands and Human Settlements; Tanzania Instant Payment System (TIPS) at the Bank of Tanzania (BOT); the Government Enterprise Service Bus (GoVESB) at the eGovernment Authority (eGA); the National e-Procurement System of Tanzania (NesT) at PPRA; the TAUSI Taxpayer Portal at PO-RALG; the NIKONEKT System at TANESCO; and the Fourth Generation Birth Registration System (BRS-4G) at RITA.

One-Stop Service Centres (Jamii Centres): The e-Government initiative aims to offer multiple Public Services at selected central locations under 'one roof' with 'single window' using online service delivery digital platforms. 31 Jamii Centres are planned to be established in all regions by 2026 whereby at least 32 services will be offered through each centre. The objective of the Centres is on enhancing effectiveness and improving efficiency in the delivery of services to citizens and businesses based on the e- Government G2C (Government to Citizens) and G2B (Government to Business) and G2E (Government to Employees) e-Government models.

Digital Tanzania Project (DTP): This is a World Bank funded project whose development objective is to increase access to high quality internet services for Government and citizens, and to improve the Government's capacity to deliver digital public services. DTP is implemented for five years (2021 - 2026) where by e-Government is one of the key components of the programme. DTP initiatives related to e-Government include: ICT regulatory scan and review, Enhancement of Government ICT Connectivity, Rural Broadband for Development, Digital Services and Productivity Platforms, Digital Economy, Data-centre Infrastructure, Government ICT cadre training programme and Citizen Digital Literacy.

ICT Management Units: Establishment of ICT Management Units in all Ministries, Departments and Agencies (MDAs), Regions Secretariats (RS') and LGAs. Establishing ICT units in each government department is crucial for modernizing government functions, improving service delivery, enhancing data security and management, and promoting efficiency and innovation. ICT units are instrumental in optimizing departmental processes through the deployment and management of digital tools and systems. This typically results in more streamlined administrative task management, quicker information processing, and an overall boost in productivity.

Standards and Guidelines: Development of e-Government standards and guidelines for Public Institutions that also include ICT

governance structure for the Public Service. Establishing e-Government standards and guidelines is essential for ensuring that public institutions provide efficient, secure, accessible, and high-quality digital services to the public, while also complying with legal and regulatory requirements.

2.5.2 Zanzibar e-Government Initiatives

Zanzibar has made tremendous strides in its transformation to a digital economy. Advances in digital technologies will be used to take advantage of the new digital economic opportunities and accelerate Zanzibar's drive towards becoming a fully connected and integrated digital economy as it inches closer to realizing its digital vision as stated in the Zanzibar Digital Government Strategy and Digital Economy Strategy. In accordance with the digitalization objectives stated in the Zanzibar Vision 2050, the Revolutionary Government of Zanzibar (RGoZ) has formulated a policy and strategy framework that incorporates both the Zanzibar Digital Government Strategy 2023-2027 and Zanzibar Digital Economy Roadmap 2023-2027.

In Zanzibar, numerous ICT-related initiatives have been carried out in the last decade. Including ICT infrastructure development, better public service delivery, upgrading the national broadband fiber network, implementation of an internet submarine cable service to support the reliable provision of high-speed internet services to all public institutions. The Zanzibar Health Service Foundation (ZHSF) has initiated a plan to establish connectivity among a total of 168 health centers via the implementation of the Zanzibar Health Services Foundation integrated System. The anticipated result is improved healthcare through the reduction of needless visits made by patients to remote healthcare facilities for the purpose of medical diagnosis.

The President's Office Finance and Planning (POFP) Zanzibar has established the ZanMalipo payment gateway is a centralized government system for generating payment control numbers for all government services. ZanMalipo serves as a bridge connecting various Ministries, Departments, and Agencies (MDA), along with Local Government Authorities like municipalities, district councils, and town councils, to Payment Service Providers including Mobile Network Operators and Banks. This initiative is part of the Revolutionary Government of Zanzibar's strategy to oversee and regulate government financial inflows.

As a principal stakeholder in the World Bank's Digital Tanzania Project, Zanzibar is involved in several initiatives under this project. These include setting up a Government Service Directory, formulating the Zanzibar eGovernment Policy, establishing One Stop Service Centers in both Unguja and Pemba, connecting over 204 service delivery points to the National ICT backbone, creating Innovation centers, developing a digital identity platform, integrating e-Government services, and implementing digital literacy and skills development programs.

CHAPTER 3
DIGITAL ECONOMY STRATEGIC INITIATIVES

3.1 Overview

The Digital Economy Strategic Framework's pillars consist of the foundational elements or key results areas that support and drive inclusive, resilient and sustainable digital economy. These pillars provide a holistic approach for building a robust digital economy and are critical in shaping how digital technologies and digital transformation are leveraged to benefit businesses, consumers, and the economy at large. It is essential for these pillars to work collaboratively in harmony, fostering an environment that promotes digital innovations, connectivity, skills development, policy coordination, and an inclusive culture. The vision, mission, foundational pillars and their key components, objectives and strategics are given herein under.

VISION

To transform Tanzanians through cutting-edge, supportive, and affordable digital technologies, solutions and skills in all areas of social and economic activities.

MISSION

Promoting a resilient, dynamic and inclusive digital economy that supports and uplifts every individual.

Enabling Digital Infrastructure: Key components are Basic Facilitative Digital Infrastructure, Hard Infrastructure and Soft Infrastructure. The objectives aim to enhance resilient basic facilitative and integrated infrastructure required to support the sustainable development of the digital economy, strengthen ubiquitous national connectivity and storage infrastructure and strengthen interoperable digital service delivery platforms.

Governance And Enabling Environment: Key components are Institutional Arrangement and Legal and Regulatory Landscape. The objectives include development of Institutions' capacity for operationalization of the digital economy Agenda and Sectorial Policies and Legal Frameworks that abide with national frameworks.

Digital Literacy and Skills Development: Key components are Training Initiatives to equip the workforce with necessary digital literacy and skills. The objectives focus on promotion of digital-savvy society that encourage digital literacy and the adoption of digital practices.

Digital Innovation Culture and Enabling Technologies: Key components are New and Emerging Technologies, Local Content Creation, Cybersecurity, Startup Ecosystem and Innovation Culture. The objectives aim to develop efficient and effective national cyber security that supports digital economy, develop and use of emerging technologies to accelerate growth of digital economy, enhance a creation and localisation of online content to foster digital transformation and innovation and build inclusive and collaborative innovation ecosystem.

Nurturing Digital Inclusion and Accessibility: Key component covers extension of Digital Infrastructure and Inclusion of diversified groups. The objective is to develop Framework that nurture and embrace an inclusive digital economy.

Digital Financial Services: Key component is Interoperability in Digital Financial Services. The objective is to develop Inclusive digital financial payment platforms to support emerging digital economy.

These pillars are further elaborated into objectives, strategies, targets and roles as reflected in the annexed implementation matrix.

3.2 Pillar 1: Enabling Digital Infrastructure

Enabling Digital infrastructure for the digital economy refers to the essential systems that serve as the underlying infrastructure for other systems, processes, or activities required to support the digital economy. It provides the necessary digital economy support structure and functionality upon which other components can be built. Typically, it involves a combination of hardware, software, protocols, standards, and processes that work together to provide a solid foundation for various applications and services.

A digital infrastructure is complex system that is divided into the following broad domains for manageability:

- Basic Facilitative digital infrastructure
- Hard Digital infrastructure
- Soft Digital infrastructure

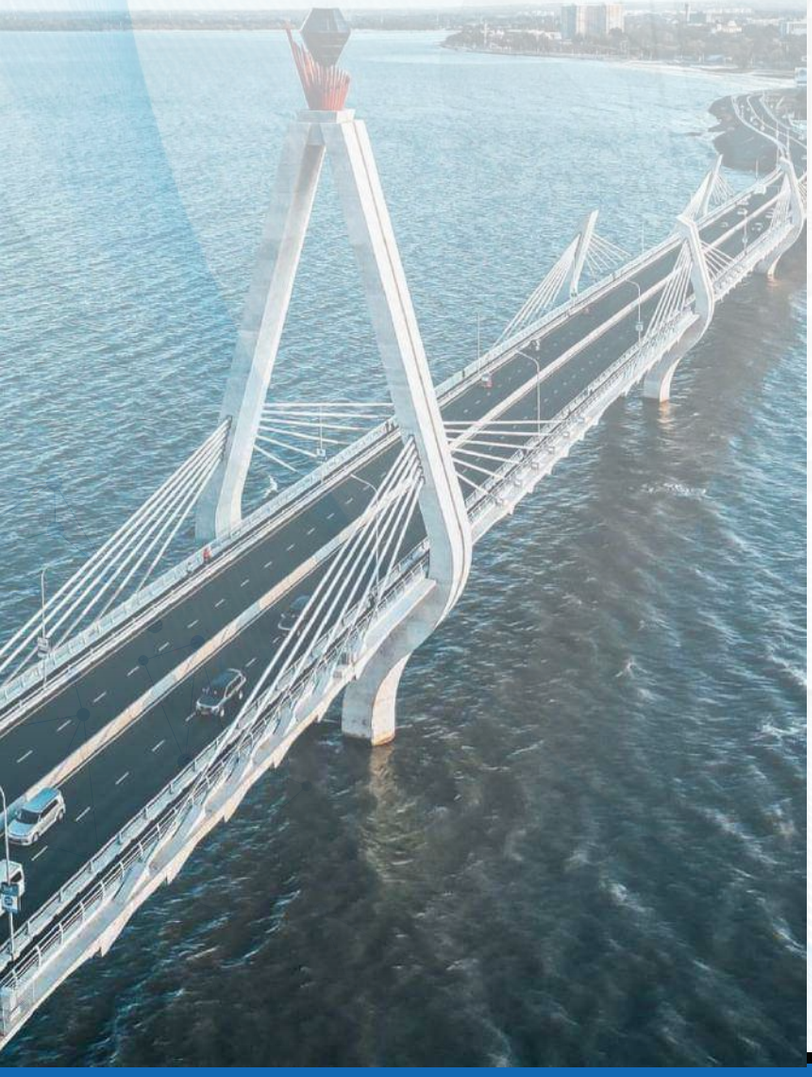
3.2.1 Basic Facilitative Digital Infrastructure

A basic facilitative digital infrastructure refers to the underlying framework of technologies, systems, and networks that enable the seamless functioning and growth of digital services, applications, and processes. It establishes the necessary foundation for effective communication, information sharing, and connectivity in the digital realm. In other words, it represents the infrastructure and services that enable the development and use of digital applications.

The basic facilitative digital infrastructure incorporates the physical infrastructure that lays the foundation required to operate a modern industrialized and digitally connected nation, of which Tanzania aspired to be. Examples basic facilitative digital infrastructure include:

- Road infrastructure
- Railway infrastructure
- Airports infrastructure
- Electric power grid
- Public Facilities including public buildings, schools, hospitals, etc.
- Physical addressing signs (street signs, house numbers, etc.).

Road infrastructure: Tanzania has a necessary basic facilitative road infrastructure for development of the digital economy with a large land area of over 948,740 square kilometers. Tanzania's Mainland boasts an extensive road network spanning 181,190.06 kilometers by 2022, encompassing a variety of categorized routes.

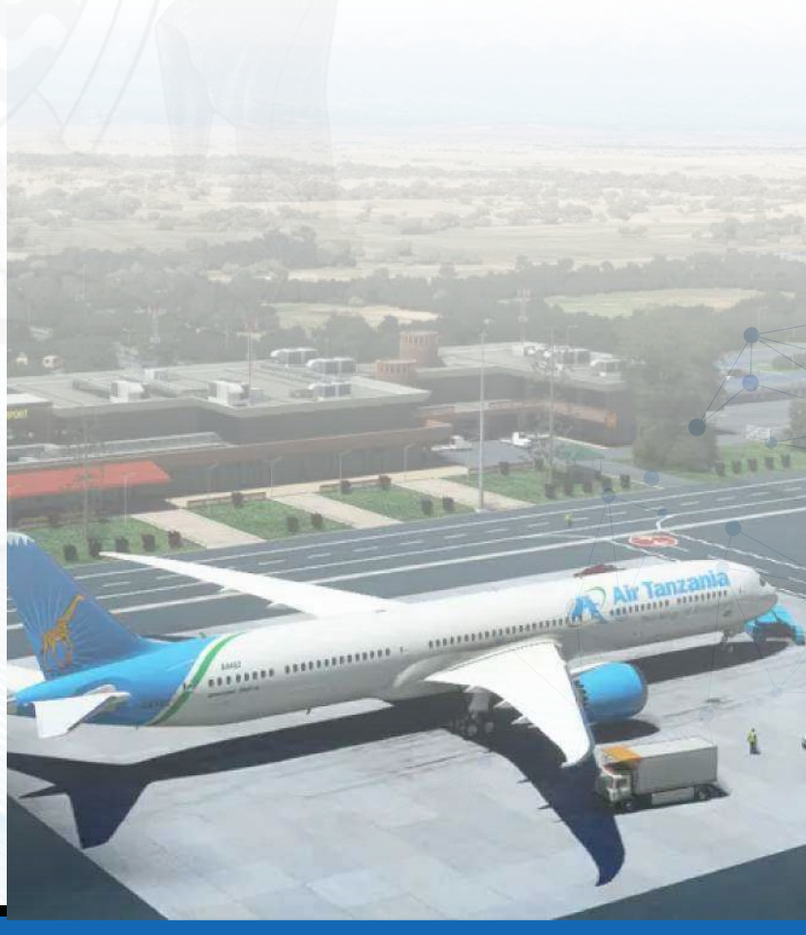


Railway Infrastructure: Tanzania has 2,707 km of rail infrastructure, which is split between a meter-gauge and a cape-gauge system. Meanwhile, the Government of The United Republic of Tanzania is currently expanding the country's rail network with the construction of a Standard Gauge Railway (SGR) to replace the old, inefficient meter-gauge railway system. The SGR railway which consists of a total network of about 2,000 km has the ability to carry heavy loads at high speed as opposed to the current Meter gauge Railway (MGR) and will be developed in six phases.

The growth in cargo transported by Tanzania Railway is a positive development for the country's economy. It helps to reduce the cost of transportation, which makes goods more affordable for consumers.

Port Infrastructure: Tanzania has ports which facilitate movement of goods and services within the country and from international destinations. Tanzania Ports Authority manages a total of 89 official ports, of which Dar es Salaam Port is the biggest. In terms of the utilization of the Dar es Salaam port by the end of 2022 TPA had cleared 22.9 million tons of cargo.

Airports Infrastructure: Tanzania's airports are an integral part of the country's transportation network. Airports have long served as domestic hubs, in addition to their role as international gateways, and have been crucial for delivering economic growth to remote rural communities. There is total of 368 airports, with the Tanzania Airports Authority (TAA) in charge of 58 airports on the mainland and six (6) airports running 24 hours a day. Terminal three at Julius Nyerere International Airport (JNIA) is expected to accommodate 6.5 million.



Electric Power Infrastructure: Tanzania's total installed power generating capacity was 1,733.4MW as of December, 2022. Tanzania launched numerous power production projects to expand electricity generation capacity, the most important of which being the Julius Nyerere Hydropower Project, which will produce 2115 Megawatts when completed.

Over 84% of the villages in the nation now have access to electricity, which is critical for distant and rural populations to engage in the digital economy. Although 78.4 percent of the Tanzanian mainland population has access to power, only 42 percent is presently linked to electrical services. Adequate power should be delivered to schools and healthcare institutions to promote an inclusive digital economy.

National Physical Addressing Initiative: The Government has been implementing National Physical Addressing initiative since 2011, and as of June 2023, a total of 12,616,122 physical addresses has been collected. The exercise is continuous to ensure everyone, and every office has a physical address which will then be integrated into National Physical Addressing (NaPA) system.

Pay-Once, Dig-Once Fiber-Optic Ducting and Trenching: The traditional and most cost-effective method of laying optical fibers used in most developing countries like Tanzania is ducting and trenching. This method involves creating a trench during road construction through both manual and mechanized soil excavation. Fiber ducts are then laid in the trenches so that at a future date, fiber is then blown through the ducts with specialized fiber blowers at a much lower cost of implementation.

This practice is known as Pay-Once and Dig-Once. Dig-once policies provide ready-made, buried conduits, enabling future fiber optic service providers to more easily and cheaply install fiber by threading it through existing conduits. Installing empty conduit, which is relatively inexpensive during construction projects, supports future expansion by substantially lowering the expense of digging for fiber optic service providers.

Furthermore, the regulations must guarantee that Right-of-Way licenses and permits are issued to prospective investors equitably and ethically. The laws must also safeguard the public interest by requiring fiber optic cables to be built and maintained in a safe and responsible way.

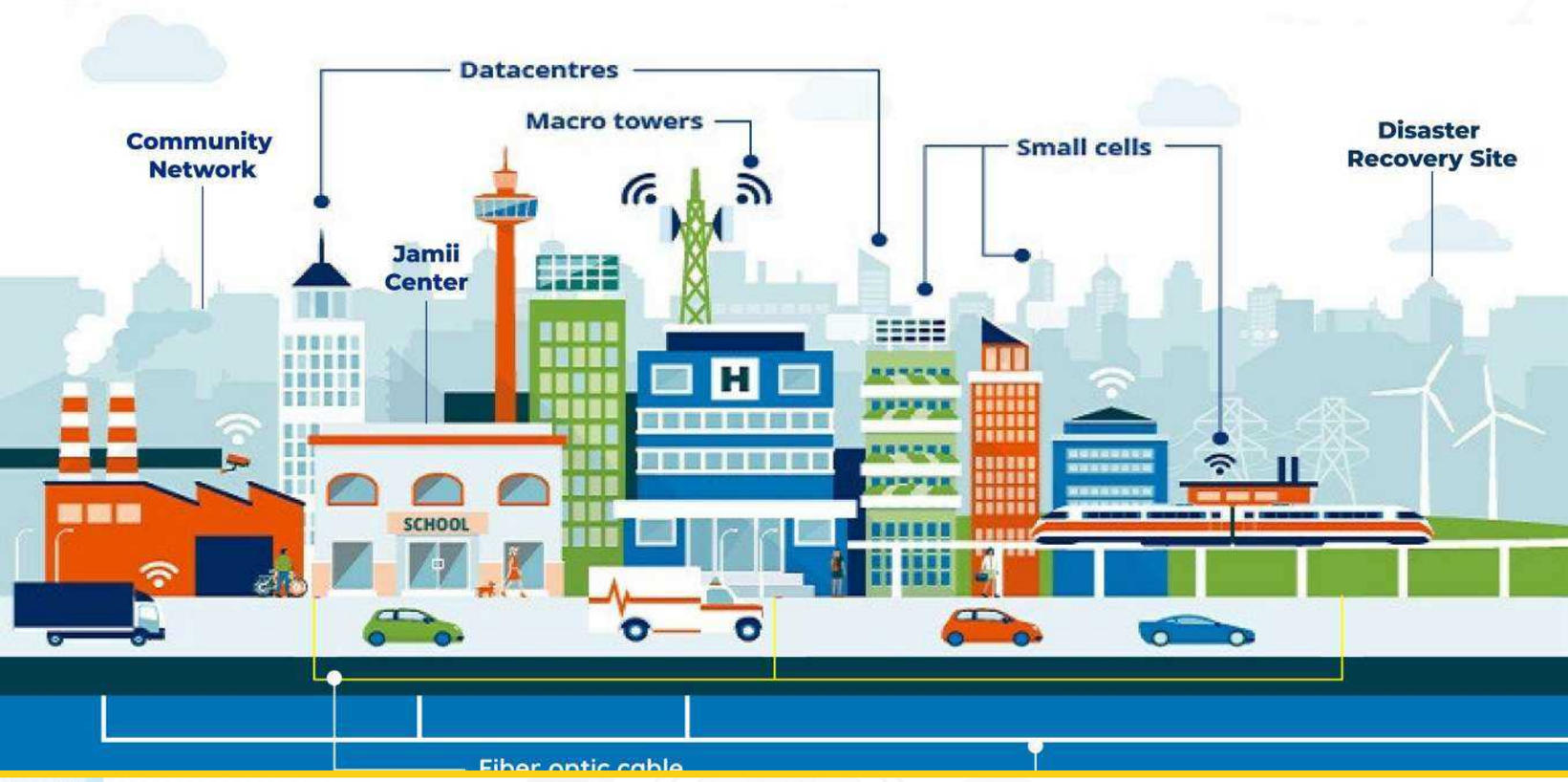
In summary, a basic facilitative digital infrastructure is an essential requirement for the digital economy. It allows businesses to connect with customers, suppliers, and partners online. It also enables the delivery of government services, education, and healthcare to the people of Tanzania. Consequently, the digital economy flourishes when the basic enabling infrastructure is robust, and it reaps ever-increasing benefits from the services delivered via the basic digital infrastructure.

OBJECTIVE:

Resilient basic facilitative and integrated infrastructure required to support the sustainable development of the digital economy enhanced.

STRATEGIES:

- Strengthen basic facilitative and integrated infrastructure to accommodate fast growing digital economy.
- Promote and facilitate development and operationalization of a pay-once and dig-once fiber optic rollout to reduce cost.
- Enhance deployment of basic facilitative and integrated infrastructure that support inclusive digital economy countrywide.



3.2.2 Hard Digital Infrastructure

Hard digital infrastructure refers to the physical infrastructure considered essential for the functioning of the digital economy. They provide the foundation for the transmission, storage and processing of data, which are essential for everything from online shopping to video streaming and cloud computing. Hard Digital Infrastructures are poised to play a key role in increasing internet penetration well above the current 55.8% as of September 2023. Digital Economy Strategic Framework (DESF) emphasizes how the affordability, quality, dependability, and reach of these infrastructures can contribute to deeper broadband penetration.

Hard digital infrastructure includes fixed network systems such as fixed and mobile telecom infrastructures, FTTx fiber setups, submarine cable systems, and wireless broadband technologies including 4G, 5G, 6G networks and their cell towers. The Government will also promote Community Networks which provide a complementary solutions for accessible and affordable connectivity in underserved areas.. It also incorporates satellite systems, data centers, and Internet exchange points (IXPs) as key components. IXP is a point where networks come together to connect and exchange Internet traffic to help create shorter, more direct route for Internet traffic that is less costly than routing local Internet traffic abroad.

Provisions for the availability of cost-effective and suitable smart devices must be a part of the Framework to increase mobile and device penetration. This increase in smart device usage is directly related to how prepared citizens are to use online digital services for daily activities, including online shopping, and ensures the digital delivery of products and services integral to the digital economy from start to end.

Type approving of imported smart devices is a necessary step for Tanzania to facilitate availability of standardized devices. This promotes interoperability, a vital feature for the communication between smart devices from

different manufacturers.

In the digital economy, marked by the growing use of devices for data collection and sharing, the importance of standardization cannot be overstated. It also offers the added benefit of security. By standardizing smart devices, their security can be improved, safeguarding user data and thwarting unauthorized access. The TCRA is responsible for the standardization of digital devices, encompassing mobile phones, landline phones, laptops, tablets, and personal computers.

Data Centers and Content Developers Networks (CDNs) plays a crucial role in the ICT sector and transmission of content across different locations, especially with proliferation of 4G, Internet of Things, Artificial Intelligence and Smart Cities. Expansion and Evolution of Data Centre infrastructure will be used to build a trusted data storage in Tanzania to centralize the storage of critical government data, reduce and manage the costs of storing data and it's security. These data centers will also be used for data processing and to host local entrepreneurs and innovators who form an important part of the digital economy. Consequently, it is essential to foster an environment that encourages investment in Data Centres and CDN.

OBJECTIVE:

Ubiquitous national connectivity and storage infrastructure developed and strengthened.

STRATEGIES:

- Improve conducive environment for ICT infrastructure development.
- Ensure availability, accessibility, reliability, safety, and affordability broadband services country wide.
- Strengthen protection of the national critical infrastructure, data and information.
- Enhance public and private network for efficient service delivery.

3.2.3 Soft Digital Infrastructure

Soft digital infrastructure focuses on strengthening proliferation of digital platforms to deliver services such as e-government, e-financial, e-education, e-health and e-commerce that enable Government and citizen to participate in the digital economy. This sub pillar includes the following: Jamii Namba/Unique Digital Identifier, Ngorongoro Data Lake / Jamii Data Lake, National Public Key Infrastructure, Digital Platforms for e-Services

Jamii Namba/Unique Digital Identifier

In the digital economy, where most transactions and interactions are conducted online, digital identity plays a critical role in enabling secure and trusted transactions. Digital identity or Jamii Namba represents electronic data that uniquely identifies an individual (or object such as a computer server) that can be used to verify a person's identity online, and provide secure access to online services. The Jamii Namba will play a crucial role in verifying the identity of a user accessing online services in preventing fraud and identity theft ensuring that the right individual has access to the right information or resources.

The Jamii Namba is associated with identification credentials including personal details such as, date of birth, address, email, as well as other attributes such as digital certificate that can help establish trust with various online service provider platforms. Interoperability between public and private sector facilitates exchange of data between the government, businesses, and individuals. In the emerging digital economy this issue will be resolved by the implementation of the Jamii X-Change to promote interoperability among public and private sector digital platforms.

Jamii Namba or digital identities will be issued by the National Identification Authority (NIDA). At the heart of NIDA's digital identity is a 20-digit unique identifier assigned to the individual being registered by NIDA. The unique identifier is linked to the individual's biometric attributes stored in a secure central database. Unlike traditional identification methods such as passwords, which can be forgotten, lost, stolen, or easily forged, biometric identification provides a high level security and accuracy in verifying a person's identity.

Ngorongoro Data Lake / Jamii Data Lake

A Data Lake is a storage repository that holds a vast amount of raw data in its native format until it is needed for analytics applications. The Government working with various stakeholder institutions is implementing a Data Lake known as Ngorongoro Data Lake / Jamii Data Lake. Ngorongoro Data Lake / Jamii Data Lake involves the integration of stakeholder platforms for centrally information access through the Ngorongoro Data Lake / Jamii Data Lake analytics platform and associated dashboards. At the heart of the Ngorongoro Data Lake / Jamii Data Lake is the Jamii X-Change platform, which will provide connectivity among all major sectorial platforms implemented in the public and private sector to support platform interoperability.

Analysis of the data stored in the Jamii platform

can lead to insights that drive policy decisions, improve public services, and enhance transparency and accountability in government operations. The global digital ecosystem depends on data which is gathered, organized, and exchanged by a network of companies, individuals, and institutions to create economic value. The type of information that can be collected and analyzed in the Ngorongoro Data Lake / Jamii Data Lake is diverse. It includes:

- Public Records including birth and death records, divorce and marriage licenses, property records, and other public documents.
- Health Data including aggregated health statistics, pandemic tracking data, and hospital records, ensuring compliance with privacy laws.
- Census Data including detailed demographic information collected through national or local census surveys.
- Environmental Data including climate and geological data, pollution levels, and wildlife tracking information.
- Transportation Data including traffic patterns, public transport usage statistics, and infrastructure maintenance records.
- Law Enforcement Data including crime statistics and trends, which are used for public safety analysis and predictive policing, with appropriate safeguards for civil liberties.
- Education Data including enrollment numbers, test scores, and other education-related statistics.
- Economic and Financial Data including employment rates, GDP information, tax records, and other economic indicators.
- Social Services Data including Information related to welfare programs, unemployment benefits, and other social services.
- Emergency Services Data related to natural disasters, emergency response times, and resource allocation during crises.

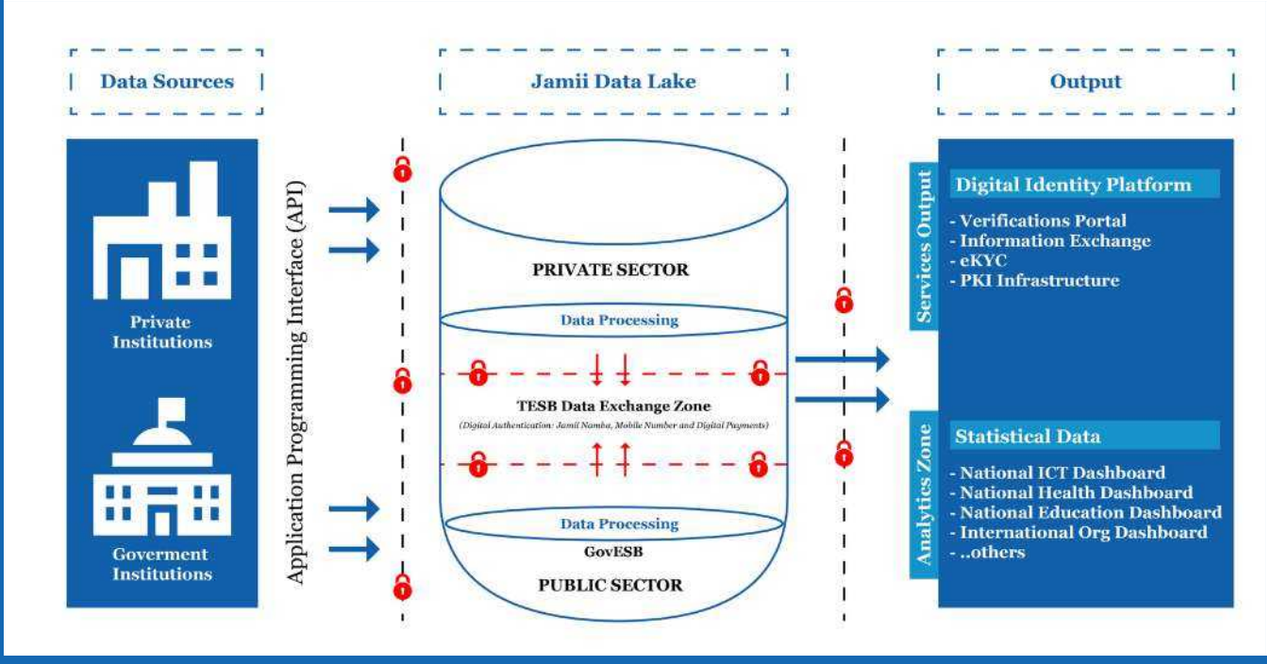


Figure: Ngorongoro Data Lake / Jamii Data Lake

National Public Key Infrastructure

Public Key Infrastructure (PKI) plays a crucial role in the digital economy by providing a secure framework for managing cryptographic keys and digital certificates. It establishes trust and enables secure communication, authentication, and data protection over digital networks.

PKI is a fundamental technology that underpins various aspects of the digital economy. The National Identification System that will be the custodian of unique digital identities for the digital economy can assign cryptographic public and private keys to individuals registered in the National ID registry. The keys are necessary for the issuance of digital certificates for identification that can be traced back to NIDA's trusted biometrics registration.

A PKI digital certificates that incorporate Tanzania Unique Digital Identity with NIDA-assigned cryptographic key is a key enabler for secure online transactions on the digital economy. It protects sensitive data, prevents fraud, and can be used to verify the identity of individuals and organizations transacting on the internet. In e-Commerce, Online banking, e-Government services and e-Healthcare, PKI is used to secure online transactions by verifying the identity of the transacting parties, and encrypting sensitive data for confidentiality.

The trending digital economy technologies enabled by PKI include Digital Signature and SSL/TLS Encryption. PKI enables the creation and verification of digital signatures to support authentication, integrity, and non-repudiation services, which allow individuals and organizations to verify the origin and authenticity of digital documents or transactions. PKI is also used to authenticate the identity of individuals, devices, and servers e-service platforms in online transactions and interactions using SSL/TLS digital certificates issued by a trusted Certification Authorities (CA) to prevent identity theft and unauthorized access to services.

Digital Platforms for e-Services

Soft Digital infrastructures create an operating environment where both Public and Private sectors can operate on the same interoperable enviroment that allowing data sharing. The aim is to increase the efficiency and effectiveness of core functions and services both within the Government and Private sector; reduce unnecessary duplication of systems for businesses, expand access to markets, exchange goods and services and tap into underutilized assets and human resources.

Soft digital infrastructure must support interoperability and data exchange between the various digital platforms that forms part of the digital economy, such as the digital identity system, digital payment system, Jamii payment system, digital exchange platform (Tz Dig Locker), digital justice, digital agriculture, digital health, and digital business and commerce.

It should be noted that electronic services or e-services refer to services delivered electronically mostly over the Internet and mobile channels by means of ICT. Accessibility to e-Services must also take into consideration the issue of diversity and inclusion with respect to persons with disabilities, literacy, rural versus urban, age, and language.

Two major categories of e-Services are Informational Services and Transactional Services.

- Informational Services represent services that solely provide information to clients and generally do not involve processing of any transactions or submission of any documents. They involve relatively simple back-office operations and can easily be provided on any Government website.
- Transactional Services include services that require specific processing actions to be taken by the Institution that is mandated to provide the service to the public. Transactional Services are further subdivided into Foundational Services and Dependent Services.
- Foundational Services refers to core services that form the foundation or the base upon which most, if not all business processes are supported.
- Dependent Services are the services whose business processes ride on top of the Foundational Services.

OBJECTIVE:

Interoperable digital service delivery platforms developed and oprationalized

STRATEGIES:

- Ensure the realization of a unified broad-based platforms across service providers.
- Promote a trustworthy and sustained cashless economy.
- Establish the Tanzania Unique Digital Identifier to support the provision of services across all digital platforms.
- Develop integration plan between Jamii X-Change platform and the National Public Key Infrastructure.
- Promote integration of Public and Private sector core digital service delivery platform.

3.3 Pillar 2: Governance and Enabling Environment

The pillar aims to ensure the development and implementation of a policy, legal, and regulatory framework as well as launching digital initiatives that shape the way the digital economy operates and evolves. The Government recognizes the need to promote and enact appropriate policies regulations, laws, and governance mechanisms to address the challenges and opportunities presented by the digital economy.

Among the specific areas addressed by this pillar are data privacy and protection, cybersecurity, intellectual property rights, and e-commerce regulations. The aim is to ensure the creation of a secure and trusted digital environment that balances the interests of businesses, individuals, and society at large. Enacting comprehensive data protection laws will not only safeguard personal information but will also build trust in digital transactions.

3.3.1 Institutional Arrangements

To ensure effective implementation of digital economy, there shall be Digital Transformation Working Group (DTWG) co-chaired by Permanent Secretary (PS) from the Ministry responsible for ICT and representative from private sector, TNBC will form Secretariat to the DTWG. For public sector coordination, To ensure effective implementation of digital economy, there shall be a Steering Committee chaired by Permanent Secretary (PS) from Prime Minister's Office and the PS responsible for Ministry of ICT will act as secretary to the committee. Furthermore, the Ministry which is responsible for issues pertaining to ICT shall form a Secretariat of the said committee. In addition, there shall be an established technical committee co-chaired between Director from Ministry responsible for ICT and Director of ICT in President's Office Planning and Investment. The details and operational mechanism of the Committees shall be outlined in the Monitoring and Evaluation Framework to be established. This institutional framework shall broaden stakeholder participation at the different levels, sectors, activities, and entities. The national organizational and institutional arrangement is composed of internal institutional organizational structures and institutions in both public and private organizational, civilian, and non-civilian organizational. The non-civilian institutions include public safety and security, intelligence, and defense institutions.

The government has a critical role to play in the creation, establishment, and promulgation of a digital economy, first as promoter, facilitator, and support of the national ecosystem, as a controller of significant human, natural and monetary resources and finally as an indicator of preferred direction to the sustainable private sector development. In a digital economy, the role of government is inclusive and integrating a service provision, supporting, facilitating, and promoting optimal ecosystems.

The external civilian institutional organizations and entities consist of government ministries, departments, agencies, and non-state actors. The central government ministries will ensure that the desired digital economy objectives are effectively implemented within an overall macroeconomic framework and provide the sectorial level focal point for coordination of ICT sector related activities.

The ministry will also collaborate with:

Research and Training Institutions: Research and training institutions including academia are important for the development of digital economy. Development of the ICT industry has increased the demand for knowledge and skills. Academic and research institution will be responsible for promoting ICT curricula that shall be used in training, developing competent human capital and relevant scientific research outputs for ICT development in Tanzania.

Private Sector: The private sector is an important element in the implementation of ICT initiatives and promotion of digital economy in Tanzania. The private sector shall collaborate with the Government through Private Public Partnerships (PPP) to own, propagate ICT initiatives and utilization in Tanzania. The private sector shall participate in bringing innovations and relevant solutions for the implementation and development of digital economy. The Framework create enabling environment and commercial friendly environment to enable private sector engage in development of digital economy. There is a need to enhance multi-stakeholder approach to digital economy implementation to forge partnerships between public and private sector, and as a tool to drive private sector actions to address digitalization challenges.

Non-State Actors: Non-Government Organizations (NGOs), Civil Society Organizations (CSOs); Community Based Organizations (CBOs) and Faith Based Organizations (FBOs) are actively working in adoption of ICT. They play an important role in the social and economic development of the country. In implementing digital economy, the non-state actors shall participate in creation of ICT awareness, transparency and accountability in matters pertaining to ICT sector. These organizations are highly engaged in provision of competitive ICT services; capacity building to staff, individuals, institutions and organizations in ICT sector; dissemination, advocacy, sensitization and conducting ICT related research for Policy and planning for ICT development and digital economy.

Development Partners: Development partners work closely with the Government for sustainable development programmes related to implementation of digital economy. They may also be involved in resource mobilization and provision of support for investing in fundamental areas of infrastructure, capacity building and in the implementation of the digital economy related policies, programs and projects.

Regional and International Cooperation: The Government of The United Republic of Tanzania recognizes the benefit of regional and international institutional collaboration and cooperation in all areas of digital economy. It has, therefore, maintained strategic institutional cooperation at regional and international fora. Tanzania has to strengthen cooperation and collaboration in regional and international ICT development initiatives that promote knowledge transfer and attract foreign direct investment. The country has to ensure a supportive environment for cooperation and collaboration with regional and international ICT organizations with mutual benefits between Tanzania and collaborators in

order to strengthen local ICT capacity and put in place mechanism to strengthen the country's negotiation capacity and enhance collaboration of Tanzania with other nations to promote local innovation, knowledge transfer and FDI.

Other Service Providers: Other actors falling under public and private sector institutions that provide specific services that are critical to the digital economy are: - (1) The media, is important for information dissemination and public education awareness on digital economy related policies and legislations; and (2) Legal service providers who will play an important role in litigation including drawing up and overseeing enforcement of legislations and contracts.

3.3.2 Legal and Regulatory Landscape

The digital economy regulatory framework refers to a set of policies, laws, regulations and guidelines that govern and guide activities within the digital economy. It aims to establish a balance between promoting innovation, protecting consumer interests, ensuring fair competition, and maintaining trust and security in the digital realm. Laws and regulations that must be reviewed and adjusted to accommodate the digital economy include:

Personal Data Protection and Privacy Regulations: Tanzania has enacted a Personal Data Protection Act of 2022 which recognizes the rights to privacy and personal security. The Act applies to both public and private institutions with the responsibility to collect and process personal data in Tanzania and sets minimum requirements for the collection and processing of personal data.

There are legal requirements to establish and maintain accurate digital identities individuals, especially for businesses operating in regulated industries. Compliance to the regulations ensures that the collection and processing of personal data is strictly controlled.

Regulations concerning data protection and privacy are crucial in the digital economy. These regulations outline the rights of individuals regarding their personal data, set rules for data collection, storage, processing, and sharing, and establish obligations for organizations handling personal data. They often include provisions for consent, transparency, data breach notification, and the establishment of independent data protection authorities.

Cybersecurity Regulations: Cybersecurity regulations aim to protect digital infrastructure, systems, and networks from unauthorized access, cyber threats, and data breaches. They may require organizations to implement security measures, conduct risk assessments, establish incident response plans, and protect critical infrastructure. Cybersecurity regulations also address issues like encryption, identity theft, and protection against cybercrime.

Consumer Protection Regulations: in the digital economy focus on safeguarding consumer rights and interests. They cover areas such as fair advertising practices, disclosure of terms and conditions, dispute resolution mechanisms, protection against fraud and scams, and transparency in online marketplaces. Consumer protection regulations also address issues like product safety, warranties, and protection against unfair contractual terms.

Fair Competition and Antitrust Regulations: Digital economy regulations may address competition and antitrust concerns to ensure fair market practices and prevent monopolistic behavior. These regulations aim to promote competition, prevent anti-competitive practices, and protect consumers' interests. They may include provisions on market dominance, abuse of market power, mergers and acquisitions, and unfair business practices in the digital space.

Intellectual Property Regulations: Regulations governing intellectual property rights in the digital economy protect creators' rights, encourage innovation, and ensure fair use of intellectual property. These regulations cover areas such as copyrights, trademarks, patents, and trade secrets. They address issues like digital piracy, online copyright infringement, and the liability of online platforms for hosting infringing content.

Cross-Border Data Flows Regulations: Regulations regarding cross-border data flows focus on enabling the movement of data across borders while ensuring privacy and security. They may address issues like data localization requirements, international data transfers, and adherence to international standards and agreements. These regulations aim to facilitate global data flows while protecting individual privacy and maintaining the integrity of data.

Given the global nature of the digital economy, such regulations may include provisions for international cooperation, harmonization of standards, and collaboration among countries to mitigate cross-border challenges, promote consistency, and facilitate a level playing field in the digital realm

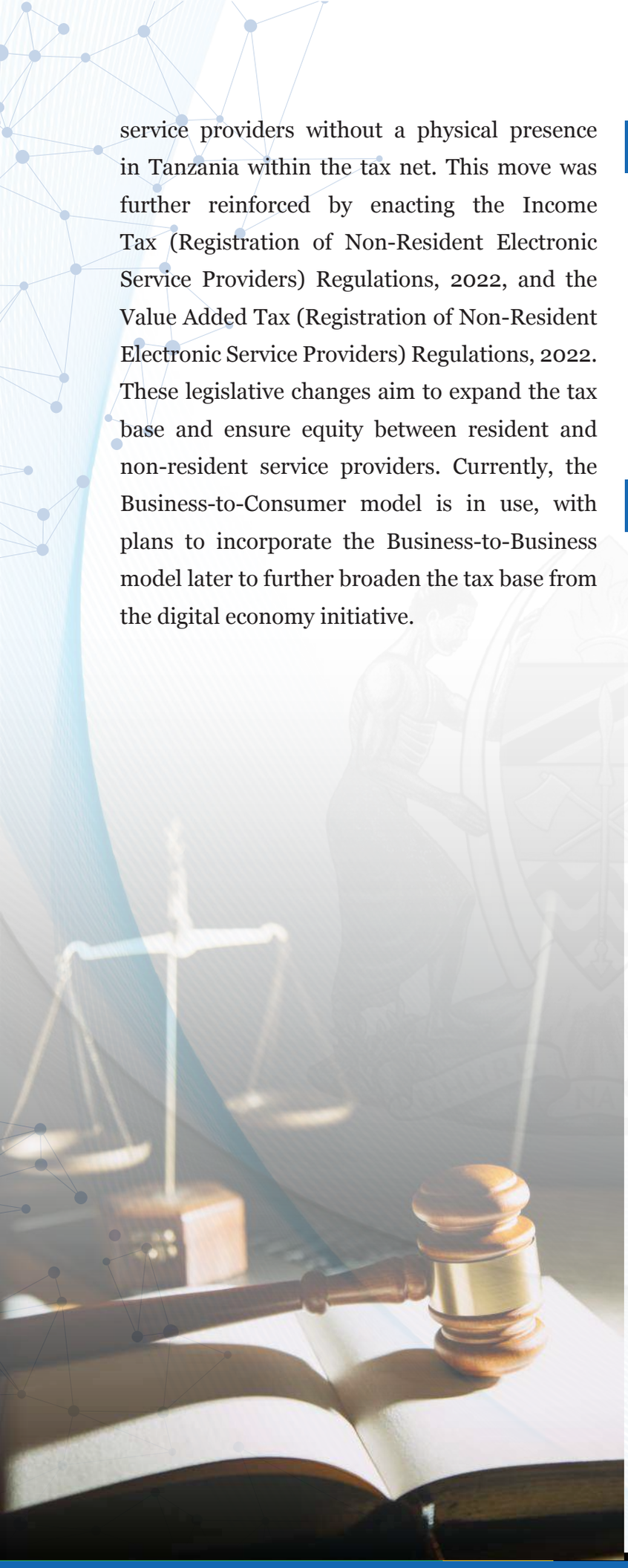
Digital Payments Platforms Regulations: Regulations governing digital payments and financial services ensure the safety, integrity, and transparency of online financial transactions. They cover areas such as electronic payments, digital currencies, anti-money laundering easures, consumer protection in financial services, and the licensing and regulation of digital payment service providers.

Regulations related to digital payment platforms address the roles and responsibilities of online platforms in the digital economy. These regulations may cover issues like content moderation, platform liability, transparency in algorithmic decision- making, ensuring fair access and treatment for users and businesses, and addressing platform monopolies or unfair practices.

Tanzania Digital Economy Strategic Framework desires for a multi-institutional stakeholder approach to digital economy ownership, management, operation and implementation whereby various stakeholders play important roles. The cross-sectorial coordination and implementation arrangement is a key imperative for a successful digital economy.

Digital Tax Legislation: The Government of the United Republic of Tanzania is fostering the growth of the Digital Economy through various initiatives outlined in this framework. It has introduced taxes on non-resident electronic service providers operating digitally in Tanzania via digital platforms. In July 2022, the Finance Act 2022 amended the Income Tax Act, Cap 332, and the Value Added Tax Act, Cap 148, to include non-resident electronic

service providers without a physical presence in Tanzania within the tax net. This move was further reinforced by enacting the Income Tax (Registration of Non-Resident Electronic Service Providers) Regulations, 2022, and the Value Added Tax (Registration of Non-Resident Electronic Service Providers) Regulations, 2022. These legislative changes aim to expand the tax base and ensure equity between resident and non-resident service providers. Currently, the Business-to-Consumer model is in use, with plans to incorporate the Business-to-Business model later to further broaden the tax base from the digital economy initiative.



OBJECTIVE:

- Institutions' capacity essential for operationalization of the digital economy agenda developed.
- Sectorial Policies and Legal Frameworks that are in compliance with national frameworks developed.

STRATEGIES:

- Improve institutional capacity for effective and efficient development of a dynamic digital economy.
- Establish an institutional framework to facilitate the implementation of a thriving digital economy.
- Facilitate and promote the involvement of public and private sector enterprises, social organizations and special interest groups in the implementation of the digital economy strategic framework.
- Review and develop necessary national cross-sectorial policies, laws, regulations, strategies and guidelines to support the development of the digital economy.
- Harmonise national legal instruments with regional and international legal instruments in addressing digital economy issues
- Develop appropriate taxation regime that consider and facilitate digital economy and its business models.
- Develop a policy that promotes interoperability of digital financial services.
- Develop a policy to promote merchant payment and acceptance in the country.
- Develop policies on digital accounts for all and on the unified e-KYC

3.4 Pillar 3: Digital Literacy and Skills Development

Human capital development in the form of digital literacy and skills is essential for creating a skilled and competent workforce, which is crucial for effectively leveraging digital technologies and fostering innovation in the digital economy. Individuals must be equipped with the necessary knowledge and skills in order to exploit and leverage digital technologies effectively.

Both digital literacy and skills development are important in today's digital age. However, they are different concepts, and it is important to understand the difference between these two concepts.

3.4.1 Digital literacy

Digital literacy focuses on an individual's ability to access, understand, evaluate, and utilize digital information and technologies effectively. Digital literacy in the digital economy should be more than just the ability to use computers. To become digitally literate in the digital economy, individual need to develop a range of skills. They need to be able to use technology to search for and create content, solve problems and innovate. It also involves the knowledge, skills, and attitudes required to navigate the digital world or the web, collect information and make informed decisions.

The key competencies associated with digital literacy in the digital economy include basic computer and internet skills, information literacy, online safety and security, and ethical digital behavior. It focuses on building a foundational understanding of digital tools and technologies, as well as the ability to critically analyze and evaluate digital content. Digital literacy and awareness are essential for ensuring that the stakeholders and users of digital systems can understand and participate effective to achieve maximum benefit from digital innovations.

3.4.2 Skills Development

Skills development refers to the process of acquiring and enhancing specific abilities or competencies in a particular area. In the context of digital skills development, it involves training individuals so they can gain proficiency and expertise in using specific digital tools or platforms so they can perform specific tasks or roles within the digital economy landscape.

More specifically digital skills development focuses on practical, hands-on training to perform tasks efficiently and effectively. It can include learning new software applications, programming languages, data analysis, digital marketing, graphic design, video editing, and other specialized digital skills.

In summary, digital literacy is about understanding how to use technology in a meaningful way, while digital skills development is about acquiring the specific digital skills needed to perform a particular task.Both digital literacy and digital skills development are crucial in the technologically driven digital economy; it allows individuals to navigate, engage, and contribute effectively in the digital age.

3.4.3 Essential Digital Skills

In the dynamic digital economy, the quest for digital talent to manage and operate digital platforms is an ongoing challenge. As Tanzania actively embraces the digital revolution, the demand for rare skills is surging, encompassing:

Coding and Programming: Foundational knowledge of coding and programming languages empowers individuals to create websites, develop software applications, and automate tasks, unlocking diverse opportunities in the digital economy.

Data Analysis: Involves collecting, analysing, and interpreting data in the digital economy. Proficiency in data analytics, statistical analysis, and familiarity with tools like Excel, SQL, or data visualization software enables data-driven decision-making, contributing to business intelligence, market research, and data-driven marketing.

Digital Marketing: Encompasses Search Engine Optimization (SEO), social media marketing, content creation, and analytics, vital for individuals promoting products, services, or brands in the digital economy reliant on online marketing strategies.

Cybersecurity: Essential skills to address the rising cyber threats in the digital economy. Understanding cybersecurity concepts equips individuals to protect personal and organizational data, identify vulnerabilities, and mitigate risks in the digital landscape.

User Experience (UX)/User Interface (UI) Design: Focuses on creating intuitive, user-friendly, visually appealing digital experiences. UX/UI design is crucial as digital products or services on digital platforms are designed with users in mind, addressing their needs and preferences, fostering loyalty, and gaining a competitive edge.

Artificial Intelligence and Machine Learning (AI/ML): Crucial for business process automation, AI and ML technologies automate tasks, analyse large datasets, and make predictions or decisions based on patterns and data. Implementation enhances operational efficiency, productivity, and reduces costs.

Predictive Analytics and Forecasting: AI/ML algorithms excel in predictive analytics, analysing historical data to identify patterns and trends. Beneficial in areas like demand forecasting, inventory management, financial planning, and risk evaluation, resulting in enhanced decision-making, cost savings, and resource allocation.

The skills identified above are likely to be possessed by individuals who have had an opportunity to study/pursue an ICT-related programme at university or college at a certificate, diploma or degree level. By the year 2022, the country was producing about 2,200 graduates from universities and degree awarding technical colleges (certificate to degree level) and about 2,000 graduates from technical and vocational training colleges (certificate to diploma levels) in ICT-related programmes.

Meanwhile, about 1.3M primary school pupils, 500,000 secondary school

students, and 110,000 advanced level secondary school students completing studies annually. These data indicate that the number of graduates

in ICT-related programmes at the college and university level is very small compared to the total number of pre-college school graduates who constitute the main workforce in the digital economy. Notwithstanding the above, even graduates from ICT related

programmes miss critical digital skills needed for the active participation in the competitive digital ecosystem.

Accordingly, strategic efforts are needed to increase the number of youths with critical digital skills required for active participation in the digital economy. There is a need to establish a strong foundation for developing critical digital skills by encouraging more students to undertake science, technology, engineering, and mathematics (STEM) education, from lower education levels. Furthermore, it is essential to integrate digital literacy and critical thinking skills into the standard educational curriculum from lower educational levels, covering digital content like coding, data analysis, digital citizenship, and media literacy. Also, there is a need to train ICT officers in emerging technologies and rare skills through short courses and long-term training programmes.

OBJECTIVE:

- Digital-Savvy Society that encourage digital literacy and the adoption of digital practices promoted.

STRATEGIES:

- Promote and facilitate inclusive digital skills and talents through targeted training programmes and educational campaigns.
- Enhance digital knowledge and skills across society, ensuring accessibility and relevance to diverse demographics.
- Promote and engage local digital innovators in national, regional and international events and fora.
- Establish digital institutions and centres to provide skills for digital innovations.
- Strengthen research and innovation initiatives for developing digital skills.
- Promote investments and development of inclusive digital infrastructure and solutions to provide platforms for developing digital skills.
- Promote and facilitate inclusive digital skills and talents through formal education system from lower levels, targeted training programmes, and educational campaigns.

3.5 Pillar 4 : Digital Innovation Culture and Enabling Technologies

Digital innovation and entrepreneurship drive the creation of new businesses, products, and services in the digital economy. It encourages a culture of innovation and promotes entrepreneurial ecosystems. The aim is to actively promote initiatives to develop new digital products, services, and business models, establishment of technology incubators supported by venture capital funding, and the creation of regulatory environment that fosters entrepreneurship to attract domestic and foreign investments.

The digital economy is constantly evolving, and new digital innovations are emerging all the time. Innovation driven entrepreneurship is the bedrock of a robust private sector that facilitates the creation and growth of sustainable businesses. Start-up business models in the digital economy must apply innovative digital technologies to propel economic growth.

These digital ecosystems are central to the way digital businesses operate today, and effective policies to promote this culture. The current government policies and plans provide a framework for the development and growth of the ICT sector and digital economy.

3.5.1 New and Emerging Technologies

The digital economy is propelled by a myriad of digital innovations, including:

- Cloud computing has been a catalyst for the emergence of various innovative business models, among them Software as a Service (SaaS) and Infrastructure as a Service (IaaS).
- Big Data and Analytics involve the analysis of large and complex datasets generated by businesses and individuals. These datasets yield valuable insights into customer behavior and trends, facilitating the process of making well-informed business decisions..
- Cybersecurity innovations are crucial to protect sensitive data and critical infrastructure from cyber threats and attacks, which have multiplied because of digitalization.
- Artificial Intelligence (AI), Machine Learning (ML) and Robotic Process Automation (RPA) are the transformative forces shaping the digital landscape, powering business process automation, fueling product and service innovation, and elevating customer satisfaction. These transformative technologies are enabling businesses to lead the charge in the digital revolution.
- Blockchain has the potential to transform the way we manage financial transactions and the movement of goods around the world, making supply chains more efficient, transparent, and secure. Its ability to track the origin and movement of assets makes it ideal for supply chain management to help ensure the authenticity of goods and anti-counterfeiting applications as well as prevent fraud in financial transactions.
- Internet of Things (IoT) involves connecting everyday devices and objects to the internet,

allowing them to collect and exchange data which can be used to improve efficiency, automate tasks, and make better decisions.

- Next generation 5G is the mobile technology that offers much faster speeds and lower latency than 4G, that enables new applications such as real-time video streaming and remote surgery.

These emerging technologies play an important role in enhancing global economic development. Therefore, Tanzania should not be left behind in embracing opportunities offered by emerging technologies to shape the digital economy of the country.

OBJECTIVE:

Development and use of emerging technologies to accelerate the growth of digital economy promoted.

STRATEGIES:

- Develop capabilities to leverage emerging technologies in the country.
- Promote research & development, application and utilization of emerging technologies.
- Promote adoption of emerging and environmentally friendly digital technologies across all sectors.
- Promote the use of digital trading platforms to support the Blue Economy.
- Develop capabilities in space technology and exploration.

3.5.2 Local Digital Content Creation

Local content generation in the digital economy is crucial as it fosters cultural relevance, community engagement, and economic growth. It allows digital platforms to connect with diverse local audiences on a deeper level by addressing their unique linguistic, cultural, and societal needs. Tailoring content to local contexts enhances user trust, loyalty, and satisfaction, increasing user retention. Moreover, it opens up new market opportunities, promoting market expansion and competitiveness. Local content also plays a fundamental role in preserving and promoting cultural heritage, ensuring that diverse voices and narratives are represented in the digital landscape. By supporting local industries and creators, digital businesses contribute to job creation and sustainable development, fostering a more inclusive and vibrant digital ecosystem. Hence, high-quality local content draws more people online.

In Tanzania, online content is shaped by cultural diversity, economic dynamics, and technological advancements. Reflecting the national culture, content creators produce materials in Swahili and other local languages, showcasing traditional music, storytelling, and visual arts. Economic factors drive content related to business, entrepreneurship, and development, while online platforms also serve as a vital space for addressing social issues such as education, healthcare, and poverty. Adopting digital technology facilitates the creation of diverse content, including entertainment, arts, and educational resources. Additionally, the youth population actively expresses opinions and participates in online discussions, contributing to a vibrant digital landscape that is both locally grounded and globally influenced.

There is still a need to strategise how to address the shortage of content attributed to limited local expertise in content creation.

OBJECTIVE:

To enhance the creation and localisation of online content to foster digital transformation and innovation.

STRATEGIES:

- Enhance the generation and consumption of local content.
- Promote localisation of online content.

3.5.3 Blue Economy

The concept of the blue economy concerns a sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of the marine ecosystem. The country recognizes the immense potential of the oceanic resources surrounding Tanzania and Zanzibar. Also, there are lakes and rivers located in different parts of the country that provide opportunities for economic activities contributing to socio-economic development. The goal of exploring resources in blue ecosystem is to promote effective, efficient and integrated maritime resources management system, taking into account their finite nature; hence creating a thriving digitally-enabled blue economy. Strategically, the country is committed to use digital technologies and solutions to unlock the potentials of blue resources for economic gains.

The current initiatives are focusing in the Indian ocean, great lakes and rivers to take advantage of their economic potentials to generate jobs, enhances food security, promote renewable energy sources, support coastal communities, and protect marine biodiversity. The implementation of the model seeks to foster innovation, use of digital platforms, and knowledge-sharing to support sustainable development of blue industries. Therefore, strategies are brought forward to explore digital platforms to provide opportunities for exporting and improving activities related to aquaculture, maritime trade and infrastructure, harnessing of renewable energy, and maritime tourism.

OBJECTIVE:

A thriving digitally-enabled blue economy expanded.

STRATEGIES:

- Develop digital solutions for enabling blue economy initiatives.
- Undertake research and use of emerging technologies for exploring blue resources.
- Enhance skills of actors for a digitally-enabled blue economy.

3.5.4 Cyber Security

Tanzania has a satisfactory level of preparedness in cyber security considering legal, technical, institutional, capacity, and international cooperation measures. This is demonstrated by the adequate set of cyber security systems, and efficient institutional framework. Further, the Government has put in a lot of effort to address cyber-security issues. This includes the establishment of Computer Emergency Response Team (CERT), the establishment of Cybercrime Unit under the Tanzania Police Force and establishment of Central Equipment Identification Registry (CEIR). Also, the

Government has established an e-Government Security Operations Centre (eGSOC) to coordinate cyber security matters within the public service. Despite these achievements and commitments, on cyber security more effort is required.

OBJECTIVE:

Efficient and effective national cyber security that supports digital economy strengthened.

STRATEGIES:

- Enhance nation's cyber security technical capabilities.
- Strengthen institutional coordination and stakeholder's collaboration to proactively manage cyber risks.
- Enhance protection of National Critical infrastructure, data and information.
- Enhance capabilities for prevention and response against cyber incidents, threats and attacks.
- Strengthen Child Online Protection.
- Promote public awareness and basic skills on cyber security issues.

3.5.5 Startups Ecosystem and Innovation Culture

Startup culture in the digital economy is characterized by a set of shared values and norms that foster innovation and risk-taking. It is often associated with a fast-paced, entrepreneurial environment where failure is seen as a learning opportunity and where success is celebrated. Innovation driven entrepreneurship ecosystems have been providing the bedrock for a robust private sector, by facilitating the creation and growth of businesses.

Fostering a dynamic start-up culture in Tanzania Digital Economy, necessitates the formulation of supportive policies and regulations that promote innovation, encourage entrepreneurship, create a conducive business environment, and ensure fair competition.

The Tanzania Start-up Ecosystem Status Report for 2022 provides compelling evidence of a positive trend within the Tanzania Digital Economy. Notably, there is a significant 15% growth in the number of known start-ups, reaching a total of about 673 in 2022. Additionally, there is a commendable 14.65% increase in job creation by start-ups, resulting in the generation of an impressive 89,509 jobs during the same period.

According to the 2022/2023 budget speeches by the Ministry of Information, Communication and Information Technology (MICT), and the Ministry of Education, Science and Technology (MoEST), the Government of Tanzania actively supported at least 493 start-ups in the financial year 2022/2023. Proper coordination of start-ups requires a reliable and centralized database that enable identification, recognition, protection and sustainability of start-up initiatives that ripple impact on the growth of the subsector.

OBJECTIVE:

Coordination of start-up and innovation ecosystem strengthened.

STRATEGIES:

- Strengthening resources mo bilization for empowering start-ups and innovatorswith digital skills
- Create conducive environment for local and foreign investment in innovation ecosystem development
- Support innovative business models.
- Support the research and training institutions as important social-economic entities in the digital skills developments and utilization of emerging Technologies.

3.6 Pillar 5: Nurturing Digital Inclusion and Accessibility

Digital inclusion in the digital economy refers to ensuring that all individuals and communities have access to and can effectively use digital technologies and resources. It aims to bridge the digital divide and provide equal opportunities for participation and engagement in the digital world. Digital inclusion addresses barriers to access to digital platforms and promoting inclusive programs for marginalized communities and underserved populations. The aim is to ensure that everyone, regardless of their background or location, can participate in and benefit from the digital economy. It's important to note that the goal of an inclusive digital economy is to address the unique challenges and barriers faced by the targeted groups to ensure equal participation. According to Tanzania Demographic and Health Survey, (2022) 0.5% of 58,443 people were reported to have disabilities [hearing, seeing, communicating, remembering (or concentrating), washing (or dressing) and walking (or climbing)].

Digital inclusion encompasses the provision of affordable and reliable access to digital infrastructure, such as internet connectivity, devices (computers, smartphones), and necessary software. This ensures that economically disenfranchised individuals have the means to connect and contribute to the digital economy.

3.6.1 Extension of the Digital Infrastructure for Accessibility

Extending the broadband infrastructure requires the government to make a significant investment in the National ICT Broadband Backbone (NICTBB), which would make internet service widely available and affordable. One option is for the government to provide funding for extending the NICTBB public broadband network, or by providing subsidies to telecommunications companies both TTCL and the major Mobile Network Operators (MNOs).

Another alternative for the government to provided financial assistance to low-income households to help them afford internet service. This could be done through programs which provides discounts or tax exceptions on smartphones and internet service to qualifying households. A program similar to this has been successfully implemented by some of the major MNO to subsidize internet service to university students.

Regulating the telecommunications industry is another weapon that the government has in its arsenal for promoting digital inclusion culture in relation to the digital economy. It is obvious that in the short term, NICTBB will only be accessible in major population centers such as regional and district capitals. Therefore, extension and accessibility of broadband service in rural areas for the foreseeable future would have to be achieved through the deployment of mobile

towers. Therefore, providing additional funding to the Universal Communications Service Access Fund (UCSAF) is another option that would generate quick digital economy inclusion results, hence it operationalization should be prioritized.

In addition, the government should also create enforceable policy measures that includes compelling all major mobile network operators to support shared use mobile towers to drastically reduce service deployment costs in rural regions

3.6.2 Inclusion of People Living with Disabilities

The inclusion of people with disabilities in the digital economy refers to ensuring equal access and participation of individuals with disabilities in the various aspects of the digital world, such as employment, education, entrepreneurship, e-commerce, and communication. It involves creating an inclusive environment where people with disabilities can fully leverage digital technologies, platforms, and services to enhance their opportunities, independence, and overall well-being.

The UN Convention on the Rights of Persons with Disabilities (CRPD), adopted by the UN General Assembly in 2006, is the key international treaty that comprehensively addresses the rights and inclusion of persons with disabilities. It outlines the fundamental rights and principles that should guide the inclusion of persons with disabilities in all aspects of society

OBJECTIVE:

Framework that nurture and embrace an inclusive digital economy developed.

STRATEGIES:

- Strengthen resources mobilization for empowering special groups in society with digital skills.
- Enhance e-services and assistive devices for an inclusive digital economy implementation.
- Enhance local participation in digital economy including diversified groups
- Promote locally developed digital content and initiatives that are inclusive of diverse groups and gender parity.

3.7 Pillar 6: Digital Financial Services

Digital Financial Services (DFS) among other things include online banking, mobile payments, digital wallets, peer-to-peer lending and money remittances. To enable the digital economy, several digital financial services are essential to support digital businesses and e-Commerce, facilitate secure and efficient digital transactions and promote financial inclusion in real economy. To facilitate the delivery of DFS, this pillar addresses various components of online financial services ranging from DFS infrastructure, interoperability, access, usage and consumer protection.

3.7.1 Development of Digital Financial Services Infrastructure

The government in collaboration with the DFS providers works to set up platforms that can facilitate digital transactions to the public for both domestic and cross border. These platforms include online banking, mobile banking, mobile applications, remittance platforms, online lending/microfinance platforms, online payment gateways, online gaming (include Casinos, Sports Betting and SMS Lottery), online investment, instant payment and trading platforms. These services enhance convenience and flexibility for consumers and facilitate cashless transactions. The government in collaboration with other stakeholders will enhance the existing and deploy new infrastructures that promote efficiency and integrity of the digital financial systems.

3.7.2 Interoperability in Digital Financial Services

Economic sectors must be linked with the financial sector to facilitate DFS that will increase the need of interoperable digital services. Interoperability allows customers to transact outside the network created by their financial services provider (FSP) and helps consumers to transact seamlessly. This facilitates transfer of funds or payments from an individual, business of one financial service provider to an individual, merchant or business of another financial service provider. In addition, interoperability requires technology to be optimized to ensure security, encourage use and promote innovation and reliable services.

In order to increase the landscape with respect to access and usage of high-quality formal financial services and products in Tanzania, collaboration between multiple players in digital financial services, including public and private sector stakeholders, needs to be strengthened

The Government of the United Republic of Tanzania promotes interoperability and open access to DFS infrastructure to harness seamless ways of conducting business and user convenience. Recent notable initiatives in Tanzania include the use of Jamii Namba on accessing digital financial services

3.7.3 Access and Usage of the Digital Financial Services

The government works to promote access and usage of formal digital financial services to a wider population as part of efforts to enhance financial inclusion. A key enabler for universal access to digital financial services is a National Electronic Know Your Customer (eKYC) enabled by Jamii Namba. eKYC will integrate various digital identity platforms including National Physical Addressing (NaPA) system, National ID system, Taxpayer identification system, hence facilitating financial transaction services.

3.7.4 Financial Consumer Protection and Literacy

The government implements robust consumer protection measures to build trust in digital financial services and mechanisms for dispute resolution and recourse in case of fraudulent activities and provide digital financial services at an affordable price. Further to increase usage of digital financial services, the Government ensures fair market conduct, consumer literacy and accessible complaints mechanisms.

3.7.5 Digital Commodity Trading Exchange Platforms

The future in agricultural products marketing in the digital economy lies in bringing in additional stakeholders in the Tanzania Commodity Trading Exchange (CTE). CTE is a marketplace where buyers and sellers of commodities can trade standardized contracts. Commodities are raw materials or agricultural products that are traded on an exchange.

Commodity exchange platforms are complex ICT systems that provide a transparent and regulated environment for participants to conduct trading activities. They establish rules and regulations governing the trading process, including contract specifications, and settlement procedures. The aim is to ensure fair and efficient price discovery by facilitating the interaction of supply and demand forces.

One of the commodity trading exchange is the Tanzania Mercantile Exchange (TMX). It is a public-private partnership entity that is regulated by the Capital Markets and Securities Authority (CMSA) under the Commodity Exchanges Act, 2015. The TMX provides a platform for buyers and sellers of commodities to trade in cashew nuts, sesame, cocoa, lentils, and green grams. Under the digital economy, it is necessary and essential to increase the number of commodities traded on the TMX for the benefits of buyers and sellers in Tanzania, including new commodities such as:

- Agriculture: Maize, Sugar, Coffee
- Metals: Iron Ore, Copper, Graphite
- Energy: Coal, Natural Gas

3.7.6 Revenue Monitoring at the Source

The Tanzania Revenue Authority (TRA) can enhance its capacity to monitor online transactions and effectively collect taxes, ensuring that the government secures the necessary resources to finance crucial public initiatives. The TRA roadmap for implementation of digital initiatives has identified several initiatives involving the enhancement of the taxation system in support of the Digital Economy. The vast majority online payments for products and services are conducted through mobile channels. Therefore, the ability to monitor and track mobile money transactions directly from the source would allow TRA to increase tax revenues significantly by eliminating tax leakages.

TRA's domestic revenues collection system that has been upgraded to support the Tanzania Unique Digital Identified introduced under the digital economy initiative. allows TRA to associate each mobile transaction with individuals, i.e. the payment source, and classify these payments for tax eligibility. This goal can be achievable by employing the latest technological solutions to track revenue collection at the source such as Artificial Intelligence (AI), Machine Learning (ML) and Robotics Process Automation (RPA). The expected outcome is a significant enhancement of TRA revenue for many mobile money transaction services such as online betting that currently depend on self-tax declaration.

OBJECTIVE:

Inclusive, secure and sustainable digital financial services to support economic activities developed.

STRATEGIES:

- Facilitate effective use of digital technology platforms across MSME's
- Accelerate digital industry development related to business and commerce.
- Promote development and utilization of digital financial services and products to support businesses and citizens.
- Promote digital commodities exchange in all sectors of economy.
- Review and develop interoperable infrastructure between digital financial services providers to offer additional products and services, and faster settlement.
- Develop cyber security risk management framework for digital financial services.

CHAPTER 4

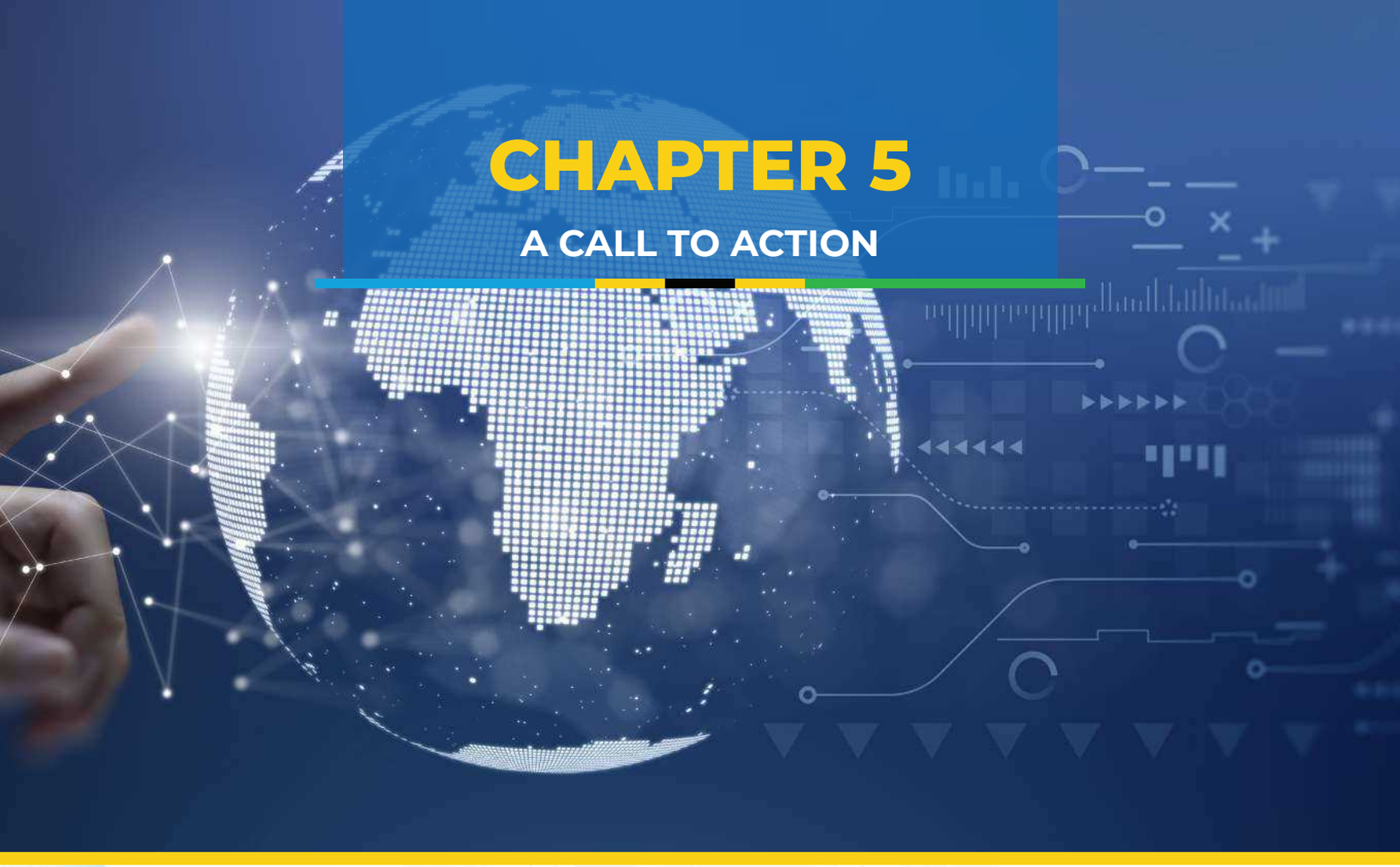
MONITORING AND EVALUATION

This is critical initiative towards ensuring implementation and achievements of objectives, strategies, and targets in the DESF 2024-2034. In a nutshell, monitoring and evaluation initiatives subscribe to the following objectives.

- To facilitate review of the implementation and performance of the framework at the inputs, processes, outputs and impact indicators levels, using quantitative and qualitative data and information;
- To provide feedback and information on lessons learnt for updating the framework, management, controlling and implementation; and
- To provide reports with data and analyses to inform all stakeholders and decision-makers at different levels of private sector, government and non-government institutions.

Sector Ministry will be responsible in developing the implementation matrix as per the pillars outlined in this framework. Monitoring process of this framework will involve all the Ministry in the Public Sector in its sector/area that have been mandated to nurture. Each Ministry will develop a monitoring framework to cater for development made in their respective sector and submit the reports to MICIT for consolidation.

Methodologically, the monitoring and evaluation initiatives under this DESF 2024-2034 will base on data and information to be gathered through regular internal reviews, and consultations at national, ministerial, regional, district and ward levels involving both public and private sector participants. Monitoring of the implementation will be undertaken annually, whilst the reviews of the framework will be done triennially. The Strategic Implementation Matrix (Annex B) provides for objectives, strategies, targets based on the indicators and coordinators of their implementation. The Strategic Implementation Matrix will be informed by the baseline data to be compiled in the upcoming baseline survey reports for benchmarking of the indicators in the same. The baseline survey will involve participants from national, regional and global households, private sector entities, development partners, and public Institutions.



CHAPTER 5

A CALL TO ACTION

Tanzania, like many other countries globally, has witnessed a rapid growth of the ICT, Telecommunications and other sectors due to the convergence of technologies in telecommunications, broadcasting and computer technologies and the internet. The growth of digital technologies has significant economic, social, political and cultural implications. These technological advancements have led to the fourth industrial revolution (4IR). For Tanzania to have significant economic development there is a need to develop an inclusive digital economy Strategic framework that will also enable the country to swiftly move to 5IR.

This framework proposes a national digital economy objective whose main aim is to enable Tanzania become an upper- middle-income country status and continue with transformation of becoming an industrial country with a high human development and a high standard of living. The vision is to transform Tanzanians through cutting-edge, supportive, and affordable digital technologies, solutions and skills in all areas of socio-economical activities. The mission is promoting a resilient, dynamic and inclusive digital economy that supports and uplifts every individual The main objective is to accelerate socio-economic development with the potential to transform Tanzania into a competitive digital-driven middle-income economy and society.

A multi-stakeholder approach to digital economy implementation must exist with

various stakeholders who will play important roles. The URT and RGoZ governments will develop necessary policy, legal, regulatory and institutional systems necessary to support the development of an inclusive digital economy in all sectors by all social economic entities. The overall inter- ministerial institutional framework will monitor, control and evaluate implementations through the various government ministries, departments and agencies. The Tanzanian private sector enterprises will be the primary drivers of digital economy across digital infrastructure, financial services, digital platforms, entrepreneurship, skills and values. The roles of society including non-state actors, private and the public institutions are complementary to each other. Insights, actions and collaborations from all stakeholders are pivotal in shaping and understanding the impacts of digital economy in Tanzania.

Tanzania has a stable political will, peace and stable political atmosphere for sustainable digital economy development. The Framework recommends the need for each sector to review their current policies, laws and regulatory systems with intentions of making them digital economy-compliant. The vision of a digital regulatory framework must take cognizance of the fact that digitization is a business and productive project, and accordingly, an enabling environment must be provided for the development of enterprising investments, product innovation and new data-based services. All digital business models should be part of open, transparent and innovative competitive economic systems.

The digital economy journey should take a national approach and therefore it is recommended to be coordinated centrally by the government. Tanzania Digital Economy Strategic Framework requires the setting up a user-friendly environment for digitization to improve the visibility of available public and private financial resources, new budget systems and for reaching out to a broader range of prospective digital economy recipients in all public and private institutional organizations.

ANNEXURE-A
GLOSSARY

Term	Meaning
3D printing (Three-dimensional printing)	An additive manufacturing process that creates a physical object from a digital design created on a digital platform, like a computer. The process works by laying down thin layers of material in the form of liquid or powdered plastic or metal or cement, based on the design requirements and then fusing the layers together
AGENDA-2063	A strategic framework of the African Union for the socio-economic transformation of the continent over the next 50 years. It builds on, and seeks to accelerate the implementation of past and existing continental initiatives for growth and sustainable development.
Artificial Intelligence (AI)	The simulation of human intelligence processes by machines, i.e., the science of making digital machines that can think like humans. The goal is to be able to do human-like things like recognize patterns and make decisions.
Basic Facilitative Infrastructure	Includes roads, railway lines, gas and water pipes, electricity networks, ports, airports, public buildings and National Physical Addressing (NaPA) are important infrastructure for digital economy infrastructure
Big Data Analytics	The process of examining large amounts of raw data to uncover trends, hidden patterns, and correlations, which can help make informed decisions.
Block Chain	A shared, immutable ledger that facilitates the process of recording transactions and tracking assets in a business network. An asset can be tangible (a house, car, cash, land) or intangible (intellectual property, patents, copyrights, branding). Virtually anything of value can be tracked and traded on a blockchain network, reducing risk and cutting costs for all involved.
Broadband Backbone	A high-speed data transmission link that provides networking facilities and constitutes three main components: (1) The backbone - large fiber optic pipes, often buried deep underground that are the main data routes on the internet and the primary path for internet traffic between and within countries; (2) The middle mile also known as the “backhaul” - the part of a broadband network that connects the backbone to the last mile; and (3) The last mile - the segment of a broadband network that connects a local internet service provider to a customer, such as via a cable line or WiFi to the customer physical location.
Business Process Outsourcing (BPO)	Aa business practice in which an organization contracts with an external service provider to perform an essential business function or task.
Cashless Economy	An economy in which digital transactions such as internet banking, mobile banking, digital wallets, debit cards, and credit card payments replace traditional methods of payment such as cash or coin
Cloud Computing	Constitutes the delivery of computing services—including servers, storage, databases, networking, software, analytics, and intelligence—over the internet (“the cloud”) to offer faster innovation, flexible resources, and economies of scale.
Critical Information Infrastructure (CII)	Material and digital assets, networks, services, and installations that, if disrupted or destroyed, would have a serious impact on the health, security, or economic well-being of citizens and the efficient function of a country’s government.”

Crowdfunding	The process of raising money from a large number of individuals, each contributing a relatively small amount usually through a digital platform, to finance a new business venture or project.
Cybersecurity	The practice of protecting systems, networks, and programs against the criminal or unauthorized use of electronic data and other forms of digital attacks. These digital attacks are usually aimed at accessing, changing, or destroying sensitive information; extorting money from users via ransomware; or interrupting normal business processes.
Digital innovation	The adoption and application of modern digital technologies by a business. This is implemented in a strategic manner to improve business operations, cre-ate new products and/or services to meet market de-mands.
Digital Currency	Also known as digital money, it refers to a form of cur-rency used as a means of payment that exists in a purely electronic form.
Digital Economy	This is the worldwide network of economic activities, commercial transactions and professional interactions that are enabled by information and communications technologies (ICT). It can be succinctly summed up as the economy based on digital technologies
Digital Inclusion	This is the equitable, meaningful and safe access to use and design of digital technologies, services. It includes associated opportunities for everyone, everywhere. It also the ability of individuals and groups of people to access and use information and communication technologies
Jamii Data Lake/ Ngorongoro Data Lake	A storage repository that holds a vast amount of raw data in its native format until it is needed for analytics applications. While a traditional data warehouse stores data in hierarchical dimensions and tables, a data lake uses a flat architecture to store data, primarily in files or object storage. That gives users more flexibility on data management, storage and usage
Digital Disruption	The change caused by, directly or indirectly, the development of new technologies that modify business models to make them more valuable.
Digital Marketing	Also called online marketing, is the promotion of prod-ucts or services to connect with potential customers using the internet and other forms of digital communication. This includes not only email, social media, and web-based advertising, but also text and multimedia messages as a marketing channel.
Digital Transfor-mation	The process of using digital technologies to create new — or modify existing — business processes, services, culture, and custome r experiences to meet changing business and market requirements and alter how value is delivered to clients
Digitalization	The use of digital technologies, digitized information and data, to generate revenue, improve and streamline processes with efficiency. It is also to foster businesses where digital information is at the center of everything. At its best, it enhances productivity while cutting down on costs and overhead.
e-Commerce (electronic commerce)	The buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the internet. These business transactions occur either as business-to-business (B2B), business-to-consumer (B2C), consumer-to-consumer or consumer-to-business.
e-Ready	The capacity and state of preparedness to participate in the electronic world
e-Services (electronic services)	These are services which make use of information and communication technologies (ICTs). The three main components of e-services are: service provider; service receiver; and. the channels of service delivery (i.e., technology

e-waste	Discarded electronic appliances such as mobile phones, computers, and televisions
Jamii X-Change	Jamii Data Exchange is a secure seamless data exchange and consent system.
FabLabs (Fabrication Laboratory)	Also known as a digital fabrication laboratory, is a place or workshop offering digital fabrication. It is a place to create, to learn, to mentor and to invent, i.e., a place for learning and innovation.
Fintech	Formulated from the words “financial” and “technology”, it refers to any application, software, or technology that allows people or businesses to digitally access, manage, or gain insights into their finances or make financial transactions
Government electronic Payment Gateway	A centralised system, connected to all available elec-tronic revenue collection channels for the purpose of facilitating electronic money transactions from the public to the government and vice versa.
Infrastructure as a Service (IaaS)	A type of cloud computing service that offers essential compute, storage, and networking resources on demand.
Internet exchange points (IXP)	A physical technical infrastructure location where net-works come together to connect with each other to ex-change internet traffic. For example, it allows Internet Service Providers (ISPs), mobile operators, Content De-livery Networks (CDNs) to connect.
Knowledge Economy	This is a system of consumption and production that is based on intellectual capital. In particular, it refers to the ability to capitalize on scientific discoveries and applied research.
One Stop Service Center	A physical site with a service structure, which provides the citizen with a number of services and benefits in a single location instead of the traditional responsibility service delivery by multiple entities at different locations
Public Key Infrastructure (PKI)	A technology that uses digital certificates as a security mechanism that proves the identity of the user. It has a set of roles, policies, hardware, software and proce-dures needed forming internet encryption and it is used to secure and authenticate traffic between web browsers and web servers. It can also be used to secure access to connected devices and internal communications within and external to an organization
Software as a Service (SaaS)	A method of software delivery and licensing whereby software is accessed online on a subscription basis.
Rights of Way	The legal permission established by usage or grant to pass along a specific route whether public or private property belonging to another party. The route can be a road or any type of land or water body.
Sustainable Development Goals (SDGs-2030)	Adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.
User Interface (UI)	The point of human-computer interaction and communication in a device. This can include display screens, keyboards, a mouse and the appearance of a desktop
Wireless broadband (WiBB)	This is a high-speed internet and data service delivered through a wireless local area network (WLAN) or wireless wide area network (WWAN), which can be either fixed or mobile

ANNEXURE-B
STRATEGIC IMPLEMENTATION MATRIX

PILLAR 1: ENABLING DIGITAL INFRASTRUCTURE

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
Resilient basic facilitative and integrated infrastructure required to support the sustainable development of the digital economy enhanced.	1. Strengthen basic facilitative and integrated infrastructure to accommodate fast growing digital economy.	Existing and newly developed grassroot service delivery points (such as schools, health centers, police stations, youth centres, person with disabilities rehabilitation centers, marketplaces, etc.) are adequately provided with electricity and internet services for effective utilization of digital solutions (e-readiness) in service delivery and an inclusive digital economy.	90% of Government Delivery Points at National level with e-Ready environment in place by June, 2029.	Percentage of Public infrastructure with e-Ready environment.	**MICIT**, Public Sector & Private Sector
		Design and develop 10 Smart Cities	Service delivery in 10 cities digitalized by June, 2029	Number of Smart Cities developed. Number of services digitalized	
		Develop National Standards and Guidelines for ICT Readiness in Public Infrastructure.	National Standards and Guidelines for ICT Readiness in Public Owned Infrastructure developed and operationalized by December, 2026.	National Standards and Guidelines for ICT Readiness in Public Infrastructure in place.	
		Develop and facilitate Special Economic Zones (SEZs) with facilities to accelerate digital economy.	50% of Special Economic Zones (SEZs) with e-ready facilities in place by June, 2026.	Percentage of digital industrial infrastructure developed	

1. Bolded Ministry will lead on the implementation of Sectorial Initiative
2. Ministry will lead implementation and whenever necessary will liaise with its Agencies.

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
		Enhance boarder market infrastructure, traceability, quality of goods and services for export market.	50% of border markets infrastructure enhanced by June, 2026.	%age of market infrastructure developed and utilized.	
		Increase infrastructure for power (electricity) generation, transmission, and distribution.	Total grid installed capacity increased from 1,605.86 MW to 4,915 MW by June, 2026. Distance of electricity transmission lines increased from 6,110.28 km to 9,351 km by June, 2026.	Number of Megawatts produced. Number of kilometres of electricity transmission and distribution networks constructed.	
		Improve the provision of electricity services to customers by installing digitalized services and devices.	20% of smart grid improved by June, 2026. 90% of Unified Call Centre under TANESCO strengthened and enhanced - by June, 2026. Number of customers connected to electricity through Nikonekt portal increased from 661,000 to 3,000,000 by June, 2026.	% of unmanned substations operated % of efficiency enhanced Number of customers connected through Nikonekt portal increased.	
		Digitalize transportation infrastructure facilities to improve service delivery.	90% of transportation services are digitalized by June, 2026.	% of transportation services which are digitalized.	
	2. Promote and facilitate development and operationalization of a pay-once and dig-once fiber optic rollout to reduce cost.	Ensure cross-sectoral infrastructure sharing and co-deployment of fibre-optic cables with other utilities such as roads and railways, power grids and oil and gas pipelines.	90% of broadband new physical infrastructure shared by June, 2028.	Seamless interconnectivity regime and an Open Access Infrastructure sharing framework in place.	**MICIT**, Public Sector & Private Sector

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
	3. Enhance deployment of basic facilitative and integrated infrastructure that support inclusive digital economy countrywide.	Examine existing policies, laws and regulations of Works and other utilities infrastructure with a view to provide cost efficient RoW in rural and urban road reserves.	Harmonized Legal Framework by June 2024.	Number of Harmonized deployments of infrastructure Policies/ Regulations / Laws.	**MICIT**, Public Sector & Private Sector
		Enhance electricity connectivity to wider coverage of villages in Tanzania.	12,345 villages in Tanzania mainland are connected with electricity by June, 2026.	Number of villages connected	
		Increase level of electricity access to the population.	Overall access of electricity increased from 78.4 percent to 85 percent by June, 2026	%of population with access to electricity.	
		Ensure all regions in Tanzania Mainland are connected to National Grid.	All off-grid regions connected to the National Grid by June, 2026.	Number of off-grid/isolated regions connected	
		Promoting energy alternatives including renewable energy such as solar, wind etc. to enhance diversification of energy mix.	8% of Total energy of renewable energy generated from alternative energy sources by June, 2029.	% of megawatts generated from alternative energy sources	

OBJECTIVES	STRATEGIES	NATIONAL/ SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
Ubiquitous national connectivity and storage infrastructure developed and strengthened.	1. Improve conducive environment for ICT infrastructure development.	Examine the legal and regulatory frameworks with a view to encourage fresh sources of capital and financing of ICT infrastructure and access to broadband services.	Legal and regulatory frameworks reviewed and developed by June, 2025	number of legal and regulatory frameworks reviewed and developed	**MICIT**, Public Sector & Private Sector
		Develop National Digital Infrastructure Programme	80% of MICIT development budget support digital infrastructure investment by June, 2026	National Digital Infrastructure Programme in place	
			80% of Public Places supplied by Public WiFi by June, 2028	% of Public Places connected by free Wifi	
		Develop guidelines for learning Institutions to finance ICT infrastructures for accessing broadband services	100% of learning institution in Tanzania to have in place ICT infrastructure for accessing broadband services by, June 2029	% of private learning Institution with ICT infrastructure for accessing broadband services	
		Support local R&D, investment in Manufacturing of ICT equipment and its end life management.	100% of Institutions ICT infrastructure improved for delivering automated business process by June, 2030	Number ICT equipment produced in the Country.	
		Mobilization of funds by Public Institutions for putting in place ICT infrastructure to support automation of business process	100% of Institutions ICT infrastructure improved for delivering automated business process by June, 2029	Number of institutional ICT infrastructure installed to support automation of business process	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
		Develop reliable digital public infrastructure as services distribution channels	90% of Sectors with all digital public infrastructure as Service distribution channels by June, 2029	% of sectors with all Service distribution channels	
		Strengthen infrastructure to support Financial digital services	Integrated ICT systems in insurance subsector developed and implemented by June, 2030	Number of ICT systems developed and integrated	
		Mobilize resources for developing effective and efficient national digital infrastructures for Management of Arts and Culture activities sector	Digital infrastructures for Management of Arts and Culture activities and produced by June 2030	Number of Digital infrastructures for Management of Arts and Culture activities and produced	
	2. Ensure availability, accessibility, reliability, safety, and affordability broadband services countrywide.	Extension and expansion of National ICT Broadband Backbone	All wards connected by Optic Fibre by June 2029; NICTBB capacity expanded to 10Tb by June 2028	Number of wards connected	**MICIT**, Public Sector & Private Sector
		Investment for Submarine Cables increased	Three (3) Landing station and 2 submarine cables deployed by 2028	Number of Submarine Cable and Landing station deployed	
		Promote National Data Centres	Four (4) Tier 3 and One Tier 4 Data Centres developed by June 2025	Number of Data Centers	
		Provide incentives to ensure "Communication for all" is achievable in rural and underserved areas	95% of the country is covered by broadband communication by 2026.	% of broadband communication coverage.	
		Deploy community network in order to connect the unconnected in the rural and underserved areas.	Regulatory framework that encourage development and deployment of Community Network in place by June, 2025.	Regulatory framework for development and deployment of community network in place.	
			200 awareness programs on community network modal produced by June, 2028.	Number of awareness programs on community network.	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
	3. Strengthen protection of the national critical infrastructure, data and information.	Collaborate with stakeholders in identification and strengthening protection of Critical Information Infrastructure	Develop and operationalize National Critical Information Infrastructure (CII) guidelines by June 2024	National Critical Information Infrastructure (CII) are Identified and Protected.	**MICIT**, Public Sector & Private Sector
			National Public Key Infrastructure (PKI) developed and operationalized by June 2027	National PKI developed and operationalized	
		Establish frameworks for protection of the nation's critical information infrastructures	Frameworks for protection of the nation's critical information infrastructures developed by June, 2029.	Number. of new Policies, laws on protection of the nation's critical information infrastructures developed.	
	4. Enhance public and private network for efficient service delivery.	Implement and maintain Government Network (GovNet) and Internet Bandwidth infrastructure for public institutions. Ensure flexible and capable data centre infrastructure that are easily adopt new changes and new component addition.	GovNet bandwidth to all MDAs and LGAs increased to 50 Gbps by June, 2026. Ensure Government Data-centres and Disaster recovery sites accommodate all e-Government systems and data by June,2027 (Enhance and optimize Government Data Centre (GDC) services and its replications on Disaster Recovery (DR) Site Government Data Centre (GDC) services enhanced and optimized to 90% by June 2029.	% of public institutions with reliable, safe and affordable broadband internet services by June 2026. % e-Government systems and data stored in Datacentres by June, 2027. % of Government Data Centre (GDC) services enhanced and optimized.	**MICIT**, Public Sector & Private Sector

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
		Establish interconnection between Local Government institutions and other Government institutions	90% interconnection between Local Government institutions and other Government institutions achieved by 2029 75% of public schools, Local Government Hospitals, Health centres and dispensaries are connected to PO-RALG WAN and using centralized ICT resources by June 2029.	% of government institutions interconnected	
		Consolidate and Improve GovNet infrastructure	184 LGAs and 600 MDAs with installed structured LAN and connected to GovNet by June 2026	Number of LGAs and MDAs with installed structured LAN and connected to GovNet	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
		Expand coverage of GovNet to all LGA and MDAs facilities/service delivery points.	90% of District and Regional hospitals connected to GovNet by June, 2029. 80% of Government secondary schools installed with internet services by June, 2029. 90% of district and regional courts connected to GovNet by June, 2029. 1000 Agriculture Extension Resources Centres connected to GovNet by June, 2029. 90% of Higher Learning Government Institutions connected to GovNet by June, 2029. 26 Land Regional offices connected to GovNet by June, 2026.	% of District and Regional hospitals connected to GovNet % of Government Secondary Schools installed with internet services % of district and regional courts connected to GovNet Number of Agriculture Extension Resources Centers connected to GovNet % of Higher learning Government Institutions connected to GovNet % District and Regional Offices connected to GovNet	
		Ensure all justice institutions have reliable and sustainable digital infrastructure that support e-justice service delivery.	90% of justice institutions have reliable digital infrastructure that support e-justice service delivery by June, 2028.	%of justice institutions having reliable and sustainable digital infrastructure that support e-justice service delivery	
		Create conducive Environment for both local and foreign investment in participating in reliable market for Livestock and Fisheries.	Design and development of Livestock and Fisheries Portal information system by June 2029	Livestock and Fisheries Portal information system operational	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
		Develop, integrate and maintain National Project Management Information Systems (NPMIS)	NPMIS integrated to all implementing agencies information systems by June, 2026	Number of implementing agencies connected in the NPMIS	
		Expansion of "One Stop Service Centre" countrywide (Jamii Center)	31 Jamii Centres established and operationalize by June 2026	Number of Jamii Center established Centers	
		Establish and Enhance digital services in One stop Boarder Posts (OSBPs)	All boarders are to be connected with broadband infrastructure by June 2026	Number of boarders connected to broadband infrastructure	
		Enhance National Physical addressing and postcode system (NaPA)	100% of households are using physical address and postcode system by June 2026	% of households using physical address and postcode system	
		Create conducive Environment for Both local and foreign livestock and Fisheries stakeholders to Register, request permit and License through e-permit, and e-licensing.	To facilitate design and development of livestock and Fisheries Portal information system by June 2026	Livestock and Fisheries Portal information system in place.	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
	5. Enhance and sustain inclusive e-service delivery including utilizing data to improve government services.	Develop an online platform / Dashboard that allows Citizens, stakeholders and interested parties to interact with land related Services	An online platform / Dashboard developed and operationalized by June 2025	A functional online platform / Dashboard in place	**MICIT**, Public Sector & Private Sector
		Customize ILMIS to Regional and District Land offices	Roll out ILMIS to 23 regions and 96 District Land offices by 2024	Number of regional and District Land offices using ILMIS	
		Finalize ILCMIS to District Housing Land Tribunal	To Roll out ILCMIS to 139 District Land Tribunal by 2024	Number of District Land and Housing Tribunal using ILCMIS	
		Develop a tools for maintaining navigational maps	Tool for Navigational maps developed by 2024	Navigation Map in place	
		Develop Base maps Digitize delivery of public services to citizens at all levels (councils, mtaa/ village, facilities	Base maps developed by 2025	Base maps in place	
		Roll out information systems such as financial, health and education systems at all levels of Local Government Authorities	90% roll out of information systems (FFARS, PlanRep, LGRCIS/ TAUSI/TeRMIS, GOTHOMIS, SIS, TPLMIS) systems to 26 Regions, 184 LGAs, District Hospitals, Health centers, dispensaries and Public schools by June 2029	% of public services digitized and delivered at Local Government Authorities	
		Facilitation of Government institutional systems with hosting services at the GDC and DR Sites	90% of Government institutional systems facilitated with hosting services at the GDC June 2029	Number of LGAs institutions in-stalled with Gov-ernment systems; and operational-ized	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
			90% of critical system replication to DR tested by June 2026	% of critical system replication to DR tested % of Government Information Systems facilitated with hosting services at the GDC	
		Develop National Minerals Database	National Minerals Database developed by 2026	National Minerals Database in place	
		Development of e-Government payment and Revenue collection systems	90% of e-Government payment and revenue collection systems integrated into sectoral systems by 2029	% of e-Government payment and Revenue collection systems integrated	
		Strengthen the use of ICT in Auditing Processes	90% of Audit processes automated in MDAs, RSs, LGAs and other Public Sector Entities (PSEs) by June 2029.	% of PSEs with functional automated project management and audit processes	
		Establish digital police and immigration services (Loss Reports, Traffic Offence Management, Passport, Visa and Permits etc.)	90% of police services digitalized by June, 2029 90% of immigration services/processes digitalized by June, 2029	% of police processes digitalized % of immigration services/ processes digitalized	
		Develop an online Women and Leadership database in order to facilitate Women access to social-economic opportunities	An online Women and Leadership platform developed and operationalized by 2025	Operational Women and Leadership platform	
		Strengthen NGOs Information management System for effective registration Monitoring and facilitate them to improve service delivery	Improved NGOs Information management System by June, 2025	NGOs IMS Operational by June 2025	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
		Develop a Comprehensive Community Development sector information management system to facilitate online registration and monitoring of Ministry services to the public	A Comprehen- sive Community De- velopment sector information man- agement online system es- tablishedby June, 2029	Operational Community De- velopment sector information man- agement in place	
		Develop an integrated Information system for Talent Registration, Storing and Trucking	Integrated Information System for Talent Management developed by June, 2029	One stop center for Talent Man- agement in place	
		Implement Sports Technologies in stadium	Sports technologies in % of stadium implemented by June, 2029	% of stadium implemented with sport technologies in place	
		Develop Hospital Management Information System (Electronic Medical Records)	90% of the facilities primary to national level using electronic data system by June, 2029	% of the facilities primary to national level using electronic data system in place	
		Develop Electronic System for Registration of Health facilities	90% of health facility registration using the system by September 2025	% of health facility registration using the system.	
		Deployment of single digital community system for all community intervention	90% of health facility registration using the system by September 2025	% of health facility registration using the system by September 2025	
		Promote the installation of Prepaid and Smart Water Meters for effective utilization of digital solutions in service delivery and enhance revenue collections in the Water Sector (WSSAs, BWBs, CBWSOs)	90% WSSAs and CBWSOs adopted Prepaid and Smart Water Meters by June 2029	% of WSSAs and CBWSOs that have adopted Prepaid and Smart Water Meters	
		Modernizing hydro meteorological stations in real time monitoring	Modernized Hydro meteorological stations by June 2029	Number of Mod- ernized hydro meteorological stations in place	
		Digitalize Water Supply Infrastructure facilities in monitoring and control NRW	50% of Water Util- ities infrastructure digitized by June 2029	% of Water Utili- ties infrastructure digitized	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
		Develop Management Information System to ensure optimal use of trans- boundary water resources to meet rapid increasing social, economic and environmental demand	Strengthened cooperation and collaboration among riparian states on data and information exchange by June 2027	Number of management information systems developed and op- erational in place	
		Enhance the use of Maji Mobile pplication/ dashboard to allow citizens to interact with water related services	Maji Mobile Application/ Dashboard enhanced by June, 2024	A functional Maji Mobile Application/ Dashboard in place	
		Develop and implement Unified Prepaid Water Meter Management Application and Integrate with MAJIIS	Unified Prepaid Water Meter Management Application developed by June, 2028	Functioning Prepaid Meter Management Application System in place	
		Development of centralized database for coordination of water resources management and water supply services	90% WSSAs, BWBs, NWF, RUWASA using sector dashboard to report status of water projects and services country-wide by June, 2025	% of Water sector institutions connected to a central database for data collection and reporting	
		Automation of Water Laboratory Services in all 17 Water Laboratories in Tanzania Mainland	Number of Water Laboratories automated laboratory services by June, 2029	% of water laboratory services automated	
		Develop WRRB-MIS for Management of All functions of Warehouse Receipts Systems, which Include All WRS functions digitization which includes Surveillance System, Barcode Scanner Systems, Digital weighing and Quality Check Systems	Enhance and sustain inclusive e-warehouse services delivery including utilizing data to improve government services, by June, 2025.	Number of facilities (Warehouses) identified and registered across the Country.	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
Interoperable digital service delivery platforms developed and oprationalized	1. Ensure the realization of a unified broad-based platforms across service providers.	Develop a unified broad based data exchange platforms between public and private sector	National Service Bus for data exchange between public and private stakeholders established by June, 2025	% of service providers connected to unified broad-based digital platforms	**MICIT**, Public Sector & Private Sector
		Develop a unified broad-based platform for financial service providers	90% of financial service providers in Tanzania are connected to a unified broad-based platform by 2026	% of service providers connected to unified financial based digital platforms	
		Ensure Allocation and Electronic Use of National Addressing and Postcode Systems	National GIS integrated by National Addressing and Postcode Systems	GIS enabled with NAPA	
	2. Promote a trustworthy and sustained cashless economy.	Register, incubate and support cashless trade in the economy.	10,000 Cashless trade in the economy are registered, incubated and supported by June, 2029	Number of registered, incubated and supported cashless trade in the economy.	
		Invest in research and exploration on digital currencies and promote the use of online payments	100 researches and explorations conducted for promotion of cashless economy.	Number. of researches and exploration conducted	
		Ensure institution promote and sustain cashless economy.	50% of institutions to transact with cashless by June, 2029	% of institutions with cashless transactions	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
	3. Establish the Tanzania Unique Digital Identifier to support the provision of services across all digital platforms.	Put in place a central platforms for identification of people, businesses, land and property	Central platforms for identification of people, businesses, land and property developed by 2025	Number of platforms developed for identification of people, business, land and properties.	**MICIT**, Public Sector & Private Sector
		Establish unified digital personal identification for everyone (Unique Number)	90% of residents provided with digital personal identification by 2029.	% of residents provided with digital personal identification number.	
	4. Develop integration plan between Jamii X-Change platform and the National Public Key Infrastructure.	Establish a unified Public Key Infrastructure to facilitate use of digital signature	PKI place by June, 2025	PKI in place Number of public and private sector ICT systems intergrated to Jamii X-Change to enhance service delivery	**MICIT**, Public Sector & Private Sector
	5. Promote integration of Public and Private sector core digital service delivery platform.	Development of centralized database for Coordination of Government Business, Policies and Parliamentary Affairs	90% of MDAs, LGAs and Government Institutions using Dash-board to report implementa-tion status of government activities by June, 2026	% of MDAs, LGAs and Government Institutions connected to a central database % of MDAs, LGAs Integrated to ICT Systems for Data Collection and reporting	**MICIT**, Public Sector & Private Sector
		Ensure data exchange between MDAs and LGAs	90% of MDAs, LGAs and other government institutions integrated to exchange information through Government Enterprise Service Bus (GovESB) by June, 2025	Number of MDAs and LGAs exchange information through GovESB	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
		Establish an Integrated Statistical data Collection Systems	90% of connectivity of statistical data collection systems is reached among government institution by June, 2029	% of statistical data collection systems developed and integrated among all government institutions	
		Develop Employment Services Management Information System (ESMIS) Develop Youth Information and Services Integrated Database System	Employment Services Management Information System (ESMIS) developed by June 2024 Integrated Youth Information and Services Database System by June 2024	Operational ESMIS Operational Integrated Youth Information and Services Database System	
		Ensure that justice institutions in Tanzania have digital platforms that facilitate inter-institutions collaborations and coordination in justice delivery	100% of justice institutions that have digital platforms that facilitate inter-institutions collaborations and coordination in justice delivery 2029	% of justice institutions that have digital platforms that facilitate inter-institutions collaborations and coordination in justice delivery	

PILLAR 2: GOVERNANCE AND ENABLING ENVIRONMENT

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
Institutions' capacity for operationalization of the digital economy Agenda developed.	1. Improve institutional capacity for effective and efficient development of Digital Economy.	Build Institutional capacity on Digital Economy development.	90% of Institutions capacitated on Digital Economy development by June, 2029.	% of Public and Private Institutions capacitated on Digital Economy development	**MICIT**, Public Sector & Private Sector
		Facilitate Public Institutions to acquire technologies to enhance Digital transformation	80% of Public Institutions with developed and operationalized Digital Transformation Strategy by June, 2029.	% of Public Institutions with developed and operationalized Digital Transformation Strategy	
	2. Establish an institutional framework for implementation of National Digital Economy.	Develop and operationalize Institutional framework for implementation of National Digital Economy.	Institutional framework developed by June, 2024	Implementation framework in place	**MICIT**, Public Sector & Private Sector
	3. Facilitate and promote involvement of public and private sector enterprises, social organizations and special interest groups in the implementation of the digital economy Strategic framework.	Promote PPP arrangement on facilitating Digital Economy	10 PPP arrangements involving public and private enterprises contributing to digital economy implementation in place by June, 2026	Number of PPP arrangements involving public and private enterprises contributing to digital economy implementation	**MICIT**, Public Sector & Private Sector
		Examine policy, legal and regulatory frameworks with a view of providing enabling environment to attract more investors in Digital Economy	Two-fold increase of invested capital in the Digital Economy by June, 2029	Amount increase of invested capital in the Digital Economy	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
Sectorial Policies and Legal Frameworks that abide with national frameworks developed.	1. Review and develop necessary national cross-sectorial and cross-cutting policies, laws, regulations, strategies and guidelines to support the development of the digital economy;	Review governance frameworks for development of digital Infrastructure in Tanzania	Tanzania Infrastructure Blue Print 2050 developed by September, 2023	Tanzania Infrastructure Blue Print 2050 in place	**MICIT**, Public Sector & Private Sector
		Review and develop governance frameworks to provide good environment that accelerate digital economy.	10 sectorial policies reviewed by June, 2029.	Number of sectorial policies reviewed	
		Develop data governance framework, standards and guidelines for proper data governance and management mechanisms	Establish data mining and collection standards to enhance data confidentiality, integrity, availability, authenticity and integration by June, 2024	Number of data standards guideline produced	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
			Strategy to Promote and encourage information culture and data use to generate knowledge and inform decisions developed by June,2025	Data governance collaboration strategy developed	
		Enhance regulation to support national digital signature for Private and government workflow	30 government legal frameworks reviewed by June, 2029	Number of government frameworks reviewed	
			10 government frameworks developed by June, 2029.	Number of government frameworks developed	
		Facilitate strengthening Legal and regulatory framework that support cyber security in digital economy	Legal and regulatory frameworks to support cyber security in digital economy reviewed by June 2026	Number of legal and regulatory framework reviewed/enacted to support cyber security in digital economy	
		Review Act and Regulations governing spectrum to allow spectrum sharing	Act and Regulations governing spectrum to allow spectrum sharing reviewed by June 2026	Act and Regulations governing Spectrum sharing reviewed	
		Develop National Spectrum guidelines	National Spectrum guidelines developed and operationalize by June 2025	National Spectrum guidelines developed and operationalize	
		Review Copyright laws in Tanzania to foster Digital Economy	Copyright laws in Tanzania reviewed by June 2026	Reviewed Copy right laws	
		Develop Standards and guidelines to promote digitalization	Standards and guidelines to promote digitalization developed by June 2024	Standards and guidelines to promote digitalization in place	
		Develop regulations to support e-signature	Develop regulations to support e-signature by June 2024	Regulations to support e-signature in place.	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
		Develop e-commerce strategy	Develop e-commerce strategy by June 2024	eCommerce strategy developed	
		Develop Digital Public Infrastructure Blue Print	Digital Public Infrastructure Blue Print developed and operationalize by December 2024	Digital Public Infrastructure Blue Print	
		Review ICT Licencing frameworks to promote local investors in development of Regional and Districts ISPs	ICT Licencing frameworks to promote local investors in development of Regional and Districts ISPs revised by June, 2025	Revised ICT Licencing frameworks to promote local investors in development of Regional and Districts ISPs	
		Develop Framework to subsidize availability of affordable smartphone in rural and urban underserved areas	Framework to subsidize availability of affordable smartphone in rural and urban underserved areas developed by June 2024	Framework to subsidize smartphone affordability in place	
		Develop National framework for Nth Digital Industrial Revolution	Framework to strategize utilization of emerging solutions to achieve 4th, 5th Industrial Revolutions	Framework fro Nth Industrial Revolution	
		Establish National migration strategy from IPV4 to IPV6	National migration strategy from IPV4 to IPV6 established by June, 2025	National migration strategy from IPV4 to IPV6 in place	
	2. Harmonise national legal instruments with Regional and International legal instruments in addressing digital economy issues.	Harmonization of existing legal instruments to align with Regional and International legal instruments	30 existing legal instruments aligned with Regional and International legal instruments by June, 2029.	Number of legal instruments aligned with Regional and International legal instruments	**MICIT**, Public Sector & Private Sector
	3. Develop appropriate taxation regime that consider and facilitate digital economy and its business models.	Review taxation regime to accelerated Digital Economy	Reviewed Taxation regime to facilitated Digital Economy by June, 2026.	Operational taxation regime in favour of Digital Economy in place	**MICIT**, Public Sector & Private Sector

		Enhance internal capabilities to manage taxpayers operating in digital space	Database for taxpayers operating in Digital space in place by 2024 and regularly updated	% increase in number of online traders registered	
		Develop Programme to enhance skills in Digital economy taxation	Training program in Taxation of DE developed by December, 2024	Level of implementation of Training programme	
	4. Develop a policy that promotes interoperability of digital financial services	Develop and Review standards and business rules/agreements for interoperability	Standards and business rules/ agreements for interoperability developed and reviewed by June, 2029	Number of standards and business rules/ agreements for interoperability developed	**MICIT**, Public Sector & Private Sector
		Develop open banking policy/framework	Develop open banking framework by June, 2029	Open banking framework developed	
	5. Develop a policy to promote merchant payment and acceptance in the country	Develop policies and guidelines to promote merchant payments	Policies and guidelines to promote merchant payment is developed by June, 2025	Merchant payments policies and guidelines developed	**MICIT**, Public Sector & Private Sector
			10% annual increase of electronic merchant payments	Growth of Merchant payments	
	6. Develop policies on digital accounts for all and on the unified e-KYC	Develop/review a guidelines on digital accounts for all and on the unified e-KYC	85% of adult population have digital accounts by June, 2028	% of adult population with digital accounts	**MICIT**, Public Sector & Private Sector

PILLAR 3: DIGITAL LITERACY AND SKILLS DEVELOPMENT

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
Digi-tal-Savvy Society that encourage digital liter- acy and the adoption of digital practices promoted.	1. Promote and facilitate inclusive digital skills and talents through targeted training programs and educational campaigns.	Building capacities for ICT experts on emerging digital tech-nologies (Abroad & Domestic)	65% of ICT experts trained and certified on emerging digital tech-nologies (Abroad & Domestic) by June, 2029	% of ICT experts trained and certified in emerging digital tech-nologies	**MICIT**, Public Sector & Private Sector
		Enhance Government ICT Professionals in digital skills	70% of Government ICT Professionals with enhanced digital skills by June, 2029	% of ICT professionals with enhanced digital skills	
		Enhance inclusive digital skills and talents	50% of disadvantaged groups are enhanced with digital skills by June, 2029	% of disadvantaged groups trained in digital skills	
		Develop human resources development interventions that facilitate capacity building on digital skills and innovation among justice actors	75% of justice actors and policy makers capacitated with competencies in digital skills by June 2026	% of justice actors capacitated with competencies and innovative in digital skills	
		Support digital services incubators and start-ups	70% of Digital services Incubation Centres and Start-ups supported by June, 2029	% of Incubation Digital Services Centres and Start-ups	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
		Coordinate participation of Tanzanians in International digital technology trainings, exhibitions and forums	50 International digital technology training exhibitions programs conducted by 2029	Number of Tanzanians attended International digital training exhibitions	
		Facilitate the ministry responsible for education to train/teach and promote digital skills courses at all levels.	Include digital literacy courses for kids from year 3 of their primary school education; and all secondary schools, colleges, and universities students.	% of schools, colleges and universities providing digital skills.	
	2. Enhance digital knowledge and skills across society, ensuring accessibility and relevance to diverse demographics.	Build minimum level of inclusive proficiency of youth and adults on basic digital skills.	60% of youth and adults with and without special needs have access to basic digital skills by June, 2029	% of youth and adults with and without special needs have access to basic digital skills	**MICIT**, Public Sector & Private Sector
		Facilitate basic digital skills to Public Servants.	25,000 Public Servants facilitated on basic digital skills, by June 2029.	Number of Public Servants facilitated on basic digital skills	
		Provide conducive environment to attract talents on digital skills which are rare in the country	One VISA system established which cater for rare skilled professionals by June 2029 Establishment of Gov-Tech Innovation centre, a Digital Technology Institute (a state of art), Zonal Innovation soft centres and fab labs June, 2026	VISA System for rare skilled professionals Operational Established Gov-Tech Innovation Centers, Digital Technology Institute, Zonal Innovation Centres, and Fab labs	
			Online Work Permit Application and Issuance system (OWAIS) enhanced by June 2025.	Enhanced Online Work Permit Application and Issuance system (OWAIS)	
	3. Promote and engage local digital innovators in national, regional and international events and fora.	Support institutions involved in research and innovation to participate in international events such as competitions and forums	60% of local innovators supported in national, regional and international events and fora by June, 2029.	% of local innovators supported in national, regional and international events/fora.	**MICIT**, Public Sector & Private Sector
	4. Establish digital institutions and centres to provide skills for digital innovations.	Support establishment of Colleges, Training centres, Zonal Innovation soft centres fab labs, online gaming centres	Establishment of New ICT Colleges, Digital Technology Institute, 7 Zonal Innovation soft centres and fablabs by June, 2026	New ICT Colleges, Digital Technology Institute, Number of Zonal Innovation soft centre and fablabs in operation	**MICIT**, Public Sector & Private Sector
	5. Strengthen research and innovation initiatives for developing digital skills	Provide incentives for institutions and individuals involved in developing innovative advanced digital skills with high abilities to meet the market demand.	New 1000 startups established and 100 competitive Innovative startups transformed into small, medium and large companies with advanced innovative skills in the digital market by 2029	New 1000 startups established and Innovative small, medium and large companies with advanced innovative skills in operation	**MICIT**, Public Sector & Private Sector

	6. Promote investments and development of inclusive digital infrastructure and solutions to provide platforms for developing digital skills	Development of digital devices and ICT systems to address inclusive digital solutions and skills to meet digital market demand	Attract 100 investors in developing and assembling competitive ICT systems and devices by 2029	Local ICT systems and devices developed and assembled within the United Republic of Tanzania	**MICIT**, Public Sector & Private Sector
		Building digital literacy campaign for digital skills on emerging technologies	90% of citizen are digital literacy by June, 2029	Number of digital literacy campaigns conducted	
		Promote availability of digital learning contents, devices and platform to create massive awareness of digital skills from basic to advanced level schools	e-education digital public infrastructure developed by 2025	Digital Skills Gap Index improved to 8	
		Facilitate basic and advanced digital skills to school teachers	80,000 of Primary and Secondary School Teachers trained in the delivery of digital learning content by June 2028	Number of Teacher Trained	

PILLAR 4: DIGITAL INNOVATION CULTURE AND ENABLING TECHNOLOGIES

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
Efficient and effective national cyber security that supports digital economy developed.	1. Enhance nation's cyber security technical capabilities	Review the NCSS - (2018 - 2023) and develop NCSS - (2023 - 2028)	NCSS (2023 - 2028 Developed by June,2024	NCSS - 2023 - 2028 Development Status	**MICIT**, Public Sector & Private Sector
		Enhance operationalization of National Cyber Security Strategy	100 % of National Cyber Security Strategy is implemented by July, 2025.	% of Implementation of National Cyber Security Strategy	
		Strengthen e-Government cyber-security infrastructure	e-Government Cyber-security Strategy operationalized by June 2033.	e-Government Cyber-security Strategy operationalized	
			e-Government cyber security infrastructure identified, registered, protected and preserved by June 2026	List of e-Government Cybersecurity infrastructure identified and managed	
		Strengthening research on cyber security technical capabilities	2 research conducted on cyber security yearly	Number of research publications on cyber security	
		Monitor and protect all regions by using morden technologies that facilitates cybercrime, protection, detection and investigation	28 Regions using morden technology that facilitates cybercrime protection, detection and investigation by June 2024.	Number of Regions using morden technology on cybercrime protection, detection and investigation.	
		Build capacity to law enforcement officers on cybercrime issues	100 Law enforcement Officers capacitated on cyber-crimes yearly	Number of Staff capacitated with cybercrime knowledge	
	2. Strengthen institutional coordination and stakeholders' collaboration to proactively manage cyber risks	Facilitate development of National Cyber Security Communication Strategy	National Cyber Security Communication Strategy is Developed by July, 2024.	National Cyber Security Communication Strategy is in place.	**MICIT**, Public Sector & Private Sector
		Establish Joint National Cyber Space Command Centre	Establishment of Joint National Cyber Space Command Centre by 2024	Joint National Cyber Space Command CeFnter established and operational.	

	3. Enhance Protection of National Critical Information Infrastructure (CII)	Collaboration in strengthening cyber-security infrastructure	Develop and operationalize Critical Information Infrastructure (CII) guidelines by June 2024;	Government Critical Information Infrastructure (CII) Guidelines developed	**MICIT**, Public Sector & Private Sector
			Public Key Infrastructure (PKI) developed and operationalized by June 2027;	Government PKI developed and operationalized	
			Digital signature implemented on e-Government Systems by June, 2026	Number of e-Government Systems with digital signature implemented	
	4. Enhance capabilities for prevention and response against cyber incidents, threats and attacks.	Capacity building done in incident response against cybercrimes	500 personnel to be trained on incident response against cybercrimes	No. of personnel trained on incident response	
		Equipment and tools acquisition for incident response against cybercrimes	Ability to responding to incidents at 100%	No. of equipment (software and hardware) for incident response acquired	
	5. Strengthen Child Online Protection.	Development of Child Online Protection Guidelines and Procedures	COP Guidelines and Procedures Developed by June, 2026	COP Guidelines and Procedures in place	**MICIT**, Public Sector & Private Sector
		Establish child online protection clubs	100 clubs established by June, 2028	Number of clubs in place	
		Establish online platforms for online child protection	5 online platforms established by June, 2028	Number of online platforms in place	
	6. Promote Public awareness and basic skills on cyber security issues	Conduct public awareness drive on cyber security issues	12 security awareness programs conducted annually.	Number of security awareness programs conducted in collaboration with other institutions	**MICIT**, Public Sector & Private Sector
		Enhance operationalization and implementation of Nation Cyber Security Communication Strategy.	100% of Nation Cyber Security Communication Strategy interventions attained by June, 2026	% of Nation Cyber Security Communication Strategy interventions	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
Development and use of emerging technologies to accelerate the growth of digital economy	1. Develop capabilities to leverage emerging technologies in the country.	Develop and operationalize national emerging technology roadmap by June 2024,	National Technology Roadmap developed and operationalized by June 2024	National Technology Roadmap developed and operationalized	**MICIT**, Public Sector & Private Sector
		Develop capacity building plan on emerging technologies	Institutional capacity building plan on emerging technologies developed and operationalized	Capacity building plan on emerging Technologies operational	
		Enhance public awareness on emerging technologies	public awareness on emerging technologies provided by June, 2029.	Number of public awareness on emerging technologies	
		Develop locally e-Government innovations related with emerging technologies;	5 Emerging digital technologies evaluated, developed and tested by June 2026	Number of emerging technologies evaluated, developed and tested	
		Enhance utilization of emerging technology to support production in all sectors of the economy	Two-fold increase in production as the result of utilizing emerging technology by June, 2029.	% increase in production as the result of utilizing emerging technologies.	
	2. Promote research on development, application and utilization of emerging technologies.	Conduct research on development, application and utilization of emerging technologies that accelerate digitalization in all sector of the economy	10 Research conducted on emerging technologies by 2029	Number of research conducted on emerging technologies	**MICIT**, Public Sector & Private Sector
		Justice institutions use research to adopt emerging technologies in access of justice in a country	10 research finding that support use of emerging technologies in access of justices implemented by June, 2029	% of research finding that support use of emerging technologies in access of justices	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
To enhance the creation and localisation of online content to foster digital transformation and innovation.	1. Enhance the generation and consumption of local content.	Conducive regulatory regime are in place for Online multimedia services to flourish.	1000 online multimedia are in place by June, 2026.		**MICIT**, Public Sector & Private Sector
		Promote creating of online content with local context			
		Promote the use of Swahili in creating online content			
	2. Support the research and training institutions including academia as important social-economic entities in the digital skills developments and utilization of emerging Technologies	Promote research and innovation products and programmes	65 e-Government related research and innovation products and programmes produced and operationalized by June, 2026 Framework to enhance utilization of research and innovative products developed by Dec 2025	Number of research outputs utilized on the area of public service delivery Framework to enhance utilization of research and innovative products	**MICIT**, Public Sector & Private Sector
		Support Research and Training institutions into developing curriculum with relevant digital skills	100% of Academia with digital skills curricular by June, 2028	% of Academia with updated digital skills curricular	

	3. Promote adoption of emerging and environmental friendly digital technologies across all sectors.	Review of curricula to include emerging and environmental friendly digital technologies in the education system	100% of learning Institutions curricula reviewed to include emerging and environmental friendly technologies by June, 2026	% of learning Institutions' curricula reviewed	**MICIT**, Public Sector & Private Sector
		Establish mechanism for managing (disposing recycling, etc) of e-waste arising from emerging digital technologies	10 Industries for disposing and recycling of e-waste established by June 2030	Number of collection centers for e waste	
	4. Promote the use of digital tools in the Blue economy	Develop an information platform on all marine research across the water bodies and coastline of Tanzania	50% of water bodies and coastline having been researched and put in the information platform	Number of marine researches and water bodies/coastline researched	**MICIT**, Public Sector & Private Sector
		Create a roadmap to consolidate the tourism, seaports, and fishing sector (including aquaculture), marine biotechnology and renewable energy	50% of the blue economy sectors consolidated in the roadmap by June, 2026	% of blue economy sectors consolidated	
		Research the use of digital tools in the blue economy, including the efficacy of underwater fibre-optic cable in the blue economy	3 digital innovations researched and developed by June 2028	Number of digital innovations developed	
	5. Develop frameworks and capabilities in space technology and exploration.	Build capacity in Space technology	At least 100 experts trained in space technology (both hard and soft) by June 2026	Number of Space technology trained	**MICIT**, Public Sector & Private Sector
		Setting up a Space centre and operationalizing it	Use-case being utilised through the Space centre by 2026	Number of use-cases being conducted	

To enhance the creation and localisation of online content to foster digital transformation and innovation.	1. Enhance the generation and consumption of local content.	Conducive regulatory regime are in place for Online multimedia services to flourish.	1000 online multimedia are in place by June, 2026	Number of Online TV Number of Online Radio Number of online newspaper Number of websites in Kiswahili language.	**MICIT**, Public Sector & Private Sector
		Promote creating of online content with local context		Online content with local context	
		Promote the use of Swahili in creating online content		Online content in Swahili language	
	2. Promote localisation of online content.	Incentive multinational companies to establish their presence in a country.	50 multinational companies with data localized by June, 2027.	Number of multinational with data localized.	**MICIT**, Public Sector & Private Sector
		Encourage the utilization of co.tz	DotTZ domain names increased from 28,601 to 40,000 by June, 2027.	Number of company/ business registered	
		Promote competition in hosting local content	10 facilities for hosting local content by June, 2027.	Number of facilities	
		National and Institutional data center to support hosting of online content for local innovators and startups	10 national and institutional data centers that support online local hosting for local innovators and startups by June, 2027.	Number of data centers	

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
Coordination of start-up and innovation ecosystem strengthened	1. Strengthening resources mobilization for empowering start-ups and innovatorswith digital skills	Enhance funding mechanisms for emerging/early stage start-ups and innovators	Funding mechanisms for emerging/early stage start-ups and innovators enhanced by June, 2026	Funding mechanism in place for start-ups and innovators	**MICIT**, Public Sector & Private Sector
		Link high-growth innovations and startups to angel investors and venture funds to facilitate scaling up	100 high-growth start-ups and innovators linked to angel investors and venture funds;	Number start-ups and innovators of linked to angel investors and venture funds;	
	2. Create conducive environment for local and foreign investment in innovation ecosystem development	Improve relevant policy, regulatory, and legal framework to attract foreign investment in digital skills development.	Relevant policy, regulatory, and legal frameworks improved by June 2026.	Relevant Policy, regulatory and legal framework reviewed	
	3. Support innovative business models.	Facilitate the adoption of new/emerging technology through provision of funds, technical capacity building, and resources	At least 10 innovative business models facil-itated annu-ally 2026;	Number of innovative business models facilitated annually	

		Coordinate participation of startups and innovators in regional and international expos/exhibitions to win new markets	At least 10 startups and innovators participate in international expos/ exhibitions annually	Number of startups and innovators attending international expos/exhibition	
		Facilitate infrastructure development for innovative business models	Infrastructure development facilitated by June, 2026;	Number of innovative business models infrastructure developed	
			Sandbox framework developed by 2024	Operational Sandbox framework	
		Establish Regional Innovation Centres	Innovation centres established in 90% of all regions by 2033	% of regions with Innovation centres	
		Develop mechanism for exporting innovative products and services	100 innovation product's exported by 2033	Number of exported innovation products and services	
		Ensure patents rights for innovated products	Enhancement of frameworks for patenting innovative products	Enhanced framework for patents for innovative products by 2026	
	4. Support the research and training institutions as important social-economic entities in the digital skills developments and utilization of emerging Technologies	Promote research products resulting from innovation programmes	50 Digital skills-related research and innovation products producedand programmes operationalized by June, 2026 Framework to enhance utilization of research and innovative products developed by Dec 2025	Number of research outputs utilized Framework to enhance utilization of research and innovative products	**MICIT**, Public Sector & Private Sector

A thriving Digitally enabled blue economy expanded	1. Develop Digital Platform and Solutions for enabling Blue Economy Initiatives	Develop digital skills for management of the Digital solutions for Blue economy	250 staffs trained on Maritime resource Management system by June, 2029.	Number of staff trained	**MICIT**, Public Sector & Private Sector
	2. Undertake research, development and use of emerging Technologies for exploring blue resources	Develop entrepreneurial skills for digital business in blue economy.	2000 business personnel trained entrepreneurial skills by June, 2029.	Number of entrepreneurial trained.	
	3. Enhancing skills of actors for a digitally enabled blue economy	Develop startups in blue economy.	200 startups in blue economy developed by June, 2034.	Number of startups developed.	

PILLAR 5: NURTURING DIGITAL INCLUSION AND ACCESSIBILITY

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
Framework that nurture and embrace an inclusive digital economy developed.	1. Strengthen resources mobilization for empowering special groups in society with digital skills;	Enhance funding mechanisms that have ambitious targets for Special Groups and women entrepreneurs.	Funding mechanisms enhanced by June, 2025	Funding for Special Groups and women entrepreneurs in Place	**MICIT**, Public Sector & Private Sector
		Link high-growth women entrepreneurs to angel investors and venture funds;	10 high-growth women entrepreneurs linked to angel investors and venture funds;	No of linked women entrepreneurs to angel investors and venture funds;	
		Strengthen System for registration and managing special groups in society	System for registration and managing special groups enhanced by December, 2025	System for registration and managing special groups in place	
		Conduct consular visit to meet with Tanzania Diaspora so as to boost digital economy by June 2024	Database of Tanzania Diaspora developed and coordinated by 2026	Digital Hub developed and utilized	
	2. Enhance e-services for an inclusive digital economy implementation.	Development of Persons with Disabilities Management Information System (PD-MIS).	Persons with Disabilities Management Information System (PD-MIS) developed by June 2024.	Operational PD- MIS in place	**MICIT**, Public Sector & Private Sector

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
		Roll out ICT infrastructure including fiber links and information systems at all levels of government administration	100% Roll out of ICT infrastructure including fiber connectivity and information at all levels of Local Government Authorities, Institutions and Ministries by June, 2029	% of rolling out ICT infrastructure including fiber connectivity and information systems to all levels of Local Government Authorities, Institutions and Ministries in Tanzania mainland	
		Enhance quality of ICT services to all MDAs and LGAs	100% of Business processes for all MDAs and LGAs integrated by June, 2029 95% of Government Central Core (Wide-Shared) Systems developed/ improved and integrated by June, 2029	% of public institutions to have reliable, safe and affordable broadband internet services	
		Enhance timely scrutiny and disbursement of fund requests dedicated for supporting systems development	100% efficiency for timely scrutiny and disbursement of fund requests by June, 2029	% of ICT supporting systems implemented	
		Increased scope, coverage and quality of Government e-services is ensured	100% of Public Institutions are connected to use shared system by June, 2029	% of Public Institutions interconnected to government ICT systems	
		Enhance utilization of e-services to support service provision	All Sectors use Sectorial systems for service provision	% of sectors using sectorial systems	

	3. Enhance local participation in digital economy including diversity groups	Develop and operationalize awareness programs on digital economy to the public including diversity groups	25 public awareness programs on digital economy conducted yearly	Number of awareness programs conducted	**MICIT**, Public Sector & Private Sector
		Facilitate e-Services accessibility to diversified groups	100% of e-Government initiative accessible to diversified groups by June, 2029	% of e-Government services accessible to diversity groups	
		Develop Local Content Policy and its Implementation Strategy; and	Local Content Policy, Strategy and Guidelines developed by June, 2029	Local Content Policy, Strategy and Guidelines in place	
	4. Promote locally developed digital content and initiatives that are inclusive of diverse groups and gender parity.	Establish ICT/Digitalization program for focused businesses across value chains in order to access domestic, regional, and international markets	ICT/Digitalization program for focused business across value chains in order to access domestic, regional, and international markets developed by 2026.	Digitalization program for focused businesses across value chains in place.	**MICIT**, Public Sector & Private Sector

PILLAR 6: DIGITAL FINANCIAL SERVICES

OBJECTIVES	STRATEGIES	NATIONAL/SECTORIAL INITIATIVES	TARGETS	INDICATORS	RESPONSIBLE
Inclusive, secure and sustainable digital financial services to support economic activities.	1. Facilitate effective use of digital technology platforms across MSME's	Develop and upgrade the marketing information system.	Marketing information system developed and upgraded by 2029	Marketing information system in place	**MICIT**, Public Sector & Private Sector
		Develop National Labor Market Information System (NLMIS) Development of Persons with Disabilities Management Information System (PD-MIS).	National Labor Market Information System (NLMIS) developed by June 2024 Persons with Disabilities Management Information System (PD-MIS) developed by June 2024.	Operational NLMIS by June 2024 Operational PD-MIS by June 2024	
		Develop and execute framework for ICT and digitalization solutions to support business efficiency, productivity, and competitiveness in all value chains Facilitate development of digital skills for sectoral industrial growth; Establish business focused technology incubation centre of excellence in selected LGAs; and	Framework for developing and executing ICT and digitalization coordinated by 2026; Industrial digital skills enhanced by June, 2026; Business technology incubation center of excellence in selected LGAs by 2026;	ICT digitalization framework and implementation plan in place; number of people with industrial digital skills enhanced; Number of technology incubation centers increased	
		Strengthening of "e-single window system"	e-single window system developed and maintained by June, 2026	Number of systems developed and mainstreamed in the e-single window system	

		Facilitate the Digital adoption, , and effective use of digital technology across all public transport hubs (ports, airports, railway stations and Bus Terminals)..	90% Digital adoption, and effective use of digital technology facilitated across all ports, airport, railway stations and Bus Terminals by June, 2029	% of ports, airports, railway stations and Bus Terminals facilitated with digital technology. % of digital services offered by ports, airports, railway stations and Bus Terminals.	
	2. Accelerate digital industry development related to business and commerce;	Develop effective and sustainable awareness and education programs to ensure the benefits of using digital technology are known to majority.	95% of micro, small, medium and large enterprises provided with awareness on use of digital technology by June, 2029	% of micro, small, medium and large enterprises provided with awareness on use of digital technology	**MICIT**, Public Sector & Private Sector
		Establish Framework for coordinating National e-commerce initiatives.	Framework for coordinating National e-commerce initiates established by June, 2026	Framework for coordinating National e-commerce initiates in Place	
		Establish and Promote e-business platforms in market places	80 % of existing and newly developed market places adopting e-business platforms by June, 2029.	% of existing and newly developed market places adopting e-business platforms	

		Develop effective and sustainable awareness to ensure the benefits of using digital technology are known to Women, Children and Special Groups	50% of Women, Children and Special Groups provided awareness on use of digital technology by June, 2029	% of Women, Children and Special Groups provided awareness on use of digital technology	
		Develop ICT and digitalization solutions to support Arts and Cultural business, productivity, and competitiveness in all value chains	Business Solutions for supporting Arts and Cultural business developed by 2026;	Number of Digital infrastructures for Management of Arts and Culture activities and produced	
		Establish business focused technology driven Music Recording studios	Technology driven Music recording Studios established by 2029;	Number of Business Music Recording Studios established Number of Artists trained	
		Facilitate development of appropriate skills for value addition of cultural products	100 Artists and Cultural Personnel are trained with appropriate skills for value additions on their products yearly	Number of Artists and Cultural Personnel are trained with appropriate skills for value additions on their products yearly	
		Promoting and commercialize Swahili language worldwide	eLearning Platform for Swahili Language developed by June 2026	Presence of eLearning Platform for Swahili Language	

	3. Promote development and utilization of online services to support businesses and citizens; and	Integration and sensitization of livestock Auction market information and animal identification registration and traceability systems by June, 2029.	To conduct online livestock Auction market to Secondary and boarder Market in Tanzania by 2029. To train and Support District Fisheries officers on collection of market information to feed in M-Kilimo App by June, 2029	Revenue generated from online livestock Auction market to Secondary and boarder Market. % Number of training conducted to District Livestock and Fisheries Officers on collection of market information to feed in M-Kilimo (Ugani Kiganjani) by June 2033.	**MICIT**, Public Sector & Private Sector
	4. Review and develop interoperable infrastructure between digital financial services providers to offer additional products and services, and faster settlement.	Review existing interoperable infrastructure between Digital Financial Services Providers (DFSP) and enhance the existing products and services	Interoperable systems (Jamii pay) for mobile payments and cards re-viewed by June, 2026	Number of systems, products, services re-viewed	**MICIT**, Public Sector & Private Sector
		Develop new interoperable infrastructure to support new features between DFSPs	New interoperable systems, products and services for mobile payments and cards developed by June, 2026	Number of systems, products, services re-viewed	
	5. Develop cyber security risk management framework for digital financial services.	Develop and Review cyber security guidelines for DFS	Cyber security guidelines for DFS developed/reviewed by June, 2026	Cyber security guidelines for DFS developed/reviewed	**MICIT**, Public Sector & Private Sector
		Capacity building on Cyber risk regulation and supervision	100 experts trained on Cyber risk regulation and supervision by June, 2026	Number of trained staff	

		Intensification of information system for increased economic benefits and productivity to communities	Facilitate establishment of information centres for marine fisheries resources and Fresh Water by June, 2029. Facilitate connectivity of fisheries information Centre's to potential fishing zones by June, 2029. Facilitate Training of BMU, Fisheries Officers and Fishing community in the application and use of ICT integrated Fishing technology by June, 2029.	Number of Fisheries information centers for Marine and Fresh Water established by June 2033 Number of connectivity to fisheries information Centre for Marine and Fresh Water conducted by June 2033. Number of Training Conducted included BMU, Livestock and Fisheries Officers and Livestock and Fishing communities in the application and use of ICT integrated Livestock and Fishing technology by June 2033.	
		Create awareness to farmers to access and use e-extension platform (M-Kilimo).	Increase awareness of farmers from 2 million farmers to 7 million farmers by 2029	Number of farmers a accessing e-extension platform	
		Create awareness to agricultural traders on usage of e-marketing platform	Increase awareness of agricultural traders on usage of e-marketing platform by 10% annually	% of farmers accessing e-extension platform	

		Register of farmers and stakeholders involved in agriculture sector to use digital platform	80% of farmers and stakeholders involved in agriculture sector registered to use digital platform by 2029	% of farmers and stakeholders registered.	
		Promote awareness and access to high quality e-Services across multiple delivery channels	21 Ministerial websites upgraded to Sectorial Portals by June 2025 100% e-Government services delivered multiple channels and languages such as English and Kiswahili by June 2025	Number of Ministerial websites upgraded % of e-Government services provided in multiple channels and languages	
		Develop electronic Investment Single Window System for registering and serve the investors in short amount of time.	Electronic Investment Single Window developed by June, 2026.	Electronic Investment Single Window developed	
	6. Promote digital commodities exchange in all sectors of economy.	Establish e- Commerce platforms	3,000,000 Small, medium and large entrepreneurs conduct their business through digital platforms by June, 2029	Number of business entities registered on e-commerce platform	**MICIT**, Public Sector & Private Sector

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2024-2034

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