ZANZIBAR'S DIGITAL ECONOMY ROADMAP 2023 - 2027











THE REVOLUTIONARY GOVERNMENT OF ZANZIBAR

FOREWORD

President of Zanzibar

Zanzibar is making vast strides in digital transformation to access the opportunities from the innovations the emerging global markets provide. By ensuring that its people are appropriately served by technology and therefore enhancing their digital future, The Revolutionary Government of Zanzibar is actively spearheading the journey to the future of digital technologies, transforming our lives in every way.

The pace of technology demands that Zanzibar adapts to a rapidly changing digital landscape to remain globally competitive. The Digital Economy Roadmap 2023- 2027 was created to cope with such a pace. It calls for the various stakeholders to envision the nation's digital existence as a reality.

The roadmap will guide the development of the digital economy in the country by identifying the key areas where digital technologies can apply to improve the economy. These areas include education, healthcare, and tourism. It also identifies the challenges to developing a prosperous digital economy.

The Zanzibar eGovernment Agency is committed to working diligently in delivering this Digital Roadmap for Zanzibar as a shared vision of a modern, digital, and collaborative initiative. This document is a result of those joint efforts. Its publication is only the beginning. The real goal is to ensure that services are designed to meet the needs of the residents, including economic progress, that meets the financial growth targets. This ensures that every Zanzibari can participate fully in the digital transformation.

SHAPING ZANZIBAR'S DIGITAL FUTURE

Thanks to the dynamic Information and Communication Technology, the world is witnessing a widespread interconnection of economic activities, professional interlinkages, and commercial deals. This transformation into a digital economy is fast becoming an absolute necessity.

Therefore, this Zanzibar Digital Economy Roadmap aims to expedite the peoples' journey into the promised land of that digital future.

Thankfully, Zanzibar itself is familiar with such universal transformations. We have successfully coped with many sci-tech-driven transformations like Imperial to Metric measurements of the 1970s, the Year 2000 switch for computer programming, and the relatively recent swap from analog to digital broadcasting systems.

DIGITAL ZANZIBAR

This one, from paper to digital economy, however, is not a short time activity like those ones, but a more trying process just like the ICT supporting it.

The Roadmap has, therefore, to be anchored in the universally accepted fundamental components of fit-for-purpose digital talents and a digitally inclusive society within a safe and secure digital environment.

Together, let us embark on this transformative journey. With the experience of those earlier transformations and the keen determination Zanzibaris is known for, I am more than convinced that we will successfully attain the desirable limit of the digital economy.

H.E. Dr Hussein Ali Mwinyi President of the Revolutionary Government of Zanzibar

ACCELERATING PROGRESS WITH A DIGITAL ECONOMY Roadmap

The potential of Digital Government is limitless. It promises improved citizens' engagement with their government, better public services delivery, and more effective formulation of policies.

It is about putting technology at the heart of the economic process, with data-driven decision-making as the core strategy. It is also about ensuring that every citizen's access to essential services and information, thus assuring them of their right to participate in governance.

I invite you to join us on this journey to shape the future of our digital nation

Hon. Mr Haroun Ali Suleiman
Minister of State, President's Office, Constitution, Legal
Affairs, Public Services, and Good Governance

CRAFTING TOMORROW'S ECONOMY, TODAY

The digital economy is not a present-day dogma. It is the realistic present with the proven potential to shape the collective future. The forthcoming pages expose the planned approach for establishing an inclusive, robust, and innovative digital economy. The aim is to create a conducive business environment where citizens can benefit from digital services offered by secure, reliable, and resilient digital infrastructure.

This digital economy Roadmap is not just about economic growth. It is about reshaping our society for the better.

It's about empowering our citizens, facilitating our businesses, and enhancing the quality of life. It's about leveraging technology to create a more equitable, sustainable, and prosperous future. Together, let's join forces for that digital future.

Hon. Dr. Saada Mkuya Salum Minister of State, President's Office, Finance and Planning

EMPOWERING PROGRESS THROUGH DIGITAL INNOVATION

This Roadmap highlights the strategy for a thriving digital ecosystem. It aims for a future where businesses are digitalized, innovative start-ups are supported, and citizens are given skills to navigate the digital landscape.

The strategies are diverse and comprehensive, from bolstering the digital infrastructure, upskilling the workforce, promoting digital trade, and ensuring cybersecurity. Such a digital future must be for all Zanzibaris, so the strategies must enhance commitment to inclusivity. That is the only secure thread that tightly ties the community into one harmonious force.

I hope this Roadmap inspires you to join us on this exciting journey as we leverage technology to build an economy that is more productive, equitable, and sustainable. Together, let us harness the digital potential to shape our future.

Mr Said Seif Said Managing Director (MD), Zanzibar eGovernment Agency

DIGITAL ECONOMY ROADMAP

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LIST OF ABBREVIATION

Term	Definition	
3D PRINTING	3 - Dimensional Printing	
4IR	Fourth Industrial Revolution	
5G	Fifth-Generation Of Mobile Telecommunications Technology	
ABC	Work Breakdown Structure	
ACE	Accredited Cybersecurity Education	
AIS	Automatic Identification System	
Al	Artificial Intelligence	
ATMs	Automated Teller Machine	
APSS	Automated Passenger Screening System	
APIs	Application Program Interface	
CA	Certificate Authority	
COVID - 19	Coronavirus Disease	
CSOs	Civil Society Organisations	
DVDs	Digital Optical Disc	
DII	Digital Inclusion Index	
DTIO	Digital Transformation and Innovation Office	
eGAZ	Electronic Government Agency Zanzibar	

LIST OF ABBREVIATION ...

eBidding	Electronic Bidding	
eCourt	Electronic Court	
eCatalogue	Electronic Catalogue	
EHR	Electronic Health Records	
eVisa	Electronic Visa	
eLMIS	Electronic Logistics Management Information System	
EMS	Environmental Management System	
eKYC	Electronic Know Your Customer	
eCOMMENCE	Electronic Commence	
ePayment	Electronic Payment	
еТА	Electronic Travel Authorisation	
ESB	Enterprises Service Bus	
ePassport	Electronic Passport	
eResident	Electronic Resident	
eTendering	Electronic Tendering	
eP	Electronic Procurement	
ERP	Enterprise Resource Planning	
GISP	Government Internet Service Provider	

LIST OF ABBREVIATION ...

GIS	Geographic Information Systems	
GOS	Government Online Services	
HMIS	Health Management Information System	
ICT	Information Communication Technology	
ІТ	Information Technology	
loT	Internet of Things	
LIS	Laboratory Information System	
MDA	Ministries, Departments, and Executive Agencies	
WGs	Working Groups	
MSDP	Mobile Service Delivery Platform	
MSMEs	Micro, small and medium enterprises	
UPI	Unified Payment Interface	
USSD-SMS	Unstructured Supplementary Service Data - Short Message Service	
VFDMS	Virtual Fiscal Device Management System	
VMS	Vessel Monitoring System	
VPN	Virtual Private Network	
QR	Quick Response	
PKI	Public Key Infrastructure	

LIST OF ABBREVIATION ...

RA	Registration Authority
SAR	Synthetic Aperture Radar
SUZA	State University of Zanzibar
STEM	Science, Technology, Engineering, and Mathematics
ZAGONet	Zanzibar Government Network
ZDGP	Zanzibar's Digital Government Policy
ZeGA	Zanzibar Electronic Government Authority
ZNDC	Zanzibar National Data Centre
ZIXP	Zanzibar Internet eXchange Point
ZGP	Zanzibar Government Portal
ZGSD	Zanzibar Government Service Directory
ZDSEZ	Zanzibar's Digital Special Economic Zone

EXECUTIVE SUMMARY

Zanzibar has been making strides towards transforming into a digital economy. Towards this vision, Digital Government technology is accelerating the capitalization of new economic opportunities toward a fully connected, informed, and digital nation.

Public and private stakeholders in the digital sector have made significant improvements to advance the digital economy. On its part, the digital industry has a prominent role in ensuring such development's inclusivity. One way of doing it is to ensure citizens' equitable access to information while expanding their horizons.

Omnichannelling is one good way of achieving that by interacting with customers over the ICT outlets of their liking.

Given the pervasive nature of digital technologies and the potential for broad-based impact across industry and society, the Digital Roadmap was developed with three objectives in mind:

• To position Zanzibar as a preferred investment and tourist destination.

- To accelerate the growth and digital transformation for all sectors of the economy.
- To create a connected, informed, and empowered society.

Digital is formulated as the action plan to be implemented up to 2027.

SHAPING THE DIGITAL FUTURE











What is the DIGITAL Roadmap?

The Digital Roadmap is a government initiative that documents the aspirations to transform Zanzibar into a digitally-driven society and a leader in the digital economy in the region. It details the initiatives necessary to realize those aspirations across Zanzibar's digital divide.

Why NOW?

Currency-based transactions are fast way. E-commerce. giving marketing, and online sessions ranging educational from trainina international forums, e-health, and working from home are gaining more prominence. More and more countries recognizing are cryptocurrencies as legal payment systems. The COVID-19 pandemic awakened the international community to the practicality of digitalized economy. So did the Ukraine War. The lesson learned from all these cases is that time for transforming into a digital economy is now. We must embrace digitalization, seize opportunities arising from this trend for our well-being, and stay relevant and competitive.

What is a Digital Economy?

Suppose the Digital economy is the economic and social activities that involve the production and use of digital technology by individuals, businesses, and government. In that case, it has already knocked on doors. Mobile banking is already in routine use, whether through mobile phones or other electronic devices. ATMs are being installed almost daily at almost every corner. Several applications to pay for a range of services are increasingly being used.

Where are we heading?

The digital agenda goes beyond the adoption of the latest digital technology. It's about adopting digital-first thinking, how organizations are led, and how opportunities are embraced. There is a need for a thorough rethinking of how work is done and environmental well-being sustained economically, socially, and securely resiliently.

Despite the universally high speed of digital transformation, Zanzibar is expected to cope if the measures set out in this document are implemented. This strategy sets out a path to ensure Zanzibar meets its full potential in the digital future.

A digitally-enabled government will provide integrated end-to-end online government services which are more efficient, effective, and transparent. By 2027, Zanzibar is projected to achieve the following.



Community

- Improve Accessibility, Convenience, and Inclusivity.
- Annual increase in new digital jobs.
- 100% of households with access to the internet.
- All students will have access to the internet.
- Enhanced environmental Sustainability with digital services will reduce paper documents and in-person travel.



Businesses

- Increase productivity across all sectors.
- Digital economy to contribute to ~30% of Zanzibar's GDP.
- Micro, small and medium enterprises (MSMEs) adopt eCommerce and digital payments.
- Attract foreign investments
- Increase in skilled digital workforce and new job growth.

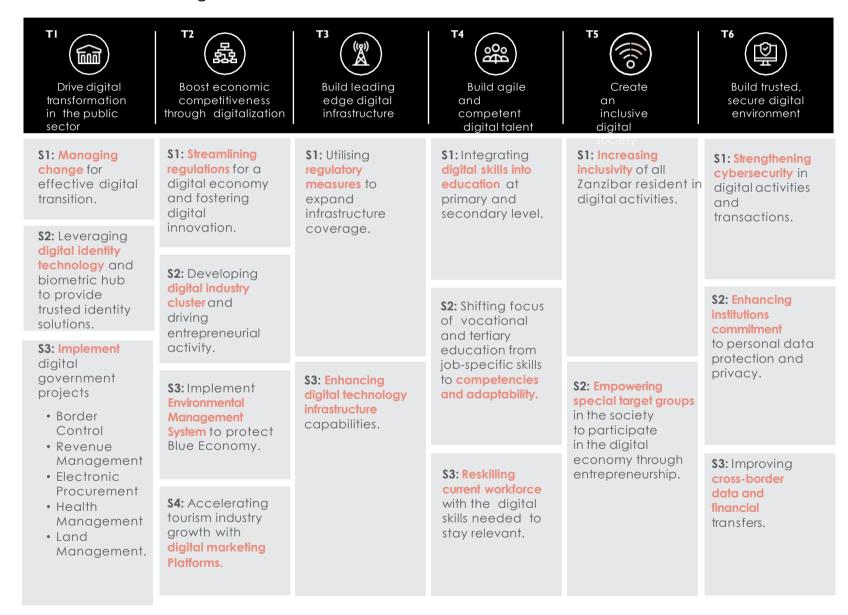


Government

- Enhance Citizen
 Engagement and Service
 Delivery.
- Increase efficiency with cost reduction.
- 100% government workforce to be digitally capable.
- 100% end-to-end online government services.
- All ministries and agencies to provide a cashless payment option.

Enabling Digital Business Environment

The Digital Roadmap sets out the consolidated interaction across the community, business, and the government. This will be in three implementation phases up to 2027, through 6 thrusts and 17 strategic initiatives illustrated below.



DIGITAL GOVERNANCE

The Digital Roadmap consists of a delivery-driven governance framework and a whole-of-government approach involving partnerships between the community (people), businesses (private sector), and the government (public sector).

It is committed to improving people's approval and satisfaction with government services by enhancing the skills for public service delivery. A Digital Transformation Office (DTIO) will be purposefully set up to spearhead this initiative. To ensure that every Zanzibar resident plays their role, sustainably effective awareness-building strategies will be deployed.

The implementation of the DIGITAL roadmap will be overseen by a governance framework featuring:

- A strategic Digital Transformation

 Office (DTIO) aimed at, among others, inducing a digital and innovative mindset in the community.
- A transparent and precise monitoring and evaluation mechanism to establish complete feedback loops, both top-down and bottom-up.
- Six specific clusters chaired by Ministers and the DTIO, each supported by experts on regulation, cyber security, and sustainability. This aims at ensuring quality services through interministerial collaboration.
- Clear timelines to deliver measurable outcomes for each initiative.

Towards a holistic approach to the digital economy.

DIGITAL Roadmap

- Chart the growth trajectory of the digital economy.
- Builds a foundation to drive digitalization across Zanzibar, including bridging the digital divide.

This roadmap concentrates on helping businesses reach digital maturity and how to grow technologically-oriented business growth. Small Medium to Enterprises (SMEs) are vital to Zanzibar's business base. Interventions are. therefore. specifically for supporting SMEs.

INTENDED OUTCOMES

Towards inclusive, responsible, and sustainable socioeconomic development



Socio-environmental well-being for all



Business growth in all sectors



Fit-for-future government

- Whole-of-nation approach (People- Private-Public Partnership)
- Outcome-oriented cohesive strategies and initiatives
- Delivery-driven governance structure



SECTION 1 INTRODUCTION



Today, the world is increasingly digitalizing on all fronts.

The digitalizing world is drastically changing the way of life at all levels. Consequently, it is transforming public expectations of public services. Therefore, governments must change their working mechanisms to meet these expectations.

The world is investing in the digital economy for better quality services. Developed countries have launched long-term strategies and initiatives to maximize the benefits while minimizing risks.

To be included, Zanzibar must staunchly adapt to this changing business landscape, as seen in activities like e-commerce, online banking, and social media interaction. Successful adaptation will profoundly impact Zanzibar's economy - creating new jobs, new businesses, and new markets and improving the quality of life in general.

THE DIGITAL CONTRIBUTION

The impact of the digital economy is wide-ranging and transformative, positively impacting societies, businesses, and governments.



SOCIETY

Job opportunities for skilled part-time and temporary (gig) workers

- The digital economy creates new job opportunities, such as software development, data scientists, IT supporting works, and digital content creation.
- New business models have also created opportunities for people to participate in the gig economy. Gig workers are generally more flexible and independent than traditional employees



BUSINESS

New business models offer new products and services

- Digital technologies have produced new business models that have disrupted traditional practices
- The availability of computing facilities like storage, databases, and computing through the internet (Cloud computing) allows businesses to procure services without having to own and maintain assets
- By becoming digital, physical products and services like books and DVDs in stores are being steadily replaced.

Larger market catchment for commercial activities

 Online business provides wider market channels domestically and globally, thus providing more significant opportunities for local products to be marketed and sold via eCommerce



GOVERNMENT

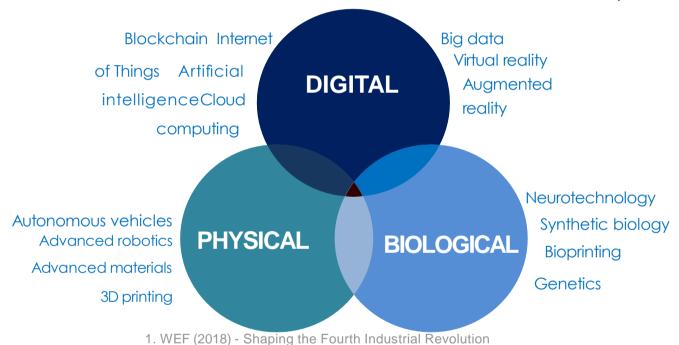
Improved public service delivery

- Digital technologies enable governments to increase the scope and quality of public services
- e-Government portals improve the efficiency of service delivery, such as applying for licenses, tax filing, and procurement processes

THE DIGITAL ECONOMY AND 4IR

The world's transition to the current industrially enabled economy has come a long way. Mass production of mechanical and consumer products catalyzed the world economy immensely thanks to the Industrial Revolution of the Eighteenth and Nineteenth Centuries. The Revolution itself has gone through many transformations, as illustrated below.

Resulting of the rapid Information and Communication Technology advancements widely considered the Fourth Industrial Revolution (4IR), Digital Economy's transformation is unprecedentedly fast. The fusion of technologies has removed barriers of the digital, biological, and physical worlds (as illustrated by the figure below) in such a way as to make it difficult for the old mode of business to function correctly.



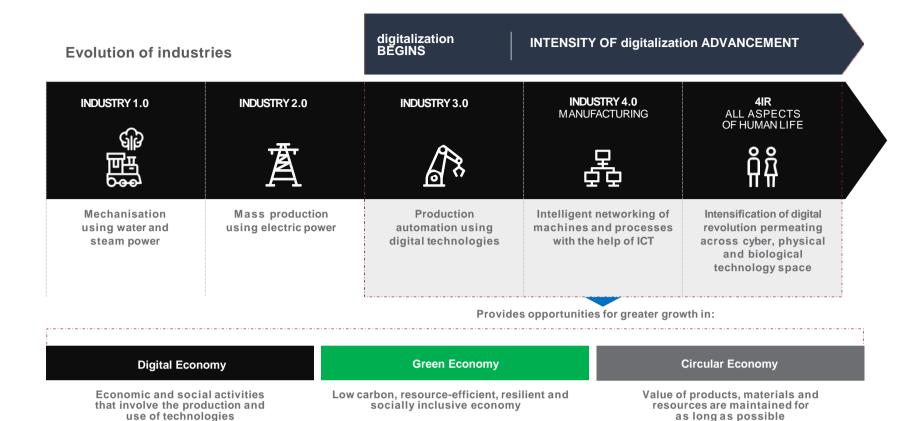
In the 4IR, technologies catalyze the economy in an amazingly efficient manner. Business sessions conducted online, documents exchanged electronically, and money transfers finalized within a click of a handset are just a few examples of how such efficiency in doing business is enhanced.

Business language is equally transforming to cope with the emerging new trends.

Blockchain, for example, is an electronically shared ledger of transactions. Through the use of sensors, billions of living and non-living things are interconnected for them to share vital information without the necessity of personal or computer-aided intervention.

This is termed The Internet of Things, whose one of its many advantages is enabling sustainable surveillance of business systems.

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In efforts to embrace the Digital Economy, various ministries and agencies have set up digitalization agenda among their top priorities.

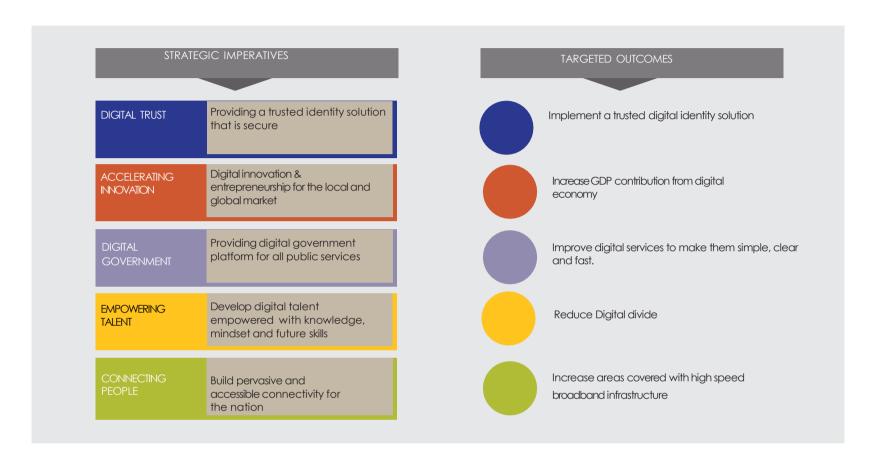
At the Government level, though, more needs to be done, especially in technological advancements, labor market requirements, and business model innovations.

Only through such efforts can the changing public expectations be appropriately met, thus achieving Zanzibar's Digital Economy Vision "to transform Zanzibar into Upper-middle Digital Economy."

The Roadmap advocates for co-solution approaches with businesses and society to tackle economic, social, and environmental challenges via innovative people-private-public partnerships to achieve the intended outcomes, as shown in the diagram above.

As for implementing the Digital Economy Roadmap, the approach will include delivery-driven, and Ministry led clusters in the governance structure. The aim is to increase the clarity of focus areas and improve overall efficiency and accountability, which can ultimately facilitate change across the nation.

THE DIGITAL ECONOMY IMPERATIVES



Zanzibar's economy must adapt and seize opportunities to innovate in an interconnected world where countries advanced in digital technology continue to disrupt markets and revolutionize industries. To succeed in the digital economy, the following will be done:

- Make it possible for all businesses to be digitally secure
- Create conducive conditions for technology businesses to grow, thrive, create jobs, and attract investment

- Zanzibar's economy must adapt and seize Build digital skills in the workforce to opportunities to innovate in an enable these businesses to recruit and interconnected world where countries thrive
 - Utilise the potential of the national government to stimulate and scale innovation in ways that meet public service and environmental challenges at local and international levels.



SECTION 2 ACCELERATING THE DIGITAL ECONOMY

DIGITAL ECONOMY ROADMAP

VISION

To be a leader in the digital economy and achieve inclusive, responsible, and sustainable socioeconomic development

OBJECTIVES

Encourage industry players to become creators, users, and adopters of innovative business models in the digital economy. Harness human capital that can thrive in the digital economy.

Nurture an integrated ecosystem that allows society to adopt a digital economy.

1

Drive digital transformation in the public sector 2

Boost economic competitiveness through digitalization

6 THRUSTS

Build enabling digital infrastructure 4

\$1: Integrating digital

skills into education

at primary and

Build agile and competent diaital talent 5

Create an inclusive digital society 6

Build trusted, secure digital environment

17 STRATEGIES

\$1: Managing digital transformation effectively

S2: Leveraging digital identity technology and biometric hub to provide trusted identity solutions

\$3: Implement Digital Government Projects

- Border Control
- Revenue Management
- Electronic Procurement
- Health Management
- Land Management

\$1: Streamlining regulations for a digital economy and to foster digital innovation

\$2: Developing digital industry cluster and driving entrepreneurial activity

S3: Implement Environmental Management System to protect Blue Economy

S4: Accelerating tourism industry growth with digital marketing platforms

\$1: Utilising regulatory measures to expand infrastructure coverage

\$2: Enhancing digital technology infrastructure capabilities

secondary level

\$2: Shifting focus of

vocational and tertiary education from job-specific skills to competencies and adaptability

\$3: Reskilling workforce with the digital skills needed to stay relevant \$1: Increasing inclusivity of all in digital activities

special target groups in the society to participate in the digital economy through entrepreneurship \$1: Strengthening safety and ethics in digital activities and transactions

S2: Enhancing institutions commitment to personal data protection and privacy

\$3: Improving crossborder data transfer

NATIONAL INITIATIVES

CASE FOR CHANGE

Due to several challenges, the digital economy offers enormous opportunities yet to be fully exploited. These challenges justify the need for a digital economy to facilitate the changes necessary to utilize those opportunities.

The changes are faced with six significant challenges shown below, whose tackling are the basis for the development of key thrusts, strategies, and initiatives commensurate to the Digital Economy Roadmap



DIGITAL STRATEGIC THRUSTS AND INITIATIVES

THRUST 01



Drive digital transformation in the public sector.

Thrust 1 aims to accelerate the transformation of the public sector into a digital government. This will be achieved by leveraging digital technologies, data, and digital intelligence, enhancing the digital skill sets of the workforce, and increasing the quality of online services.

The goal is for the Government to adopt and use digital technologies and data to modernize the public service and become more citizen-centric in its service delivery. With strong leadership to drive digital transformation, the government strives to be agile, proactive, and digital by design, data-driven and user-driven.

The Digital Economy Roadmap is a call to action for the public service to operate in the

The digital world in a more modern and efficient way — delivering the outcomes that Zanzibar needs.

The government will invest in digital technologies and tools and introduce national plans to modernize and advance the digital economy. These initiatives will also increase digital adoption rates, change the civil service culture and encourage embracing a digital-first mindset.

The Digital Roadmap sets the direction for developing a modern public service and the systems that will meet people's needs in a digital world.

VISION

The Digital Economy Roadmap envisions that Zanzibar will effectively use Digital Economy to achieve Upper-middle Income Status.

OBJECTIVES

The Digital Economy Roadmap intends to fulfil three policy objectives:

- 1 Encourage industry players to become creators, users and adopters of innovative business models under the digital economy.
- 2 Harness human capital that can thrive in the digital economy.
- 3 Nurture an integrated ecosystem that allows society to adopt the digital economy.
- 4 Efficiency through infrastructure sharing across government offices.

THRUSTS

The Digital Economy Roadmap comprises six thrusts that support the objectives and overall vision. Each thrust guides the strategic direction of the roadmap to address specific issues and cases for change. The following are the six thrusts:

- 1 Drive digital transformation in the public sector.
- 2 Boost economic competitiveness through digitalization.
- 3 Build enabling digital infrastructure.
- 4 Build agile and competent digital talent.
- 5 Create an inclusive digital society.
- 6 Build a trusted, secure and ethical digital environment.

Role of stakeholders.

The roles of the public sector (government), private sector (businesses), and civil society organizations (society) to achieve the vision and objectives set in the roadmap are complementary to each other.

The government plays a vital role as an enabler in transforming Zanzibar by setting direction, facilitating initiatives, and encouraging businesses and society to embrace digital technology.

The private sector is encouraged to capitalize on digital platforms, ecosystems, and marketplaces in their activities and collaborate with the public sector and Civil Society Organisations (CSOs) in new partnership models. It is imperative that the private sector leads a responsible and sustainable approach when delivering products and services and co-creates innovative solutions for positive social and environmental impacts.

Set up Digital Transformation & Innovation Office (DTIO) to drive digitalization and respond to rapidly evolving digital technologies.

OBJECTIVE

- Position the Digital Transformation and Innovation Office (DTIO) as the sole agency to drive public sector digital transformation. Zanzibar eGovernment Authority (ZeGA)will replace the current eGovernment Authority Zanzibar (eGAZ) and lead digital government initiatives.
- Review and streamline DTIO roles and functions to drive the adoption and execution of the national digital agenda in the public sector
- Strengthen DTIO capacity and capability to facilitate effective change management

DESCRIPTION OF INITIATIVE

- This initiative aims to strengthen DTIO's role in designing nationwide systems for all levels of government, to drive digitalization better
- DTIO to drive new capabilities and existing strategies in ministries and agencies that go beyond IT implementation, including embracing digital change
- DTIO to be granted a more significant mandate in enforcement and to act as an advisor, project member, or subject matter expert on nationwide digital-related projects

OUTCOME

- The sole agency responsible for pushing forward the public sector digital transformation agenda
- Ministries and agencies have new capabilities to harness 4IR and digital technologies toward becoming an agile and datadriven government

Timeline: 2023 - 2024			
LEAD	TARGET		
DTIO	Set-up of DTIO with clear roles and functions by 2023		

\$1.2 Establish data-driven policy development and improve the data-sharing environment to ensure data quality.

OBJECTIVE

- Establish Zanzibar's Digital Government Policy (ZDGP) and align the digital government policy with the Zanzibar Development Vision 2050
- Maximize data usage for improved policy analysis and development, as well as optimize machine-readable data
- Provide more services for data utilization and facilitate data sharing by agencies

DESCRIPTION OF INITIATIVE

- This initiative aims to enhance evidence-based policy development
- Establish guidelines for open data to ensure data is available by default, accessible, reliable, reusable, comprehensive, comparable, and interoperable
- Expand service catalogs to include all potential ministries and agencies to facilitate more data sharing
- Ministries and agencies to produce an open Application Programming Interface (API) to share real-time and aggregated data

OUTCOME

 Establishment of open data guidelines to produce data with transparency, integrity and accountability

Timeline: 2023 - 2027		
LEAD	TARGET	
DTIO	 50% data must be machine-readable, with access to the data through APIs 	
	All ministries and agencies to develop access to data through APIs	

THRUST 01 Drive Digital Transformation in the Public Sector

S1.3 All ministries and agencies adopt cashless payments as the preferred method for more efficient transactions.

OBJECTIVE

Increase digital (e-payment) adoption for all government services in ensuring efficient, transparent and timely transactions

DESCRIPTION OF INITIATIVE

- This initiative aims to ensure that government agencies at all levels implement e-payment as the preferred transaction method
- Increase the number of point-of-sale terminals, implement a unified payment interface (UPI) and digital wallet
- Promote the benefits of cashless transactions to gain public trust
- Adopt international standards to improve interoperability and ensure all payment systems are reliable, resilient and secure

OUTCOME

- Increased access to convenient payment options at all government agencies
- More efficient and transparent public service delivery
- Reliable and comprehensive data set for evidence-based policy development

Timeline: 2023 - 2024

LEAD Ministry of State, President's Office, Finance and Planning TARGET
All ministries and agencies to provide cashless payment option by 2024

\$1.4 Enhance Government Online Services Gateway (GOS Gateway) with integrated systems for greater ease of doing business

OBJECTIVE

- Provide a one-stop Government portal by incorporating services offered to all governments
- Reduce fragmentation of services, thereby increasing public sector efficiency and productivity

DESCRIPTION OF INITIATIVE

- This initiative aims to provide the GOS Gateway and implement Zanzibar Government Portal (ZGP) as a one-stop and single window
- Establish Huduma Pamoja one-stop service centers and call center
- Establish a comprehensive, authoritative, and unified Zanzibar Government Service Directory (ZGSD)

OUTCOME

- Improved ease of doing business and optimisation of resources
- Efficient public service delivery

Timeline: 2023-2024		
LEAD	TARGET	
DTIO	End-to-end online government services to be integrated by 2027	

THRUST 01 Drive Digital Transformation in the Public Sector

Accelerate digital signature implementation across public sector online services **S1.5** to enable end-to-end digital transactions.

OBJECTIVE

Enable end-to-end digital transactions through secured signatory authentication to fulfill requirements of confidentiality, identity authentication, and integrity of information involving public sector online services.

DESCRIPTION OF INITIATIVE

- Establish a Legislative Framework for Digital Signature
- Implement digital signature infrastructure and services
 - Public Key Infrastructure (PKI). The PKI allows for digital certificate creation, storage, distribution, and revocation. This infrastructure ensures that each entity (person, organization, server) participating in a data exchange can verify the identity of the other entities.
 - Certificate Authority (CA) and Registration Authority (RA), The certificate authority(CA) issues digital certificates to users. These digital certificates are then used in the creation of digital signatures. The RA verifies the identities of entities requesting digital certificates before the CA issues them.
 - Digital Signature Application. The digital signature software that enables the creation and verification of digital signatures.

OUTCOME

- Enhanced security and trust with a tamper-evident seal as the unique identifying "fingerprint" data, which is permanently embedded within a document
- Saved costs and time in managing documents

Timeline: 2024-2027

LEAD

DTIO & President's Office. Constitution. Legal Affairs, Public Service and Good Governance

TARGET

Full adoption of digital signature in the public sector by 2027

S2.1 Leveraging blockchain digital identity technology and biometric hub to provide trusted digital identity

OBJECTIVE

- · Standardisation and Digitisation of Civil Registries.
- Adopt blockchain digital identity technologies to provide trusted identity solutions for Zanzibar Digital ID
- Define and finalize Trusted Digital Identity Framework and electronic Know Your Customer (eKYC) platform.

DESCRIPTION OF INITIATIVE

- Implement a Biometric Hub (for Citizens And Foreigners) and Digital Identity ('ID') Management System, including eKYC, digital signature, and physical ID card.
- Introduce a trusted and secure digital identity service for users to prove who they are and are eligible for service. Users can store their information and choose to share it when applying for public and private services.
- This initiative aims to implement the Digital ID as a trusted digital identification for individual verification in obtaining services from multiple service providers. The Digital ID will complement the physical ID as proof of citizenship/residency.
- This will improve a user's access to services by providing a safe and secure way to prove their identity while reducing time and cost for the public sector to comply with eKYC requirements.
- This initiative requires setting up a multi-modal authentication hub. The authentication hub will manage robust and multi-factor authentication in the digital world.

OUTCOME

- Adoption of digital identity technologies to enablé effectiveness and efficiency for ID verification and authentication.
- Standardisation and Digitisation of Civil Registries
- Secure online transactions
- Reduction in identity fraud

Timeline: 2023 - 2027

LEAD

DTIO & Ministry of **Home Affairs**

TARGET

 Implement trusted digital **ID** solution

THRUST 03 Drive Digital Transformation in the Public Sector

S3. a Digitise Border Control Services to improve security and the travel experience.

OBJECTIVE

 Digitising border control services to improve security, reduce waiting times, and enhance the travel experience.

DESCRIPTION OF INITIATIVE

- Implement a Border Control Management System. Utilise biometrics and data analytics for smart border control. Leverage the digital identity hub to verify the identity of travelers. Upgrade IT infrastructure hardware and install required equipment biometric border control gates, biometric scanners, etc.
- Implement eVisa and eTA systems to streamline the application and payment process, making it faster, more efficient, and accessible anywhere globally.
- Implement an Automated Passenger Screening System (APSS) to screen passengers and detect potential threats. The system provides Identity Verification, Risk Assessment, Database Cross Checks, and Integration with airline booking systems and immigration databases.
- Integrate the ePassport System with the border control system issuance, management, and verification of ePassport.
- Implement eResident and Digital Nomad Management System to manage and service its e-residents and digital nomads.

OUTCOME

- Implement integrated border control management
- Improve border security and enhance travel experience.
- Reduce time taken to process visas and provide convenience to travellers.

Timeline: 2023-2027

LEAD

DTIO & Ministry of Home Affairs -Immigration Services TARGET

Modernise border control operations using technology and integrated systems.

S3.1b Digitise Border Control Services to provide a pre-entry Cargo Screening System.

OBJECTIVE

Implementing pre-entry cargo screening is essential for enhancing security and efficiency in tax recovery. These systems employ digital technologies to screen cargo to determine compliance with applicable taxes and customs regulations.

Automated cargo screening and scanning contribute to faster processing times, reducing delays and promoting smoother operations in cargo handling facilities like ports, airports, and border crossings.

DESCRIPTION OF INITIATIVE

 Implement Advanced Cargo Screening System – pre-entry cargo screening, Tax and Customs Regulatory Enforcement, Risk Assessment, Analysis, Data Management, and Reporting

OUTCOME

- Enhanced security for goods
- Efficient cargo operations
- Regulatory compliance with local and international regulations for the movement of goods

Timeline: 2024-2027

LEAD

DTIO & President's Office, Finance and Planning

TARGET

Implement
Cargo Screening
capabilities by
2026.

THRUST 01 Drive Digital Transformation in the Public Sector

S3.2 Implement Tax Revenue Management/ Taxation Administration.

OBJECTIVE

 Digitising tax revenue management/ taxation management enables the government to become more efficient, nimble, and fiscally stable. A digital approach can also help meet the public demand for convenience. Additionally, it provides easy access to comprehensive data, allowing government agencies to take meaningful actions designed to maximize and stabilize revenues.

DESCRIPTION OF INITIATIVE

- Implement a Digital Tax Platform. Digitizing Tax Revenue Management involves modernizing the tax management processes, systems, and data management to improve efficiency, accuracy, and accessibility.
- Implement electronic tax filing and payment systems.
 Introduce online platforms and portals that allow taxpayers to file their returns electronically and make payments online or through one-stop centers.
- Automate data processing and analysis. Streamline data processing and analysis and use data analytics tools to identify patterns, detect anomalies, and improve compliance efforts.
- Implement a Virtual Fiscal Device Management System (VFDMS)
- Outsource revenue collection to financial institutions

OUTCOME

- Increase Tax Revenue Collection and Tax Compliance Rate
- Improve Taxpayer Service Quality and Decrease Tax Return Processing Time
- Eliminate tax avoidance, enhance transparency, and accountability, curb corruption
- Integration with border control to enforce compliance

Timeline: 2023-2027 LEAD Ministry of Finance Trade & Investment Modernise tax administration and improve efficiency, effectiveness, and compliance of revenue collection by 2026

\$3.3 Implement Electronic Procurement (eP)

OBJECTIVE

Implementing electronic procurement (eP) streamlines and improves the efficiency of the procurement process, reducing the time and effort required for purchasing goods and services. It enables automation, standardization, and integration of procurement activities, resulting in cost savings through increased productivity, reduced administrative costs, and minimizes fraud.

DESCRIPTION OF INITIATIVE

- Design and develop e-procurement solution that aligns with the government's requirements for functionality, scalability, security, and integration capabilities.
- Provide the following capabilities Supplier Registration and Management; eTendering and eBidding; eCatalogue and Contract Management; Purchase Requisition and Approval Workflow; Purchase Order Management; Vendor Performance and Evaluation; Contract Compliance and Monitoring; Invoice Processing and Payment; Reporting and Analytics; Integration with Financial and ERP Systems
- Update applicable procurement laws, regulations, and guidelines to facilitate digital procurement processes.

OUTCOME

- Decrease Procurement Costs and Reduced Procurement Cycle Time due to better pricing, increased competition, and elimination of inefficient processes.
- Ensure adherence to procurement regulations, policies, and ethical standards.

Timeline: 2024-2027

LEAD

DTIO & President's Office, Constitution, Legal Affairs, Public Service and Good Governance

TARGET

Implement eP by 2025 for public sector procurement.

THRUST 01 Drive Digital Transformation in the Public Sector

\$3.4 Implement Health Management Information Systems (HMIS).

OBJECTIVE

Implement a comprehensive electronic medical record system (Health Information Exchange). This enables interoperability between health facilities, improves data accuracy, and supports evidence-based decision-making.

DESCRIPTION OF INITIATIVE

- Implement Health Management Information System (HMIS) that provides the following capabilities: Patient Registration and Demographics; Electronic Health Records (EHR); Clinical Decision Support; Laboratory Information System (LIS); Pharmacy Management; Appointment Scheduling; Billing and Financial Management; Reporting and Analytics; Public Health Surveillance; Human Resources Management; Inventory and Supply Chain Management/ Electronic Logistics Management Information System (eLMIS); Quality Management and Patient Safety; Telehealth and Remote Monitoring; Data Security and Privacy.
- National Health Insurance claims management system.
- Update applicable laws, regulations, and guidelines to facilitate and safeguard digital healthcare data.

OUTCOME

- Efficient and patient-centric healthcare services. Provide a comprehensive view of patient data and support seamless data exchange among healthcare providers.
- Access to real-time, reliable, and comprehensive health information supports better resource allocation and healthcare planning.
- Reduction in fraudulent claims against National Health Insurance Fund.

Timeline: 2024-2027

LEAD

Ministry of Health

TARGET

Implement HMIS by 2027

\$3.5 Implement Digital Land Registry and Effective Property Tax Collection

OBJECTIVE

Digitise Land Registry and modernize property tax administration.

DESCRIPTION OF INITIATIVE

- Implement a comprehensive digital land registry and property tax administration system consisting of the following:
 - Land Parcel Registration. Registers and maintains accurate information about land parcels, including boundaries, ownership, titles, and encumbrances.
 - Property Ownership Management. Manages property ownership information, including identification numbers, owner details, transfers, and transactions.
 - Valuation and Assessment. Handles property valuation, applying valuation methods, and calculating property taxes.
 - Payment and Revenue Management: Facilitates collecting and managing property taxes and related fees, offering electronic payment options and revenue tracking tools.
 - GIS Integration: Integrates land and property data with spatial information for visual representation and analysis.
- Supports compliance and legal enforcement of property tax regulations. This system manages enforcement actions and facilitates the resolution of disputes or non-compliance issues.

OUTCOME

- Effective land management and property tax collection practices.
- Save costs and time in managing documents

Timeline: 2024-2027

LEAD

DTIO & Ministry of Land, Housing, Water, Energy, and Environment. **TARGET**

Digital land registry and property tax collection system by 2027

THRUST 01 Drive Digital Transformation in the Public Sector

\$3.6 Drive Digital Transformation & Inclusion

OBJECTIVE

 Provide seamless, connected services and improve people's experience during important life events.

DESCRIPTION OF INITIATIVE

- Zanzibar Migrant Worker Management System
- Zanzibar Company Registration and Management System
- Zanzibar Vehicle and Number Plate Management System
- Zanzibar Social Welfare Management System
- Zanzibar Voter Registration and Management System
- Zanzibar eCourt System
- Zanzibar Credit Rating Agency Management System
- Zanzibar School and Student Management System
- Zanzibar University Enrolment Application Management System

OUTCOME

- Enhanced citizen satisfaction
- Improved accessibility, increased efficiency
- Reduced fraud and corruption
- Environmental sustainability
- Digitally Empowered Workforce

Timeline: 2024-2027

LEAD

DTIO & Relevant Ministries **TARGET**

Implement
Digital Full Scope
of Government
Service by 2027

THRUST 02



Boost economic competitiveness through digitalization.

Thrust 2 aims to accelerate digital adoption, empower digital stewardship, and shape new revenue streams and business models. As the economy digital ecosystems transforms and integrate, businesses that embrace technology and build on the diaital continued economy generate will arowth.

The aspiration is to have Zanzibar businesses implement innovative ideas and models where local champions will lead economic growth, focusing on productivity and improving livelihoods. This will create new industry players for a more vibrant and innovative digital economy.

Globalization and the shift in consumer priorities have enhanced the needs and expectations of digitalization. It is forecasted that in the next decade, 60% to 70% of new values will be created on digitally-enabled platforms, making the digital economy the next economic revolution.

The mass adoption of digital technologies and the establishment of connected digital services are the leading accelerators of economic competitiveness in advanced economies.

S1.1 Adopt an agile regulatory approach to meet the needs of digital economy businesses

OBJECTIVE

- Establish a conducive regulatory environment for digital economy development and to set up Zanzibar's digital special economic zone (ZDSEZ)
- Review regulatory requirements to facilitate innovation and expand coverage to include new technologies and business models

DESCRIPTION OF INITIATIVE

- This initiative aims to identify priority regulations to review and update
- Enact regulations to set up Zanzibar's digital special economic zone (ZDSEZ)
- Developing a code of conduct (for regulators) to encourage industry involvement in regulatory designs for the digital economy
- Identifying areas of involvement in developing a typology of relevant regulatory approaches to capitalize on opportunities and mitigate the challenges of digital transformation
- Expanding regulatory sandboxes

OUTCOME

- Increased market entry for new businesses
- More opportunities to transform digital industry

Timeline: 2023-2027

LEAD

DTIO & President's Office, Constitution, Legal Affairs, Public Service and Good Governance

TARGET

- Set up Digital Special Economic Zone
- Contribute to the creation of digital start-ups by 2027

S1.2 Incorporate comprehensive digital economy elements in international trade arrangements and cooperation

OBJECTIVE

Establish digital economy arrangements and cooperation to support the productivity and competitiveness of businesses, notably the Micro, Small Medium Enterprises (MSMEs) in regional and global markets.

DESCRIPTION OF INITIATIVE

- This initiative aims to accelerate digital integration actions at the regional level, facilitate cross-border trade and investment, and lower the operating barriers for businesses, particularly the MSMEs
- Influencing the process at multilateral and plurilateral levels to establish a global framework and obligations that enable digital trade in a
- non-discriminatory and less restrictive manner
- Implementing and exploring enhanced trade arrangements and framework of cooperation in strategic areas of digital economy at the bilateral and regional levels

OUTCOME

 Creation of a digital trade environment with improved stability, lowered risks and reduced compliance costs

Timeline: 2023-2030

LEAD

Ministry of Trade and Industrial Development

TARGET

Key and strategic digital economy elements incorporated in all international trade arrangements and cooperation

\$2.1 Empowering local champions and stimulating investment through digital industry clusters

OBJECTIVE

Elevate Zanzibar as the regional champion of digital industry clusters to spur economic development. Establish Zanzibar Blue Digital Hub Lab as a joint undertaking by the ZeGA and the State University of Zanzibar (SUZA) to conduct research and develop digital solutions incorporating Blockchain, Artificial Intelligence, and Machine Learning technologies.

DESCRIPTION OF INITIATIVE

- This initiative aims to develop the value proposition for establishing potential digital industry clusters.
- Promoting the digital industry clusters to establish their presence internationally and raise the industry cluster's profiles in foreign markets through promotional drives, including participation in trade missions and international trade fairs, internationally and locally
- Developing a single window platform with a comprehensive database for investment opportunities and increasing ease of doing business within the clusters
- Enhancement of incentive packages to attract targeted investors in the diaital industry clusters

OUTCOME

- Zanzibar Blue Digital Hub Lab
- Establishment of digital industry clusters as a regional hub
- More local champions become global and regional players

Timeline: 2023-2027

LEAD

DTIO & Ministry of Trade and Industrial Development

TARGET

Zanzibar Blue Digital Hub Lab established by 2024.

New digital businesses headquartered and operating in Zanzibar

S2.2 Organise open data digital challenge that encourages innovatively solving social and environmental issues

OBJECTIVE

Grow local digital champions capable of solving social and environmental issues, ultimately becoming regional players. Digital technologies can collect and analyze vast amounts of data related to marine ecosystems, weather patterns, and other factors that influence the Blue Economy. This data can inform decision-making, improve resource management, and predict future trends.

DESCRIPTION OF INITIATIVE

- This initiative aims to introduce a national innovation challenge, which allows experimentation as well as collaborative, heterogeneous, and hybrid networks, as a tool to solve social and environmental issues
- This will be organized in four phases, from the identification of the issue to the commercialization of solutions

OUTCOME

- Utilise digital technologies to drive innovation in the Blue Economy, leading to the development of new products and services.
- Creation of locally-grown digital champions

Timeline: 2023-2027

LEAD

DTIO, Ministry of Blue Economy and Fisheries

TARGET

Contribute to the creation digital start-ups by 2027

S3. Developing Innovative Solutions for the Blue Economy

OBJECTIVE

Implement technology and innovative solutions that enhance maritime safety. The Vessel Monitoring System (VMS) and drones provide effective environmental monitoring and protection for Zanzibar's Blue Economy. VMS ensures that vessels comply with restrictions in marine protected areas, while drones enable quick response to environmental incidents and assist in monitoring their extent and impacts.

DESCRIPTION OF INITIATIVE

- Design and provide infrastructure and systems for the following:
 - Vessel Monitoring System (VMS). Implement Vessel Monitoring System (VMS) to monitor fishing, fleet surveillance, and maritime safety. Terrestrial Automatic Identification System (AIS)
 - Synthetic Aperture Radar (SAR) Satellite Imaging System
 - Autonomous Drones

OUTCOME

- Enhanced marine & coastal security management
- Efficient fleet monitoring and prevention of Illegal, Unreported, and Unregulated (IUU) fishing

Timeline: 2023-2027

LEAD
DTIO, Ministry of First
Vice President's Office,
Ministry of Blue
Economy and Fisheries

TARGET

VMS & Autonomous Drones deployed by 2027

\$4.1 Implement Environmental Management System

OBJECTIVE

An Environmental Management System (EMS) can significantly contribute to the Blue Economy in Zanzibar by providing a structured approach to planning and implementing environmental protection measures. The EMS enables Zanzibar to identify, manage, monitor, and manage environmental issues.

DESCRIPTION OF INITIATIVE

- Implement Environmental Management System to monitor and manage natural resources and environment more effectively. Technologies such as Al and Machine Learning can be used for data analysis, while IoT devices can help monitor and manage marine resources more effectively.
- EMS to provide the following capabilities:
 - Environmental Impact Assessment to assess the environmental impact of various activities within the Blue Economy, such as fishing, aquaculture, shipping, tourism, etc.
 - Sustainability Planning and Implementation.
 - Monitoring & Data Management, Waste Management, Incident Management
 - Risk Assessment and Management, Regulatory Compliance, Audit & Reporting.

OUTCOME

- Environmental & Economic Sustainability
- Monitoring and Reducing Pollution
- Climate Change Mitigation and Adaptation
- Natural Capital Valuation for Blue Economy Industries

Timeline: 2023-2027

LEAD
DTIO, Ministry of
First Vice
President's Office,
Ministry of Blue
Economy and
Fisheries

TARGET
Implement EMS by 2025.

\$4.2 Implement digital marketing platform & campaigns to increase tourist arrivals and tourism spend

OBJECTIVE

Implement a Tourism Management System that utilized a digital marketing platform to market Zanzibar as the preferred destination for eco-tourism. Provide extensive and interesting tourism information, and improve engagement through personalized next-best actions and tourist content recommendations.

DESCRIPTION OF INITIATIVE

- Implement Zanzibar Tourism Management System that delivers personalised content and experiences to official tourism website visitors. Use data-driven digital touchpoints to address a visitor's end-to-end journey. Construct 360-degree views of visitors to design customise campaigns backed by marketing automation.
- Trip Planner. Provides guidance on itineraries, accommodation, travel facts, visa information, and more, helping tourists to plan their visit.
- Social Media Integration. Create presence on multiple social media platforms including Facebook, Instagram, Twitter, and YouTube, to share engaging content and interact with their audience.
- Partnership and Deals. Showcases deals and offers available from travel partners, making it easier for tourists to find and book services.
- Digital Marketing Analytics. Monitor the performance of the digital marketing campaigns, understand user behaviour, and refine their strategies accordingly.

OUTCOME

- · Increase tourism arrivals and tourist spend.
- Creation of digital Micro, Small, Medium Enterprise (MSME) businesses that operate digitally for managing end-to-end service provisions in the tourism industry.

Timeline: 2023-2024

LEAD

DTIO, Ministry of Tourism and Heritage, Ministry of Blue Economy and Fisheries

TARGET

Implement Tourism
Management
System by 2024

THRUST 03



Build enabling digital infrastructure

Thrust 3 aims to provide access to extensive and high-quality digital infrastructure, enabling people to participate in the digital economy. The government and businesses will be able to operate efficiently and innovate continuously through a conducive digital environment provided by seamless and extensive digital connectivity.

Building a n d enabling digital infrastructures is fundamental in advancing the digital economy.

Digital infrastructures focused under this thrust comprise broadband, data centers, and 5G Networks. Such infrastructures allow for data generation, flow, exchange, consumption, and storage.

High-speed broadband access must be affordable and available. An enabling environment is required to enhance the development of digital infrastructures, including high-end data centers.

SI.I Review laws and regulations to improve the provision for digital infrastructure

OBJECTIVE

Ensure a supportive regulatory framework for telcos to accelerate digital infrastructure rollout.

DESCRIPTION OF INITIATIVE

- This initiative aims to review, improve and streamline all relevant federal and state legislations and regulations diaital infrastructure regarding development.
- Enact legislation to support a cashless economy (to support digital wallets and smart cards), mandating all online transactions be enrolled in push notification services and multi-factor authentication for all online transactions.

OUTCOME

- More supportive regulatory environment for the telcos
- · Expedited rollout of broadband infrastructure

Timeline: 2023-2027

LEAD President's Office, Constitution, Legal Affairs. **Public Service and Good** Governance. Ministry of Infrastructure. Communication and **Transport**

TARGET All relevant legislations and regulations relating to digital infrastructure development are reviewed by 2024

S2.1 Provide necessary ICT infrastructure to enable the digital economy

Provide enabling infrastructure for the digital economy

DESCRIPTION OF INITIATIVE

- This initiative aims to provide or enhance the ICT infrastructure to improve broadband services, and digital government services and provide reliable high-end datacentres
 - Implement Enterprise Service Bus (ESB) platform to modernize Ministries, Departments, and Executive Agencies (MDA) legacy systems/ backend to support process automation
- Expand National Broadband Fiber backbone
- Provide additional submarine Cable System Gateway and Zanzibar Internet eXchange Point (ZIXP)
- Implement Zanzibar Government Network (ZAGONet)
- Implement Zanzibar Government VPN
- Setup and operate Government Internet Service Provider (GISP)
- Setup and operate Tier III Zanzibar National Data Centre(ZNDC), provide data center-based Government Service Performance Monitoring System, and migrate critical service delivery system to ZNDC.
- Develop a clear strategic plan in collaboration with the industry to promote investment and deployment of 5G technology
- Implement a Mobile Service Delivery Platform (MSDP). Zanzibar USSD-SMS Mobile Gateway
- Secure universal ICT infrastructure and connectivity
- Integrate infrastructure and data standards

OUTCOME

- Higher investment in the digital economy
- · More reliable and fast internet connection

Timeline: 2023-2027

LEAD TARGET

Ministry of Infrastructure, • Government Communication Transport,

President's Constitution, Legal Affairs, • Govt Contact Centre by Public Service and Good Governance,

- and Network by 2025
- Tier 3+ Data Centre Office, implemented by 2027.
 - 2027
 - Rollout of 5G network infrastructure by 2027.

VPN

THRUST 04



Build agile and competent digital talent.

Thrust 4 aims to ensure that digitalization is successfully embedded and adopted at various levels of education and in the existing workforce's upskilling and reskilling. The current and future workforce, including gig workers, will be well-equipped with digital skills to thrive in the evolving digital economy.

There are gaps in the use of technology and the introduction of computational thinking in the school curriculum, insufficient bandwidth, and a need for more ICT facilities. These form barriers are preventing students and teachers from embracing digital technologies. As vocational and tertiary education focuses heavily on job-specific skills, less focus is given to competencies and adaptability in using technology. This has contributed to job mismatch in the labor market.

The success of local businesses will depend on the skills and capabilities of the workforce. As job requirements change and new jobs are created, the critical challenge is for Zanzibar residents to acquire the skills required to remain relevant. Efforts to upskill and reskill the workforce still need to be improved despite the growing demand for technical skills.

Building future-ready digital talents who are well-equipped with the skills required to thrive in an evolving job market.

THRUST 04 Build agile and competent digital talent

S1.1 Introduce "My Device" program to ensure all students in can access digital learning

OBJECTIVE

Enable all school students to have access to digital learning.

DESCRIPTION OF INITIATIVE

- This initiative aims to introduce the "My Device" program, where all students will have access to devices, through various mechanisms, depending on their household income levels
- The program will be set up through public-privatepeople partnerships, where students will be provided with data plans and devices with strict security settings. This is to ensure the effective use and control of the device

OUTCOME

- Enhanced learning experience
- Digitally well-equipped students
- · Narrowed digital divide

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LEAD

Ministry of Education and Vocational Training TARGET

Each school

student to have

access to

individual digital device

\$1.2 Introduce digital packages to ensure all schools have good connectivity

OBJECTIVE

Equip all schools with good internet connectivity to facilitate digital learning.

DESCRIPTION OF INITIATIVE

- This initiative aims to provide high-speed broadband internet connectivity in schools by introducing special digital packages to facilitate online learning.
- Identifying financing models with contributions from the private sector and CSOs to support the implementation of this initiative.
- Equip students with the infrastructure necessary to apply the digital knowledge and available skills.
- Introduce a range of skills, from basic digital literacy to adopting technological changes.

OUTCOME

 Students have equal access to internet connectivity to embrace digital learning

Timeline: 2023-2027

LEAD

Ministry of Education and Vocational Training

TARGET

All schools have access to highspeed broadband internet connectivity.

THRUST 04 Build agile and competent digital talent

\$1.3 Adopt digital technology through collaboration with the private sector to enhance overall learning environment

OBJECTIVE

Provide a platform for managing online teaching and learning in primary schools.

DESCRIPTION OF INITIATIVE

- This initiative aims to accelerate the adoption of digital technologies within the current curriculum and existing subjects to create a more interactive learning environment and instill confidence in students about digital technologies from a young age
- A Digital Educational Learning Initiative will be set up to provide oversight of digital education
- Digital technologies can also be leveraged to improve the quality of Science, Technology, Engineering, and Mathematics (STEM) education in schools

OUTCOME

- Digital technology is embedded in the delivery of education
- Development of critical thinking among students

Timeline: 2023-2027

LEAD

Ministry of Education and Vocational Training **TARGET**

All schools adopt digital solutions and technology in the delivery of education by 2027

S2.1 Expand public-private collaboration to ensure the graduates are equipped with skills needed by the industry

OBJECTIVE

Strengthen the role of the Ministry of Education, Youth, Culture, And Library Services in establishing standards for digital skills.

DESCRIPTION OF INITIATIVE

- This initiative aims to align the curriculum design of Education Institutions and the in-demand digital skills of the industries. It also provides opportunities for participating industry players to assess future workforce capabilities.
- This will also leverage existing partnerships between the Government, academia, and industry. Blue Digital Hub Lab to offer specialized training on Blockchain, Internet of Things, Artificial Intelligence, and Machine Learning in Zanzibar Higher Learning Institutions

OUTCOME

- Improved coordination and interaction between industry players, educations institutions, and students
- Improved capability of students to be future workready

Timeline: 2023-2027

LEAD

Ministry of Education and Vocational Training

TARGET

Schools are strategic partners in digital training

THRUST 04 Build agile and competent digital talent

S3. Introduce a training program for to improve digital skills

OBJECTIVE

Encourage citizens to acquire relevant digital skills and embrace the digital culture at the workplace.

DESCRIPTION OF INITIATIVE

- This initiative aims to enhance the digital technology skills of Zanzibar's workforce
- Ministry of Immigration, Citizenship, Labour, And Employment Services, via a digital training fund, will drive this project, which can be carried out through an online learning platform in collaboration with technology providers.

OUTCOME

- Workforce who are equipped with digital skills
- · Narrow the digital gap

Timeline: 2023-2027		
LEAD	TARGET	
Ministry of Education and Vocational Training	50% of workforce trained in digital skills by 2027	

Streamline reskilling initiatives by various government agencies into a centralised portal for ease of access

OBJECTIVE

Give employers and employees access to information on skills training and job availability through a centralized portal.

DESCRIPTION OF INITIATIVE

- This initiative aims to centralize information on all existing upskilling and reskilling training initiatives by different agencies onto the "Future Jobs" portal
- All training programs will be streamlined to optimize resources and enhance the effectiveness
- Companies will be able to access customizable training programs, while employees will be able to explore career opportunities through this portal

OUTCOME

 Establishment of a single point of reference for employers and employees

Timeline: 2023-2027

LEAD
President's
Office, Labour,
Economic
Affairs and
Investment

"Future Jobs" as a single platform for upskilling and reskilling program for all employers and

TARGET

employees

49

S3.3 Introduce professional private sector upskilling programs related to the digital economy.

OBJECTIVE

Develop and upskill the workforce's digital skills in areas such as cyber security, content creation, data analytics, system integration, AI, and other relevant professional skills.

DESCRIPTION OF INITIATIVE

- This initiative aims to upskill the workforce in specific digital skills for professional development. It allows professionals such as data scientists, data analysts, cyber security workers, and Al specialists to share knowledge, expertise, and skill sets.
- Increase awareness of the Global Accredited Cybersecurity Education (ACE)
 - Certification Scheme, which defines the competencies expected of skilled
 - cyber security personnel. The certification supports the continuous development of individuals in mitigating cyber-related threats, as well as grooming effective cyber defenders
- Upskilling programs for digital skills will be undertaken either by local universities or through online classes. Training carried out for workers by companies will be eligible for a tax deduction

OUTCOME

- Workforce equipped with specific skills in digital economy that allows them to grow in tandem with the nation's digital economy
- Enhanced cyber security capabilities and standards among companies

Timeline: 2023-2027

LEAD

President's Office, Labour, Economic Affairs and investment

TARGET

Develop
professional digital
talent, including
cyber-security
knowledge workers
and data
professionals, by
2027

S3.4 Develop and upskill government workforce with digital skills

OBJECTIVE

Equip the government workforce across all job grades with digital skills

- Equip workforce talent with the right skill sets in specific areas
- Create a pool of highly skilled civil servants who will steer digital transformation
- Reduce dependency on external vendors or experts in technical services

DESCRIPTION OF INITIATIVE

- Establish a digital development training program. This initiative aims to develop two pools of in-house talent, namely specialized technical talent, including data scientists, cyber security experts and programmers, and subject matter experts with skills to plan and execute a strategic digital agenda, such as staff with experience in finance, blue economy, tourism, etc.
- This initiative aims to upskill the government workforce through wellplanned digital training modules and continuous training. Training will be mandatory.
- This includes creating attractive career paths to retain talent
- This initiative will also include long-term plans for continuous training and upskilling in technical areas

OUTCOME

- Civil servants with a holistic set of digital skills to enhance service delivery
- Empowerment of ICT-related talent with skills to steer digital transformation
- Improved public training institution capabilities

Timeline: 2023 - 2027

LEAD

President's Office, Labour, Economic Affairs and Investment

TARGET

- Establishment of a digital development cluster by 2024
- 100% civil servants to possess digital literacy by 2027

THRUST 05



Create an inclusive digital society

Thrust 5 aims to narrow the digital divide by ensuring every individual participates and reaps the benefits of the digital economy. One of the key outcomes of the Roadmap is to achieve an inclusive digital society, with no one left behind. Ethical behavior in digital technology will be prioritized in the effort to create a digitally responsible society.

A digital gap still remains across the dimensions of income, strata, age, gender, and skill sets. This will ensure efforts to achieve an inclusive digital society if adequately addressed.

It is essential to ensure that all population segments are provided equal opportunities to be equipped with the necessary knowledge and skill sets to thrive in the digital economy.

In a digitally inclusive society, individuals will be competent at adopting and integrating digital technologies into their lives.

THRUST 05 Create an inclusive digital society

\$1.1

Establish centralised database to provide a comprehensive and upto-date data on digital divide

OBJECTIVE

- Integrate relevant data on vulnerable groups into a single database to measure digital inclusion levels
- Minimise exclusion and inclusion errors through comprehensive and up-to-date information on the digital divide

DESCRIPTION OF INITIATIVE

- This initiative aims to facilitate the development of data-driven policies to bridge the digital divide
- Develop the Digital Inclusion Index (DII), which quantifies digital inclusion for the whole of Zanzibar

OUTCOME

- More accurate identification of exclusion and inclusion errors in the provision of assistance
- More targeted policies toward achieving a digitally inclusive society

Timeline: 2023-2027		
LEAD	TARGET	
DTIO	 A single database on vulnerable groups established by 2024 	
	•DII developed by 2024	

\$1.2 Promote electronic payment onboarding program for both merchants and consumers towards a cashless society

OBJECTIVE

- Expand electronic payments adoption by small merchants
- Increase electronic payments usage by consumers

DESCRIPTION OF INITIATIVE

- This initiative aims to incentivize both merchants and consumers to go cashless
- Implement electronic payments onboarding program by expanding the adoption of electronic payments among merchants, especially MSMEs, through subsidizing point-of-sale system setup costs and exempting e-payments transaction costs
- Incentivise the public to increase the usage of electronic payments

OUTCOME

- Cashless environment with reduced relignce on cash
- Widely used electronic payments in the society

Timeline: 2023-2027		
LEAD Ministry of Finance Trade & Investment	TARGET • Increased electronic payment transactions made per capita by 2027 • Digital terminals at merchants	

THRUST 05 Create an inclusive digital society

Providing an online platform to facilitate better access for vulnerable groups

OBJECTIVE

- Enhance digital technology adoption to empower vulnerable groups
- Improve access to assistance or information, thus facilitating entrepreneurship among vulnerable aroups through an online platform

DESCRIPTION OF INITIATIVE

- This initiative aims to provide a one-stop online platform designed for vulnerable groups such as the lower income and people with disabilities to obtain information and resources to gain digital skills or start an online businesses
- The platform provides information and services such as:
- Dissemination of online business-related information, including business registration procedures, regulations, business opportunities, existing government assistance programs, and financial resources
- Provision of entrepreneurial and business management training, advice, counseling, and consultancy, as well as mentoring and coaching
- Financial literacy programs
- Webinars and networking opportunities to acquire knowledge about starting or growing an online business

OUTCOME

 Vulnerable groups are provided with opportunities to become digital entrepreneurs in uplifting their socioeconomic status

Timeline: 2024-2027			
LEAD	TARGET		
DTIO	An online platform that enables vulnerable groups to access digital and entrepreneurial training programs		

THRUST 06



Build trusted, secure and ethical digital environment

diaital Thrust 6 aims to create environment that is trusted, secure, and ethical. This will enable businesses and society to fully reap the benefits of digital services without compromising safety, security, privacy, and data ethical standards. The environment requires the development of a holistic ecosystem, such as a regulatory framework and cyber security capabilities, to prevent threats or breaches that can disrupt the full function of the digital economy.

Building a trusted, secure and ethical digital environment does not just cover hardware, but also people and institutions. There has been a rise in cyber security threats due to the increased generation, sharing, and utilization of data. In response to these growing challenges, the government is committed to taking anticipatory measures to fortify its cyber security infrastructure and bolster its institutional framework.

Challenges still need to be addressed with regard to the awareness levels among the public and businesses, especially Micro, Small, and Mediumsized Enterprises (MSMEs), on importance of being secure cyberspace. Public trust in the integrity of organizations processing and using personal data must be more vital. Ethical concerns have also arisen with the usage of digital technologies.

Additionally, financial constraints faced by MSMEs prevent the broader adoption of cybersecurity tools.

S1.1 Reinforce cyber security outreach to all levels of society.

OBJECTIVE

Raise cyber security awareness and ensure that all citizens have the skills and knowledge to combat cyber-attacks and cyber crimes

DESCRIPTION OF INITIATIVE

- This initiative aims to develop a multi-pronged and sustained cyber security awareness program through People-Private-Public Partnership approach. programs include a variety of activities to ensure efforts are concerted and continuous such as:
 - Enhance activities during the cyber security month to heighten awareness
 - Promote CyberSafe website to access cyber security information
 - Develop guideline for users of digital and online applications, including consumer rights on commercial transactions
 - Encourage the private sector to include cyber security training in human capital development
- Strengthen law enforcement and governance for cyber security

OUTCOME

Enhanced public confidence to go digital

Timeline: 2023-2027

LEAD

DTIO & Ministry
of President's
Office,
Constitution,
Legal Affairs,
Public Service
and Good
Governance

TARGET

- 75% of Zanzibar residents are aware of cyber security and cyber crime
- 60% of cyber crime cases can be prosecuted

S1.2 Implementing QR Code for Anti-Fraud Government Document Verification

OBJECTIVE

Enhance the security and verifiability of government documents by implementing a QR code-based verification system. Government-issued documents are assigned a unique QR code, and the public can scan this QR code to verify the authenticity and integrity of the document.

DESCRIPTION OF INITIATIVE

- Implement a Government Encryption QR Code Management System (issuance and verification) that provides security, authenticity, and traceability of government documents to reduce document fraud.
- The system provides the following capabilities:
 - Unique Identification generate a unique identifier for each government document, enhancing its authenticity and traceability.
 - QR Code Generation convert unique identifiers into QR codes that are affixed to the physical or digital documents.
 - Secure Data Storage & Verification securely store document unique identifiers in a secure database. Provide verification via cross-referencing the retrieved identifier with the database.
 - Scalability designed to handle a large number of documents for wide-scale government use.

OUTCOME

- Quick and efficient document verification.
- Protection against unauthorised document alteration and fraud for government documents.
- Increased trust in government-issued documents.

Timeline: 2023-2027

LEAD

DTIO

TARGET

 Implement Anti-Fraud Government Document Verification system by 2024.

THRUST 06 Build trusted, secure and ethical digital environment

Strengthen data protection and related regulatory framework to **S2.1** ensure personal data protection and privacy

OBJECTIVE

Ensure that personal data protection, privacy laws, practices, and enforcement are comprehensive, fit-forpurpose, and timely.

DESCRIPTION OF INITIATIVE

- This initiative aims to enhance the nation's data protection and related regulatory framework to be more holistic, covering more than just industry
- Review existing laws, including Data Protection, Digital Signatures, Cyber Security, etc.
- Enhance the capacity and capability of related enforcement agencies, including through standards and certification

OUTCOME

- Individual rights are well protected through better governance of personal data and data privacy
- Enhanced public and business trust in the management of personal data and data privacy

Timeline: 2023-2027 **LEAD TARGET DTIO & Ministry of** · Relevant laws reviewed by President's Office. 2024 Constitution, Legal Affairs, Public Service and Good Governance

Strengthen cross-border data transfer mechanisms and protection to **S2.2** facilitate seamless data flows

OBJECTIVE

Ensure cross-border data flows for commerce are seamless. safe, and secure.

DESCRIPTION OF INITIATIVE

- This initiative aims to enhance cross-border data transfer mechanisms in both Data Protection and international trade policies
- Streamline mechanisms related to data usage, storage, and transfers

OUTCOME

- · Seamless and secure crossborder data flows
- Better trust in the protection of personal data

Timeline: 2023-2027

 Completion of the enhancement to Data Protection Laws for cross-border data transfer provisions and implementation mechanism by 2027

DTIO & POFP

LEAD

 All new trade agreements to incorporate crossborder data protection elements

TARGET



SECTION 3 DIGITAL GOVERNMENT

WHAT IS A DIGITAL GOVERNMENT

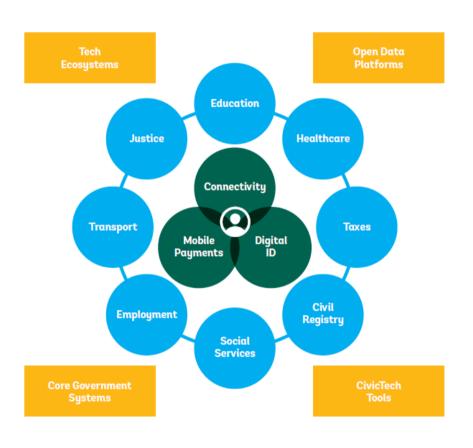
A digital government provides connectivity, assurance against data theft (cybersecurity), and the availability of facilities for large storage of data and its processing through the internet (cloud and computing resources) to provide common platforms that drive economic growth and provide public services.

This requires the development of digital government applications to digitize the services it provides to citizens and businesses. Digitizing services eliminates bureaucratic processes that require physical visits, paper trails, seals, faxing, and other analog methods. The vision is one in which government plays a full and active part in providing a "Government-as-a-Platform" service.

Government-as-Platform Services

	Digital Identity	Confirming personal identity securely to access public and private sector services digitally.
	Border Control & Public Safety	Border Control and Public Safety.
	Digital Payments	A wide range of secure digital financial transactions over the web or mobile.
(K)	Application Forms & Publishing	Online applications and support forms. Providing information about services and functions accessible online
	Customer Relationship Management	Storing customer data and interaction information.
	Management Information & KPIs	Data analysis, and publication of government KPIs.
	Cloud & Cybersecurity Operations	Supporting public sector to make efficient and secure use of cloud technology.

GOVERNMENT AS A PLATFORM



GOVERNMENT-AS-A PLATFORM

Digital government solutions will transform Zanzibar's economy, make it a preferred destination for tourists and convert its residential areas into smart cities.

A smart city incorporates data and digital technologies into infrastructure and services— to make the environment more liveable, sustainable, and productive. This, in turn, will provide global opportunities for businesses to thrive sustainably.

FULL GOVERNMENT DIGITISATION FOR SEAMLESS PUBLIC SERVICES

GOVERNMENT-AS-A-PLATFORM



Birth Certificate/ Zanzibar ID



Start school



Getting Healthcare Services



Applying for driver's licence



Registering car ownership



Paying Taxes



Marriage



Divorce



Applying for passport



Reporting Crime



Starting a business



Change of residence



Retirement



Property Transfer



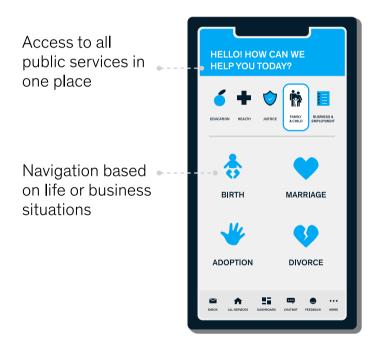
Applying for benefits



Death

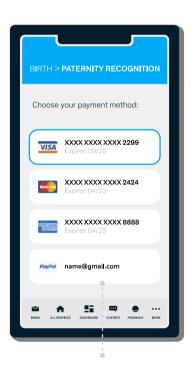
ENHANCED PUBLIC SERVICES ACCESS LIKE ONLINE SHOPPING

Digitization of the economy involves improving the service delivery landscape. Interaction between service providers and their clients will be rendered quicker and more efficient. Whether a client is paying for services, a customer is ordering services from home, or a company is launching a new product to the audience, it is always a matter of clicking a device button.





Coherent look and feel across all digital services

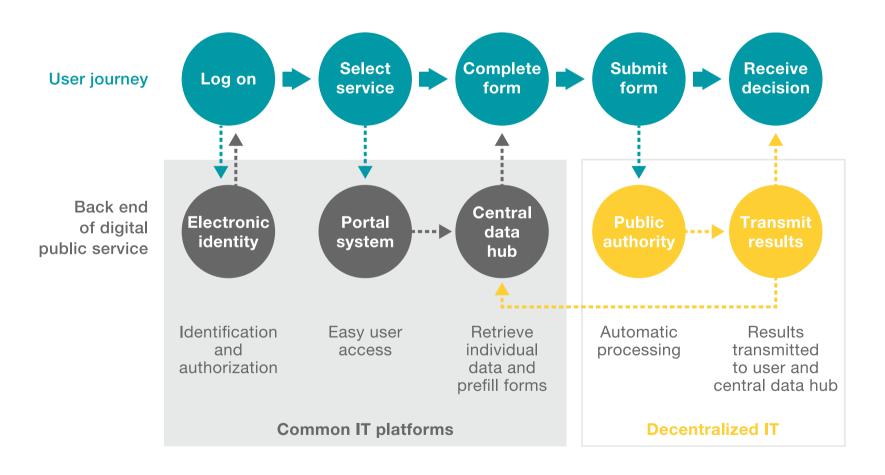


Single solution for recurring steps such as identification or payment

Source: McKinsey & Company. Digital public services: How to achieve fast transformation at scale (2020)

DIGITAL ACCELERATION OF IT PLATFORMS

Digital public services will be quicker to launch and easier to manage when typical functions and components are available to all public authorities as "reusable building blocks."



Source: McKinsey & Company. Digital public services: How to achieve fast transformation at scale (2020)

IMPLEMENTING DIGITAL GOVERNMENT

The implementation of proposed digital government initiatives will accelerate Zanzibar's digital economy. The key platforms and systems for each phase are shown below.





For Digital Government to succeed, there must be common IT platforms, defined technical standards, new legislation where required, and a structured approach to building and piloting digital projects.

Key projects in Phase 1:

- Zanzibar Biometric Hub (for Citizens And Foreigners)
- Zanzibar Civil Registration System
- Zanzibar Digital Identity ('ID') Management System, including eKYC, digital signature, and physical ID card
- Zanzibar Border Control Management System (including electronic visa ('eVisa'), Electronic Travel Authorisation ('ETA'), Passes And Permits, Digital Passport, Automated Border Control ('ABC'), and Advanced Passenger Screening)
- Advanced Cargo Screening System
- Zanzibar Government Encryption QR Code Management System (Issuance and Verification)
- Zanzibar eResident and Digital Nomad Management System
- Zanzibar Migrant Worker Management System

Provide seamless, connected services and improve people's experience during important life events.

Key projects in Phase 2 onwards:

- Zanzibar Health Insurance Medical Claim Management System
- Zanzibar Company Registration and Management System
- Zanzibar Tourism Management System
- Zanzibar Land Registration Management System
- Zanzibar Vehicle and Number Plate Management System
- Zanzibar Environmental Management System
- Zanzibar Social Welfare Management System
- Zanzibar Voter Registration and Management System
- Zanzibar Tax Revenue Management System
- Zanzibar Digital Health Records Management System
- Zanzibar eCourt System
- Zanzibar Credit Rating Agency Management System
- Zanzibar School and Student Management System
- Zanzibar University Enrolment Application Management System



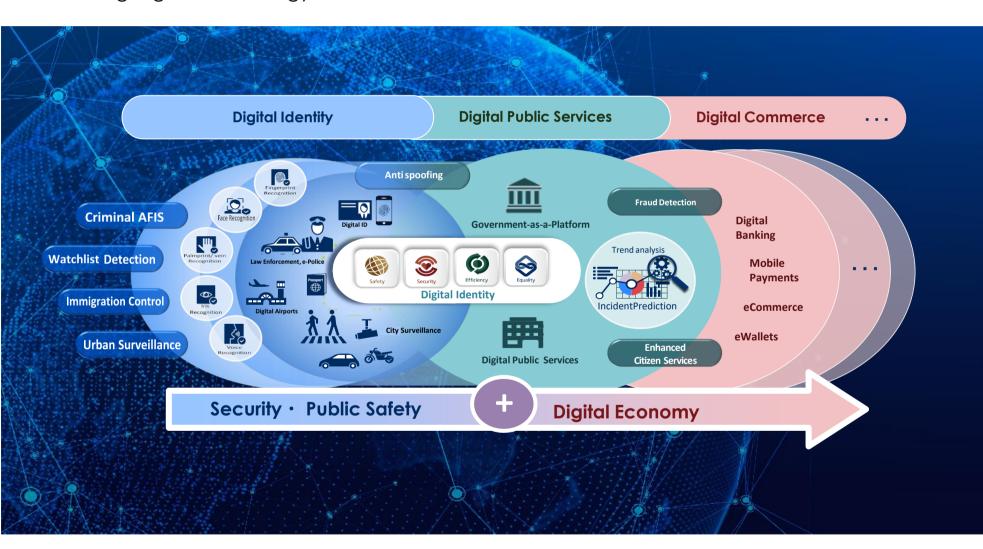
Transforming Government – continue to drive change across government to provide seamless, connected services.

Ongoing projects:

- Develop leading digital expertise Al, Machine Learning, and Robotics Process Automation.
- Reskill and upskill the workforce.

DIGITAL TRANSFORMATION WILL LEAD TO A SMART ZANZIBAR

The smart concept will help Zanzibar build a better citizen-centered future by utilizing digital technology and services to attract investments.





SECTION 4 DIGITAL GOVERNANCE

GOVERNING THE IMPLEMENTATION

A well-designed governance structure will be established to drive effective formulation, implementation, and monitoring of the Digital Economy Roadmap. It comprises five key components:

- Digital Transformation and Innovation Office (DTIO) provides leadership and policy direction
- 2. Clusters provide expert and technical support for policy development and direction
- **3. Steering Committee** functions to coordinate and monitor effective implementation
- 4. Strategic Digital Change Management Office functions as the (i) change management driver, (ii) overall monitoring and evaluation unit, and (iii) secretariat to the Steering Committee
- **5. Working Groups** act as lead implementers of the initiatives and provide technical expertise

The governance structure and the policy implementation approach have the following key features to ensure accountability, efficiency, and effectiveness:

Strategic DigitalChange Management Office to roll out and drive change to ensure acceptance across the nation

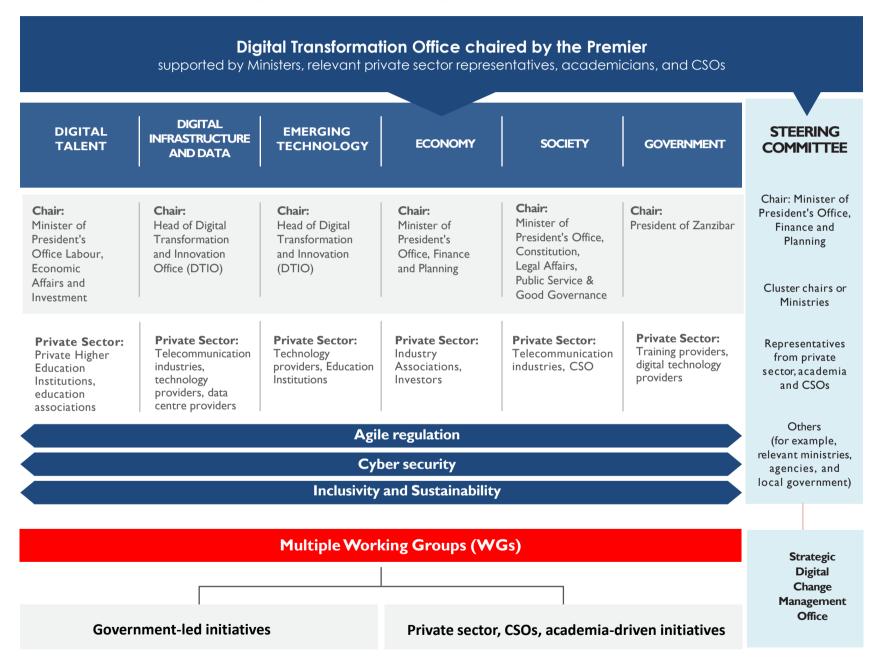
Implementation through people-privatepublic partnerships, including academicians and Civil Society Organisations (CSOs)

Transparent and clear monitoring and evaluation mechanism to establish complete feedback loop

Specific clusters chaired by Ministers to improve overall efficiency, accountability and inter-ministry collaboration

Clear timelines for measurable outcomes

GOVERNANCE STRUCTURE





SECTION 5 CONCLUSION



The success of Zanzibar's Digital Economy Roadmap implementation depends on a strong and robust governance structure that outlines clear roles and responsibilities and involves the participation and mobilization of all major stakeholders. The roadmap's governance will seek to coordinate delivery efforts and address implementation concerns from all ministries and agencies involved.

The six strategic imperatives identified in this roadmap and their corresponding programs collectively address wideranging topics, from bridging the digital divide between communities to shaping an information society through cultivating digital talent. Achieving the goals of this Roadmap will require the collective efforts and commitment of government, industry, and communities to deliver its programs successfully.

Establishing a robust governance structure serves the important purpose of ensuring that delivery efforts under the roadmap are on time and of high quality. The Digital Transformation Office, working groups, and delivery unit will each play important roles in successfully implementing the Digital Economy Roadmap. The governance also ensures precise mechanisms exist to identify and resolve critical issues at different levels.

A DIGITAL Zanzibar

These principles form the backbone of the Digital Economy Roadmap.



THRIVING IN THE DIGITAL FUTURE NEEDS PROACTIVE ZANZIBAR

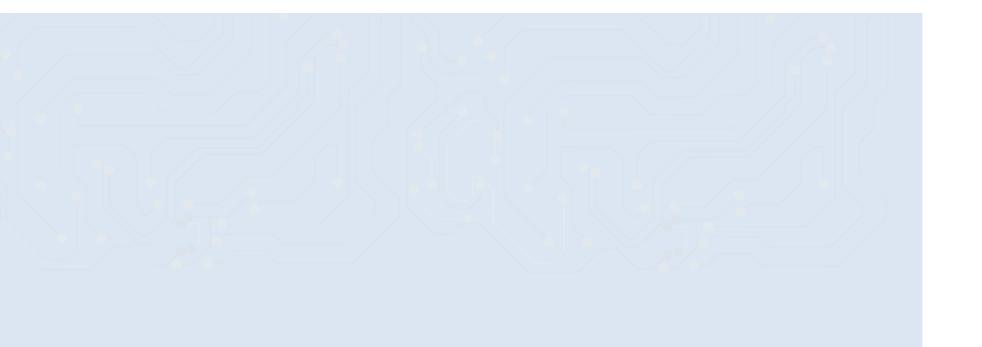
THE DIGITAL ECONOMY ROADMAP

The roadmap charts Zanzibar's future in the digital economy. It will accelerate the digital economy's growth for all residents' well-being. It outlines key initiatives to enable Zanzibar to be a leader in the digital economy and improve digital government services.

THE DIGITAL ECONOMY ROADMAP

- Makes it possible for all businesses to attain digital security, supporting them to adapt and be successful in the digital economy;
- Creates the conditions for technology businesses to grow, thrive, create jobs, and attract investment;
- Builds digital skills in the workforce to enable these businesses to prosper;
- Utilizes the potential of Zanzibar as a smart city and tourism destination to encourage the arowth diaital of the ecosystem. The aim is to scale stimulate and innovation in ways that could effectively overcome public service and environmental challenges.
- Explores opportunities for Zanzibar communities to benefit from unforeseeable business environments like during pandemics and market fluctuations.







THE REVOLUTIONARY GOVERNMENT OF ZANZIBAR

