

DIGITAL DEVELOPMENT POLICY  
Towards a Digital Economy

2021



THE GOVERNMENT OF SIERRA LEONE





# THE GOVERNMENT OF SIERRA LEONE



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# FOREWORD

The world stands at the cusp of a new digital era heralding the Fourth Industrial Revolution. Sierra Leone strives for enhanced economic growth and human capital development facilitated by digital technology that aims towards the status of a middle-income country by 2039. The aspiration to leapfrog and attain a sustainable whole-of-government and whole-of-society digital economy requires a robust policy, legal, and regulatory ecosystem to guide digital development.

In the journey of digital transformation Sierra Leone has made incremental strides and achieved important milestones, including the first internet connection in 1996, the launch of the first Mobile Network Operator in 2000, the enactment of the Telecommunications Act in 2006, the formation of the Ministry of Information and Communications in 2007, the release of the first national ICT Policy in 2009 with its subsequent review in 2017, the launch of the 3G network in 2011 and 4G in 2015, the connection to the ACE submarine optical fibre cable in 2013, and the launch of the Directorate of Science, Technology and Innovation in 2018 among other national achievements.

The launch of the National Digital Development Policy is a game-changer in the digital development framework of the Republic of Sierra Leone. The Policy sets the rhythm towards a whole-of-government and whole-of-society digital transformation towards competitive digital economy that answers to the socio-economic aspirations of the nation and the people of Sierra Leone.

The National Digital Development Policy identifies the key pillars, cross-cutting thematic areas, and policy objectives; it sets in place the structures for the participatory implementation of digital development.

The Government of Sierra Leone commits to rally internal and external actors, marshal goodwill and resources, and meticulously pursue the policy objectives to ensure that Sierra Leone can harness digital technology towards digital development and becoming a middle-income country by 2039.



# PREFACE





The National Digital Development Policy 2021 lays the foundation for a whole-of-government and whole-of-society digital transformation towards the realization of a digital economy in Sierra Leone. The goal is to enhance economic growth and human capital development, facilitated by digital tools as critical enablers, to make Sierra Leone a middle-income country by 2039.

The Policy highlights five pillars and five crosscutting thematic areas, which were arrived at through extensive consultations, stakeholder validation, desktop research, benchmarking, and in-depth review. These include digital infrastructure and access; digital skills and human capital development; digital government, e-commerce, and digital financial services as well as emerging technologies, innovation, and digital entrepreneurship

The thematic areas of governance, coordination, and partnership; data governance and cybersecurity; and management of scarce resources lay the ground for enabling a secure digital environment. Digital media and broadcasting as well as gender mainstreaming and e-accessibility ensure inclusion and participation for the society in general and special groups in particular.

The National Digital Development Policy has been developed with the selfless contributions of officials in the Ministry of Information and Communications, the support and validation by senior officers of the Government of Sierra Leone, benchmarking African Union Commission's Digital Transformation Strategy for Africa 2020-2030, Pathways for Prosperity Commission's Digital Roadmap, 2019, World Bank Digital Economy Diagnostic for Sierra Leone, 2021 and the Government of Kenya National ICT Policy, 2020, as well as the financial and technical support of the Digital Impact Alliance (DIAL) of the United Nations Foundation.

The Ministry of Information and Communications and the implementing agencies invite the whole of the government and society of the Republic of Sierra Leone to rally together towards the effective and efficient implementation, monitoring, evaluation, and review of this Policy towards the attainment of our common national aspirations to create a responsive and sustainable digital economy.

Hon. Mohamed Rahman Swaray  
Minister of Information and Communications  
Government of Sierra Leone

# ACRONYMS

ACE	Africa Coast to Europe
AML/CFT	Anti-Money Laundering/Combating Financing of Terrorism
ARWI	Africa Regulatory Watch Index
AU	African Union
B2B	Business to Business
B2C	Business to consumer
BoSL	Bank of Sierra Leone
CERT	Computer Emergency Response Team
CI	Critical Infrastructure
CICO	Cash-In/Cash-Out
CLS	Cable Landing Station
COTS	Commercial off-the-shelf
CSIRT	Computer Security Incidence Response Team
DDT	Digital Development Team
DFS	Digital Financial Services
DLT	Distributed Ledger Technology
DSTI	Directorate of Science, Technology and Innovation
DTT	Digital Terrestrial Television
ECOWAN	ECOWAS Wide Area Infrastructure
ECOWAS	Economic Community of West African States
eKYC	electronic Know Your Customer
FinTech	Financial Technologies
FTTx	Fibre to the Premise
G2B	Government to business
G2C	Government to Citizen
G2G	Government to Government
GEI	Global Entrepreneurship Index
GNI	Gross National Income
GoSL	Government of Sierra Leone
HCI	Human Capital Index
ICT	Information and Communication Technology
ID	Identification
IFMIS	Integrated Financial Management Information System
IMC	Independent Media Commission
IoT	Internet of Things
IP	Internet Protocol
IPR	Intellectual Property Rights
ISP	Internet Service Provider
IT	Information Technology

ITU	International Telecommunication Union
IXP	Internet Exchange Point
KYC	Know Your Customer
LAN	Local Area Network
M&E	Monitoring and Evaluation
MDAs	Ministries, Departments and Agencies
MIC	Ministry of Information and Communications
MNO	Mobile Network Operator
MRU	Mano River Union
MSMEs	Micro, Small and Medium Enterprises
NATCOM	National Telecommunications Commission
NATCA	National Communications Authority
NC3	National Cybersecurity Coordination Centre
NCRA	National Civil Registration Authority
NDDP	National Digital Development Policy
NDDS	National Digital Development Strategy
NDP	National Development Plan
NFTC	National Fibre Transmission Company
P2P	Person to Person
PKI	Public Key Infrastructure
PPP	Public-Private Partnership
PropTech	Property Technologies
RAIC	Right to Access Information Commission
SALPOST	Sierra Leone Postal Service
SDGs	Sustainable Development Goals
SL	Sierra Leone
SLIX	Sierra Leone Internet Exchange Point
SLREN	Sierra Leone Research & Education Network
STEM	Science, Technology, Engineering and Mathematics
TVET	Technical and vocational education and training
UADF	Universal Access Development Fund
VC	Venture Capital
VoIP	Voice over Internet Protocol
WAN	Wide Area Network
WB	World Bank
WoG	Whole-of-Government
WoS	Whole-of-Society



# KEY POLICY DEFINITIONS

## KEY POLICY DEFINITIONS

Broadcasting is the distribution of information using radio, television, the internet, intranet, and webcasting, among other methods.

Digital divide is the gap between communities/countries that have fully exploited digital technologies and those that have not - often associated with the resulting gap in terms of socio-economic development.

E-commerce or electronic commerce is the business activities involving consumers, manufacturers, suppliers, service providers, and intermediaries on the electronic media.

Fintech refers to the use digital technology to enhance or automate financial processes and services.

Information and communication technologies relate to information technology, telecommunications, broadcasting, and multimedia.

Information society is a country or region where digital technology is part of everyday life.

Information technology is computers and telecommunications systems for the collection, processing, storing, packaging, and dissemination of information.

Internet exchange point is the “peering point” for interconnecting internet service providers (ISPs) and other peering points to localise national traffic routing as opposed to using international routes to accomplish inter-ISP traffic flow.

Internet service provider is a company that provides infrastructure for access to the internet or interconnecting other ISPs and content-based or application-based services on the internet.

Knowledge-based economy is a country or region where digital technologies are extensively used to drive socioeconomic and political development.

Local Area Network is a computer network that spans a relatively small area, mostly confined to a single building or group of buildings.

PropTech refers to the application of digital technology and platform economics to the real estate industry.

Teledensity is the number of telephone devices per 100 people.

Voice over Internet Protocol is internet telephony where telephone services are provided over the internet as the medium of transmission.

Wide Area Network is a computer network that spans a relatively large geographical area, typically two or more local area networks or LANs.







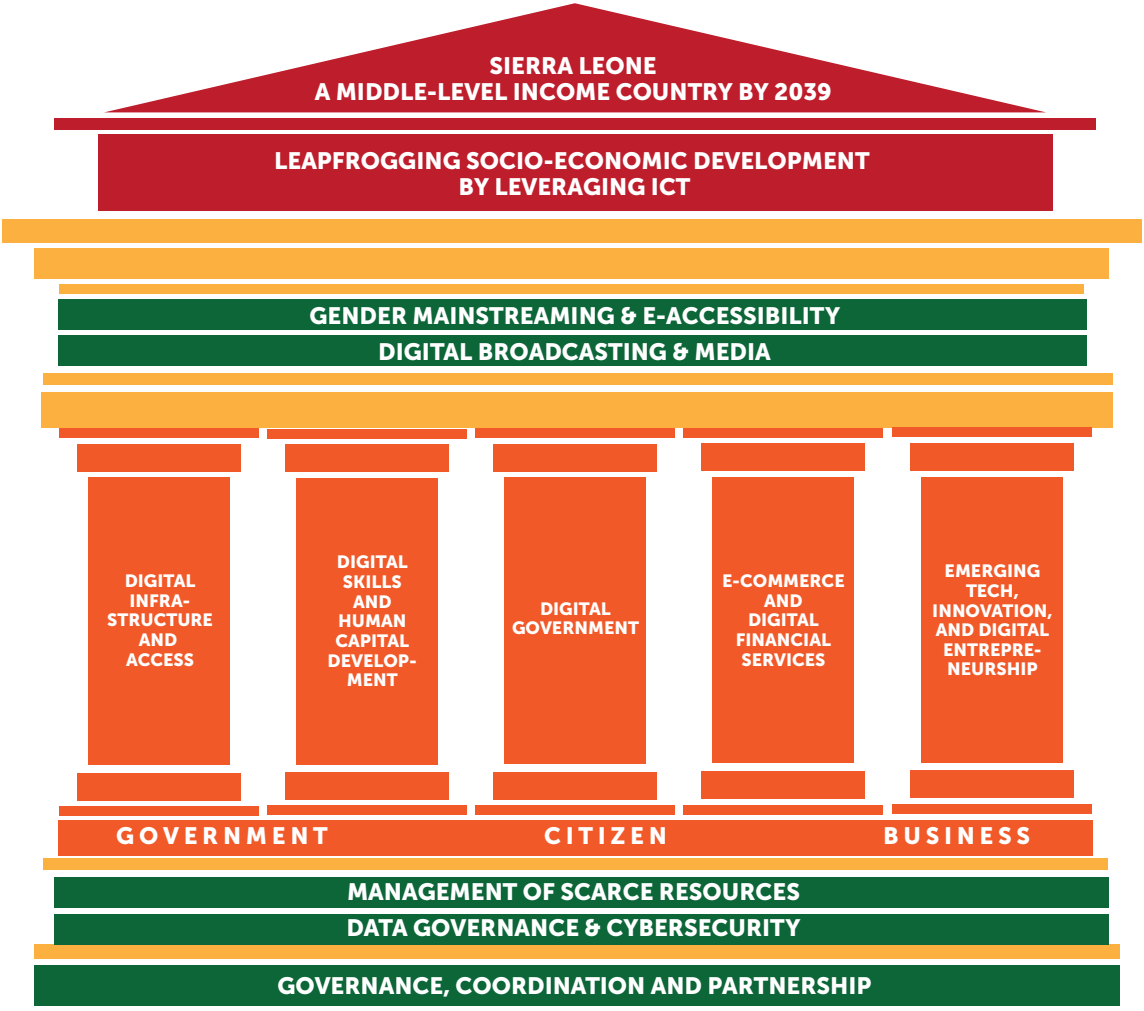
# EXECUTIVE SUMMARY

Digital technology is increasingly becoming an important factor reshaping how nations develop. The new economy has proven to be a major contributing factor to broadening access to high-quality goods and services, enhancing wealth creation, expanding job opportunities, achieving innovation, and encouraging socio-economic transformation.

The digital era offers Sierra Leone a unique opportunity to accelerate its development. Embarking on a digitally driven development is pivotal to tapping the country's potential. The development journey must be supported by an enabling policy, legal, and regulatory environment. Otherwise, they may widen the gaps and exacerbate the disparities in the country, the region, and the continent.

Over the years, efforts have been made to leverage digital technologies in Sierra Leone. These include the establishment of a dedicated ministry to oversee information and communications in 2007, the development of the country's first information and communication technology (ICT) policy in 2009, the implementation of the flagship Africa Coast to Europe submarine cable landing station in Free Town in 2011, and the liberalisation of the country's international gateway in 2015. Additionally, the government applied its experience with the Ebola outbreak in 2018 to the COVID-19 outbreak in 2020, promoting the use of digital technologies to support learning, response, and containment measures.

Though progress has been made, much remains to be addressed and prioritised. The World Bank's 2021 Digital Economy Diagnostic Report for Sierra Leone identified some of the challenges the country faces, including the government's somewhat uncoordinated approach to the implementation of digital infrastructure programmes, inadequate legal and regulatory frameworks, and dated digital development strategies.



DIGITALLY DRIVEN SUSTAINABLE DEVELOPMENT

INCLUSION AND ENGAGEMENT

FOUNDATIONAL PILLARS: AN INNOVATIVE DRIVEN DIGITAL ECONOMY AND DIGITAL SAVVY CITIZEN

ENABLING AND SECURE DIGITAL ENVIRONMENT

BENCHMARKS FOR REFERENCE: AFRICAN UNION, WORLD BANK DE4A, PATHWAY FOR PROSPERITY COMMISSION, KENYA'S DS

INSTITUTION	MAIN ROLE	M A N D A T E
NATIONAL DIGITAL DEVELOPMENT COUNCIL	STRATEGY	<ul style="list-style-type: none"> <li>- to provide oversight on digital programmes;</li> <li>- to offer strategic direction on the integration of digital technologies in government</li> </ul>
MINISTRY OF INFORMATION AND COMMUNICATIONS	POLICY	<ul style="list-style-type: none"> <li>- to provide overall policy direction on national digital development;</li> <li>- to monitor the implementation of the policy</li> </ul>
NATIONAL COMMUNICATION AUTHORITY	REGULATION	<ul style="list-style-type: none"> <li>- to regulate digital service provision</li> </ul>
INDEPENDENT MEDIA COMMISSION	REGULATION	<ul style="list-style-type: none"> <li>- to regulate media services for free and fair pluralistic competition</li> </ul>
NATIONAL DIGITAL DEVELOPMENT AGENCY	IMPLEMENTATION	<ul style="list-style-type: none"> <li>- to lead in the implementation of digital infrastructure programmes through a whole-of-government (WoG) approach</li> </ul>
UNIVERSAL ACCESS DEVELOPMENT FUND	EQUITY IN SERVICE DELIVERY	<ul style="list-style-type: none"> <li>- to provide equitable and efficient access to digital services among unserved and underserved populations in whole-of-society (WoG) approach</li> </ul>
NATIONAL CYBER SECURITY COORDINATION CENTRE	IMPLEMENTATION	<ul style="list-style-type: none"> <li>- to coordinate all cybersecurity programmes and actors</li> <li>- to implement national cybersecurity policy and strategy</li> </ul>





Cognisant of these challenges, the government was inspired by the Principles of Digital Development, the promise to “Leave No One Behind,” and the respect for human rights. It set out to address policy “pain points” by revising its ICT Policy 2017 so it could guide the sector in achieving the aspirations reflected in the high-level vision of the Medium-Term National Development Plan 2019-2023.

The National Digital Development Policy (NDDP) 2021 lays the foundation for better institutional coordination for digital transformation, as well as enhanced economic growth and human capital development. These values should be furthered by digital tools that act as critical enablers, towards the aspiration to make Sierra Leone a middle-income country by 2039. The policy is guided by the principles of “multi-stakeholderism,” user centricity, inclusiveness, security, and safety.

The National Digital Development Policy 2021 contains five essential pillars and focuses on five cross-cutting thematic areas as outlined in the figure below.

Achieving the policy objectives requires an appropriate institutional structure with clearly defined roles. The institutions, roles and mandates have been spelt out.

The National Digital Development Policy 2021 informs the development of the National Digital Development Strategy (NDDS), which lays out the aspirations with more clarity, sets targets, and identifies the role of players in achieving the anticipated targets through a collaborative approach.



**PART 1:**

# **INTRODUCTION**



This document is structured in three parts. Part 1 explains how the status of Sierra Leone in the digital era has informed the government to set a vision and approach to the digital development policy. Part 2 outlines the policy statements and objectives for each of the ten selected focus areas of the digital economy. Part 3 defines the institutional framework and the strengthened roles of actors governing the converged ICT sector that are required to meet the policy objectives. Finally, Part 4 provides recommendations to ensure the policy moves forward and is implemented smoothly.



## 1.1 The Transformative Role of Digitalisation

With the emergence of the new economy, digital technologies are increasingly having a catalytic effect as a driving force of global economic growth and productivity.

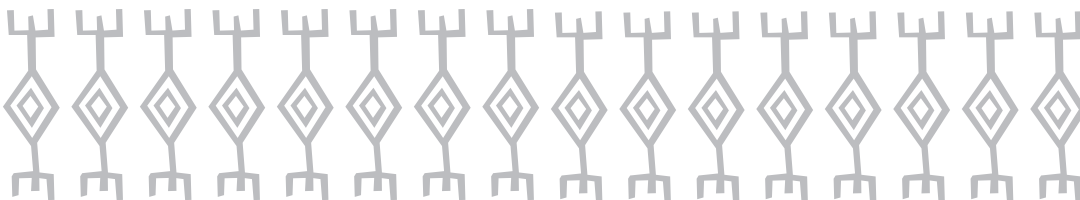
Digital technologies have radically changed economies through reduced costs, increased access, and improved quality by scaling robust solutions at a negligible marginal cost. Digital technologies have the potential to reduce the number of intermediaries, encourage formalisation and traceability, and enable more secure transactions. The African Union sees digital technologies as enablers for all individuals to live up to their potential by providing more opportunities.

Moving from digitisation to digitalisation, and eventually to digital transformation, is a journey that requires fundamental shifts in the policy environment. Thus, creating an enabling environment must be the foundation for the Government of Sierra Leone's digital transformation initiatives. In addition, strategic investments in the fundamental elements of the digital economy need to be selected and implemented in an agile manner.

Seizing this opportunity is crucial for Sierra Leone because of the fast pace of technological change across the world, which is currently undergoing the Fourth Industrial Revolution (4IR). The 4IR is characterised by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres. If the country misses this opportunity, it could end up lagging further behind. The Government of Sierra Leone sets out to catalyse, nurture, and sustain a WoG and w WoS digital transformation.

## 1.2 The Current Situation in Sierra Leone

Sierra Leone, like many countries in the region and across the globe, has taken advantage of the opportunities provided by digital technologies to advance its economic growth, expand job opportunities for its citizens, and reduce poverty. As part of its aspiration to leverage the innovative use of digital technologies, in 2007 the government established the Ministry of Information and Communications to ensure better coordination of the ICT sector. In 2009 the government developed and approved the country's first National ICT Policy. That

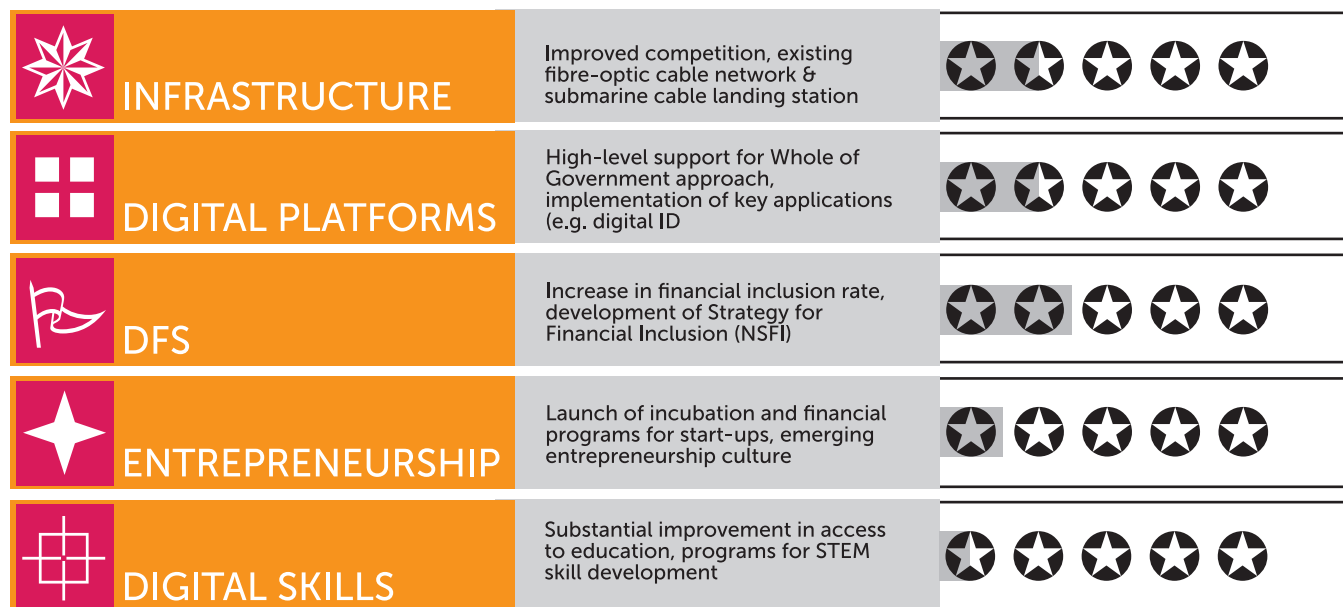







policy focused on rebuilding the damaged ICT infrastructure required for Sierra Leone's integration into the global information society.

Leveraging that infrastructure, Sierra Leone experienced first-hand the critical role of digital technologies for tracking, monitoring, and managing outbreaks during the Ebola crisis. The COVID-19 pandemic further demonstrated the need for more robust digital infrastructure and revealed an unprecedented demand for digital technologies. The World Bank's Digital Economy Diagnostic report for Sierra Leone in 2021 confirmed the country's potential to transition to a robust digital economy and noted it had made significant efforts to improve digital development over the last decade. As a result, the uptake of digital services in Sierra Leone has seen a sharp increase in recent years. From 2019 to 2020, the number of active digital financial services (DFS) accounts such as mobile money increased by 47% and their

penetration reached 15%, which is closer to the performance of other countries in the region. Figure 1 summarises the advances in digital technology in Sierra Leone.

However, the report also highlighted weaknesses and roadblocks to digital accession in Sierra Leone compared to its regional peers. The major challenges included unreliable and limited digital infrastructure that provides 3G coverage (or more) to just 65% of the population, leaving close to three million individuals unable to connect to the internet; unaffordable connectivity reflected in the cost of 1GB being 11% of average income (almost twice the cost in neighbouring countries), low levels of digital literacy as seen in the country's rank of 165 out of 173 in the Human Capital Index; and limited coordination in the implementation of government ICT programmes. Figure 2 identifies the weaknesses and roadblocks to digital development in Sierra Leone.



PILLAR	KEY WEAKNESSES / ROADBLOCKS
 <b>INFRASTRUCTURE</b>	<ul style="list-style-type: none"> <li>▪ About 20% of population living in areas without access to any mobile phone signal;</li> <li>▪ Inefficient use and management of Universal Access Development Fund (UADF);</li> <li>▪ Low mobile broadband internet access and availability limited to urban areas;</li> <li>▪ Delay of liberalisation of international gateway;</li> <li>▪ Outdated/absence of streamlined legal and regulatory application decrees in new digital areas;</li> </ul>
 <b>DIGITAL PLATFORMS</b>	<ul style="list-style-type: none"> <li>▪ Lack of coordination among MDAs on digital provision;</li> <li>▪ Insufficient inter-operability between existing initiatives and databases;</li> <li>▪ Government middle-management's poor digital capabilities;</li> <li>▪ Need to update the digital strategy;</li> <li>▪ Weak cybersecurity practice;</li> </ul>
 <b>DFS</b>	<ul style="list-style-type: none"> <li>▪ Sierra Leone lags in access to and usage of DFS</li> <li>▪ High level of cash payment the economy;</li> <li>▪ Inadequate legal and regulatory framework;</li> <li>▪ Lack of digital payment system infrastructure and credit infrastructure;</li> </ul>
 <b>ENTREPRENEURSHIP</b>	<ul style="list-style-type: none"> <li>▪ Lack of policy and legal environment to support digital entrepreneurship;</li> <li>▪ Limited access to finance;</li> <li>▪ Access to infrastructure (electricity and internet) insufficient to support development of digital space;</li> <li>▪ Limited e-business skills;</li> </ul>
 <b>DIGITAL SKILLS</b>	<ul style="list-style-type: none"> <li>▪ Lack of data is a key challenge to access the current levels of digital skills in Sierra Leone;</li> <li>▪ Lack of devices, access to internet from schools, digital contents;</li> <li>▪ Limited capacity of the Ministries of Education, Skills Development and Higher Education to lead digital skills agenda, design and implement digital-related policy</li> </ul>

## 1.3 Government of Sierra Leone Approach

### 1.3.1 Rationale for Policy Review

The National Digital Development Policy 2021 is a successor to the National ICT Policy 2009. The goal of the latter was to map the ways in which ICTs could be used to achieve the basic development objectives of Sierra Leone. This was aligned to the ECOWAS ICT Policy, Poverty Reduction Strategy Paper, Vision 2025, and the Millennium Development Goals as baselines.

Cognisant of the changes in legal frameworks, technological developments, and the government's new plans reflected in the Medium-Term National Development Plan (MTNDP) 2019-2023, a review of the National ICT Policy 2016 is important to align with the current government agenda for digital transformation. The centrality of digital

technologies in the achievement of the SDGs, the rapid developments in the data protection landscape, lessons learned from the COVID-19 pandemic, and the need to remain responsive to the dynamic digital age require expeditious alignment of national policies. These changes and the emerging issues form the basis for the National Digital Development Policy.

### 1.3.2 Mission and Vision

The government's vision for Sierra Leone is to transform the country from a fragile state into a stable and prosperous democratic nation. Moreover, for Sierra Leone to be considered a middle-income country by 2039, achieving both economic growth and human development is fundamental. In this regard, the government recognises the need to position digital technology as a critical enabler of the country's competitiveness and enhanced potential of its citizens. Figure 3 captures the vision and mission of digital development in Sierra Leone.

## VISION

To transform Sierra Leone into an **inclusive** digital economy and society with a digitally **empowered citizenry** supporting **sustainable** economic development, **democracy**, national **security** and good **governance**

## MISSION

To leverage on **digital technology** as a **critical catalyst** for socio-economic prosperity that transforms Sierra Leone into a **middle level economy country by 2030**

### GUIDING PRINCIPLES

1

The digital economy and society shall be **citizen centred and inclusive**, as they will ensure that **all genders, unserved and underserved** populations, persons with **disabilities**, and all **minorities** have access to affordable broadband connectivity, digital skills and e-services

2

**Seamless and secure data flows** across sectors shall be a tenet in the development of an efficient digital economy in Sierra Leone. In the meantime, **citizens' privacy, security and consent** through a digital social contract shall be paramount for a digital government.

3

**Data localisation** requirements should, wherever possible, **not hinder** the **competitiveness** of national, regional and continental economies or undermine domestic economic diversification.

4

**Strong political leadership** that embraces the principles of human rights, democracy e-equity, and the value of education shall be reflected in the collaboration with development partners to **provide learning opportunities to all** public servants, industry professionals, civil societies and citizens to fully benefit from **digital development**.

5

The **Public-Private -Partnership** (PPP) shall be **encouraged** by ensuring transparent, predictable and stable regulatory environment, with particular attention to the needs of the SMEs and start-ups.

6

**Regulatory** interventions shall where applicable be based on **open access principles** to ascertain **maximisation and effective use** of available infrastructure and services.

### 1.3.4 Strategic Objectives

The National Digital Development Policy (NDDP) 2021 is Sierra Leone's first attempt to harmonise, coordinate, and integrate digital development initiatives across the government. It builds on the successes in the sector and addresses existing gaps. It seeks to create and provide a national framework that will enable Sierra Leone to tap into the opportunities of the new digital era and catapult it to a new level. It is aligned with the policy aspirations of the new agenda for digitalisation and MTNDP, as well as our commitment to the African Union Commission's Digital Transformation Strategy for Africa and the related ECOWAS position on digital economies and the digital transformation thereto.

#### Political Objectives

- To create a conducive policy environment that promotes investment and competition in the sector.
- To formulate a policy that will separate the roles of policy formulation, regulation, and implementation of digital developments.
- To develop a collaboration framework for stakeholders to develop a complete ecosystem.
- To develop regulatory frameworks that will enhance the role of the sector in socio-economic development.
- To promote WoG approaches to digital developments.
- To promote public-private partnerships in digital development.
- To develop a policy that recognises technology neutrality and convergence.
- To build trust among sector players, actors, and users.

#### Economic Objectives

- To use technology to promote growth in critical economic sectors such as agriculture, education, health, and finance.
- To enhance efficiency in public service delivery through digital technologies.
- To encourage the transition of the informal market to a digital economy.
- To position the digital economy as a critical pillar of the national economy.
- To promote and support indigenous entrepreneurship and innovation.
- To improve competitiveness and enable global economic integration.
- To develop and sustain a vibrant and competitive digital economy.
- To create opportunities to thrive in the new economy.

#### Social Objectives

- To develop mechanisms that ensure trust in the online environment and the protection of consumer rights and freedoms.
- To promote locally produced digital solutions that are sensitive to local culture and context.
- To formulate legislation to ensure safe and secure electronic transactions and a safe and secure electronic marketplace.
- To enhance data protection and secure the digital identity of citizens and residents of Sierra Leone.
- To facilitate digital inclusion, participation, and support of universal and affordable access to digital products and services.
- To promote WoS approaches to digital development.



### 1.3.5 Policy Design Process

The National Digital Development Policy 2021 is a product of extensive consultations among public- and private-sector stakeholders; a review of the country's ICT Policy 2016; national ICT policies from other countries in the region; and documented best practices and benchmarks against policy frameworks of global, continental, and regional economic communities such as the World Bank, African Union, Economic Community of West African States, Mano River Union, and International Telecommunications Union.

Initial consultations in thematic groups were conducted in 2019, followed by further rounds of consultative workshops held from 28 September to 1 October 2021. These included six workshops with 10-30 participants that sought to:

1. Gather feedback on the draft National Digital Development Policy.
2. Collect suggestions and inputs to improve on the Policy.
3. Collect initial thoughts to shape the National Digital Development Strategy.
4. Benchmark the draft to regional/ international digital transformation best practices.

### 1.4 Conceptual Framework

To develop the National Digital Development Policy 2021, several frameworks were reviewed and benchmarked against, including:

1. African Union Commission's Digital Transformation Strategy for Africa 2020-2030
2. Pathways for Prosperity Commission's Digital Roadmap, 2019
3. World Bank Digital Economy Diagnostic for Sierra Leone, 2021
4. Government of Kenya National ICT Policy, 2020

To create a unique and customised framework for Sierra Leone, extensive consultations were done with senior officers of the Government of Sierra Leone to validate the inputs from consultations and benchmarking desk reviews. Following the reviews and consultations, 10 focus areas stood out, including five digital economy pillars and five crosscutting areas as shown in Figure 5 and 6.



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## **1. GOVERNANCE, COORDINATION AND PARTNERSHIP**

The appropriate policies for an enabling and predictable environment and the strengthened role of actors

## **2. DIGITAL INFRASTRUCTURE AND ACCESS**

The availability of a reliable digital infrastructure granting basic and affordable access to the services of the digital economy

## **3. DIGITAL SKILLS AND HUMAN CAPITAL DEVELOPMENT**

The digital literacy that enables citizen to participate in the digital economy as users or skilled professionals

## **4. DIGITAL GOVERNMENT**

The essential components to offer e-government services and platforms to citizen and businesses

## **5. E-COMMERCE AND DIGITAL FINANCIAL SERVICES**

The development of a robust marketplace of digital trade and digital financial services

## **6. EMERGING TECHNOLOGIES, INNOVATION AND DIGITAL ENTREPRENEURSHIP**

The ecosystem that fosters innovative-driven entrepreneurship to help boost the digital economy transformation

## **7. MANAGEMENT OF SCARCE RESOURCES**

The efficient and fair use of natural resources like radio frequencies to allow for a scalable transformation

## **8. DATA GOVERNANCE AND CYBERSECURITY**

The protection of digital systems, users and data; the fight against cyber crime; and the enhanced exploitation of data

## **9. DIGITAL BROADCASTING AND MEDIA**

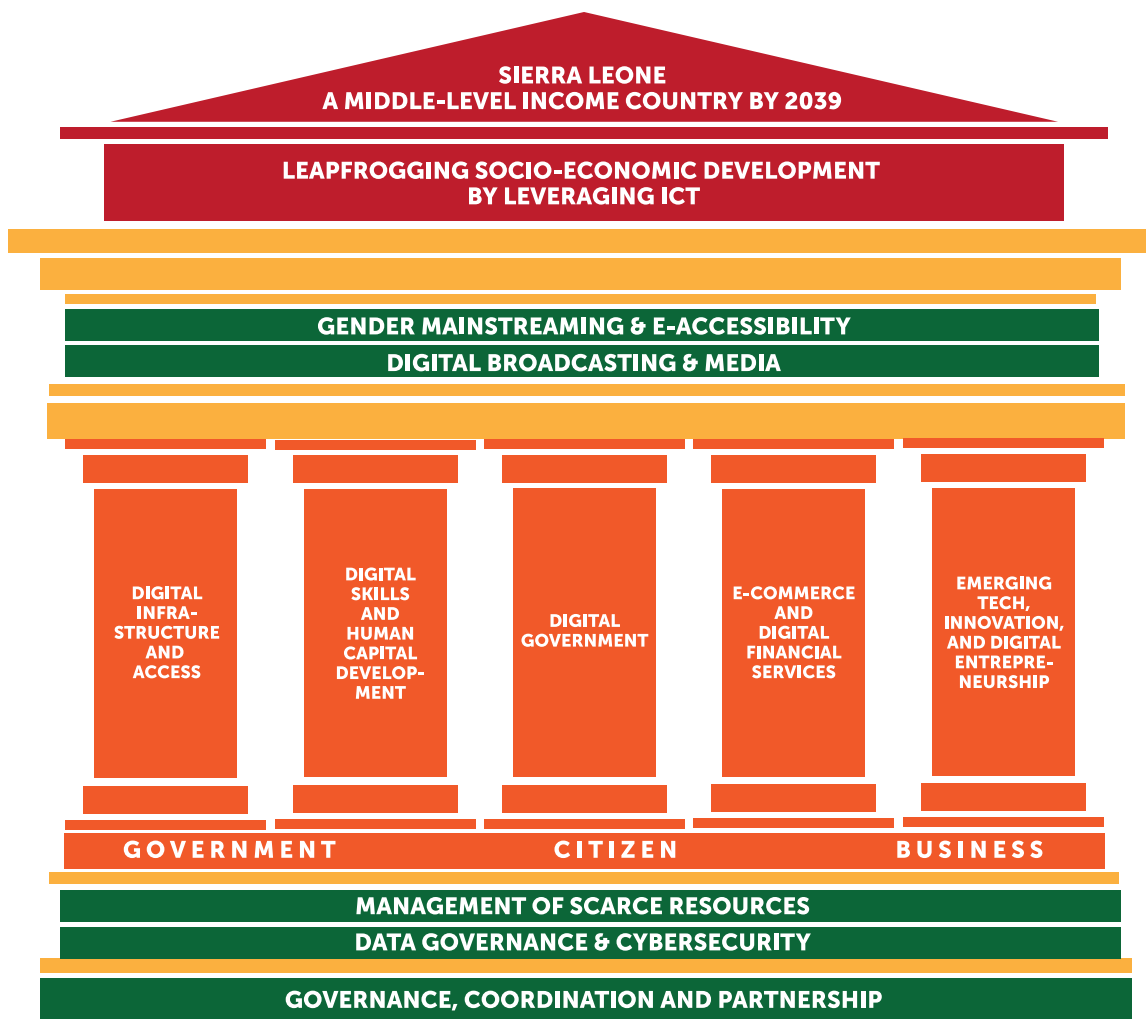
The digitisation of TV and the strengthening of the new media to foster the engagement of society in the digital era

## **10. GENDER MAINSTREAMING AND E-ACCESSIBILITY**

The special attention to the women inclusion (for equality) and to the support of people with disabilities (PWD) thanks to ICT

 DIGITAL ECONOMY PILLAR

 CROSS-CUTTING AREA



DIGITALLY DRIVEN SUSTAINABLE DEVELOPMENT

INCLUSION AND ENGAGEMENT

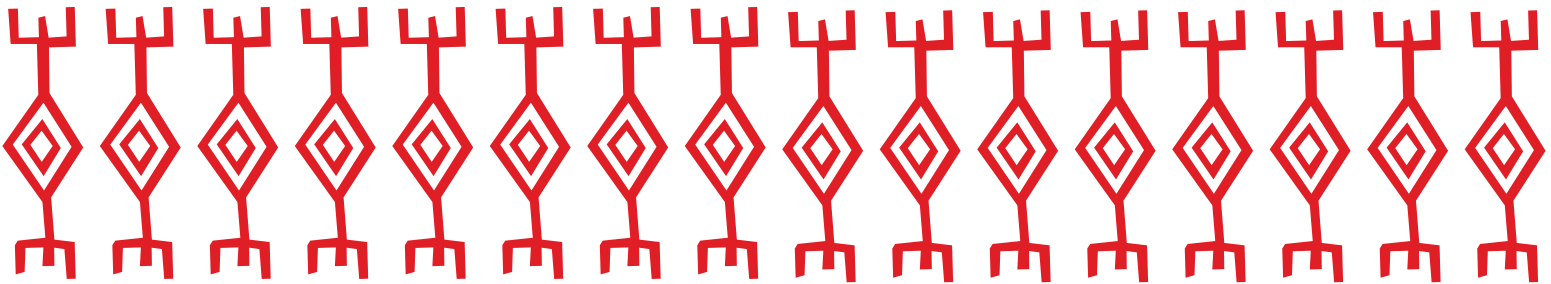
FOUNDATIONAL PILLARS: AN INNOVATIVE DRIVEN DIGITAL ECONOMY AND DIGITAL SAVVY CITIZEN

ENABLING AND SECURE DIGITAL ENVIRONMENT

BENCHMARKS FOR REFERENCE: AFRICAN UNION, WORLD BANK DE4A, PATHWAY FOR PROSPERITY COMMISSION, KENYA'S DS

The policy objectives were mapped against each of the ten focus areas as shown in Table 1.

AREA	DEFINITION	POLICY OBJECTIVES
GOVERNANCE, COORDINATION & PARTNERSHIP	ENABLING POLICIES, PREDICTABLE ENVIRONMENT, AND COORDINATION OF ACTORS AND PLAYERS	<ul style="list-style-type: none"> <li>To provide legal frameworks that promote investments and competition</li> <li>To enhance coordination between across ministries, departments, and agencies (MDAs)</li> <li>To encourage cooperation with the private sector</li> </ul>
DIGITAL INFRASTRUCTURE AND ACCESS	AVAILABILITY, ACCESSIBILITY, AND AFFORDABILITY OF A RELIABLE INFRASTRUCTURE	<ul style="list-style-type: none"> <li>To ensure access to digital services among the unserved and underserved</li> <li>To ensure quality services</li> </ul>
DIGITAL SKILLS & HUMAN CAPITAL DEVELOPMENT	DIGITAL LITERACY TO ENABLE PARTICIPATION IN THE DIGITAL ECONOMY	<ul style="list-style-type: none"> <li>To integrate ICTs in the curricula</li> <li>To equip educational institutions with digital infrastructure</li> <li>To facilitate training in ICT across all sectors</li> </ul>
DIGITAL GOVERNMENT	ESSENTIAL COMPONENTS TO OFFER E-GOVERNMENT SERVICES TO EMPLOYEES (G2E), CITIZENS (G2C), BUSINESSES (G2B), AND ACROSS GOVERNMENT (G2G)	<ul style="list-style-type: none"> <li>To develop a whole-of-government (WoG) and whole-of-society (WoS) framework for digital transformation</li> <li>To implement a harmonised digital ID to access public services</li> <li>To develop common technology standards across government</li> </ul>
E-COMMERCE & DIGITAL FINANCIAL SERVICES	SAFE, INCLUSIVE, AND SECURE DIGITAL MARKETPLACE	<ul style="list-style-type: none"> <li>To support the creation of a single digital market for Africa</li> <li>To create a regulatory framework for the financial technology sector</li> <li>To ensure consumer protection</li> <li>To provide a framework for the efficient delivery of physical goods</li> </ul>
EMERGING TECHNOLOGY, INNOVATION & DIGITAL ENTREPRENEURSHIP	DIGITAL ECOSYSTEM THAT FOSTERS INNOVATION AND CREATES OPPORTUNITIES	<ul style="list-style-type: none"> <li>To improve the ease of doing business through digitalisation</li> <li>To promote partnerships with local and international investors</li> <li>To promote research and development in emerging technologies</li> </ul>
MANAGEMENT OF SCARCE RESOURCES	EFFICIENT USE OF SPECTRUM FOR FAIR MARKET COMPETITION	<ul style="list-style-type: none"> <li>To develop a market-driven licencing regime</li> <li>To ensure maximum consumer welfare in spectrum management</li> </ul>
DATA GOVERNANCE & CYBERSECURITY	SAFE AND SECURE DIGITAL SYSTEMS	<ul style="list-style-type: none"> <li>To protect digital systems, users, and their data</li> <li>To deploy a common data architecture across government</li> </ul>
DIGITAL BROADCASTING AND MEDIA	DIGITAL TV AND STRENGTHENED NEW MEDIA TO FOSTER ENGAGEMENT	<ul style="list-style-type: none"> <li>To align with international obligations on digital television broadcasting</li> <li>To develop frameworks on the use of new media in government</li> </ul>
GENDER MAINSTREAMING AND E-ACCESSIBILITY	INCLUSION OF VULNERABLE POPULATIONS TO PARTICIPATE IN THE DIGITAL ECONOMY	<ul style="list-style-type: none"> <li>To promote the participation of the vulnerable in the digital economy</li> <li>To promote access to digital services among vulnerable populations</li> </ul>





**PART 2:**

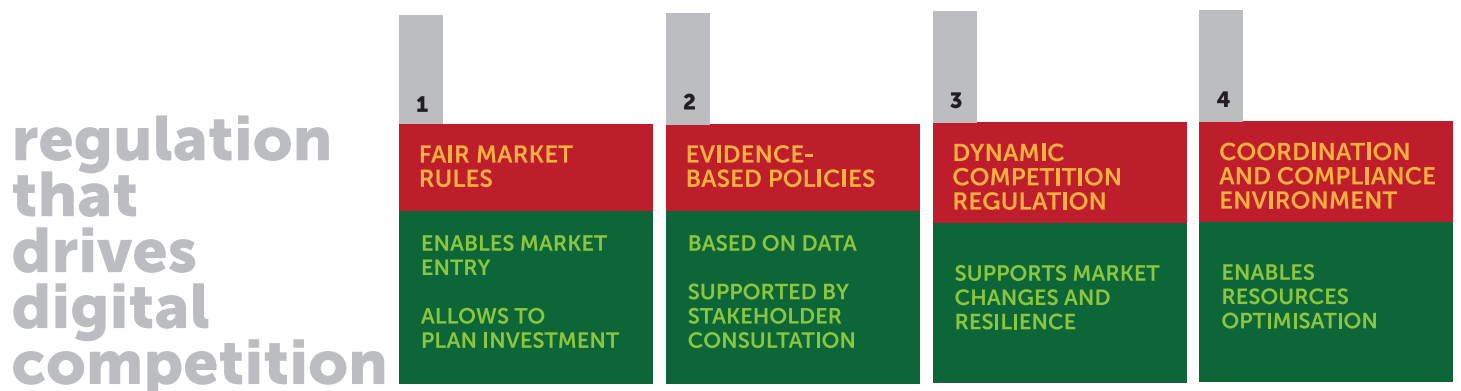
# **POLICY FOCUS AREAS**



## 2.1 Governance, Coordination, and Partnership

The growth and development of a digital economy is founded on strong leadership supported by an enabling environment and robust institutional structures. In line with its new direction toward a WoG approach to development, the Government of Sierra Leone will strengthen the capacities of relevant institutions. It will develop an enabling policy, legal, and regulatory framework to strengthen coordination across government and partnerships across society.

This will also promote the involvement of local companies in digital innovation and entrepreneurship. Figure 7 visualizes the drivers of digital competitiveness.



## 2.1.1 Policy Statement

The Government of Sierra Leone acknowledges that the development of the digital economy should be supported by appropriate policy, legal, and regulatory provisions, as well as institutional structures. The government will take measures to facilitate the development of the appropriate policy, legal, and regulatory frameworks that will define the mandates of the actors, provide strong leadership, and develop the institutional structures to promote the development and utilisation of digital technologies.

## 2.1.2 Policy Objectives

### Institutional Coordination

- To strengthen the Ministry of Information and Communications to provide an effective governance environment for the development of the digital economy.
- To create an institutional framework that will separate the roles of policy, regulation, and implementation of digital development, innovation, and entrepreneurship.
- To promote cooperation, partnership, and engagement among public and private-sector players, civil society, and development partners at the local, national, and international levels.
- To develop a monitoring and evaluation framework for planning and coordination of the country's digital development programmes.
- To facilitate the private sector to serve as a key driver for the country's digital development.

### Enabling Policy, Legal, and Regulatory Frameworks

- To develop necessary policy, legal, and regulatory frameworks to harness digital technology and facilitate digital transformation.
- To develop incentives that promote investment and competition and ensure the quality of the service.
- To align with regional, continental, and global treaties and conventions governing digital development.
- To develop and/or adopt accepted industry standards to promote interoperability.
- To enact the necessary laws to build trust in the online environment and secure digital systems.
- To develop a legal and regulatory environment that considers the neutrality and convergence of technologies.
- To ensure balance and protection of individual and community interests, including privacy and data protection issues, during digital development.
- To address ethical issues of the digital culture; protect the rights of users; and ensure the safety of children, women, and vulnerable populations in cyberspace.
- To develop an inclusive digital economy that encourages gender equity and accessibility for persons living with disabilities.
- To create legislative frameworks for children's online protection and ensure appropriate digital content to mitigate children's online risks and vulnerabilities to derive value from the digital economy.





### Coordination and Partnership

- To encourage public-private partnerships for increased investment in digital development programmes.
- To build multistakeholder public-private partnerships to drive awareness about responsible online behaviour and digital hygiene.
- To facilitate access to local and foreign funding for digital start-ups in the local ecosystems and contexts.
- To strengthen partnerships among local, regional, and global actors, and harmonise efforts related to digital entrepreneurship.

## 2.2 Digital Infrastructure and Access

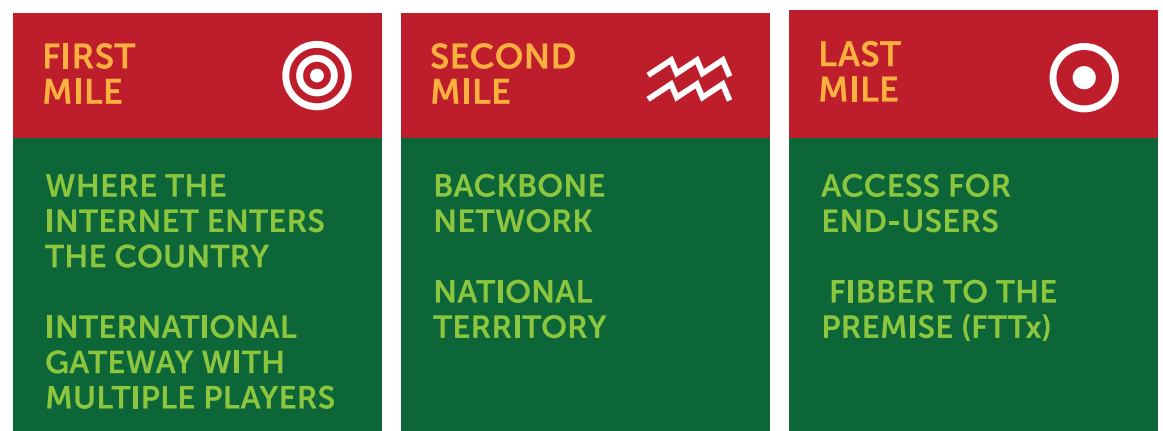
The level, scale, and speed of socio-economic development required for Sierra Leone to transform to a digital economy cannot take place without the necessary modern digital infrastructure required for the delivery of digital services. The country has made significant efforts, including the liberalisation of the market to allow competition in the provision of infrastructure; extensive public investments in the national fibre backbone network covering 14 out of 16 districts; development of a shared government digital platform; and investment by the private sector in the middle-mile access network rollout.

Despite these investments by the government and private-sector players, the country is faced with enormous challenges compared to its regional peers in citizens' access to digital services. The World Bank Group Digital Economy Diagnostic report for Sierra Leone published in 2020 indicated that in 2016, the global digital economy was worth about US\$11.5 trillion, equivalent to 15.5 percent of the world's overall gross domestic product (GDP). This was expected to reach 25 percent in less than a decade, with Sierra Leone minimally tapping that growth potential. The Sierra Leone DHS analytical Studies No. 83 showed that only 12% of women and 21% of men reported internet use "at least once per week,"; on average, only 43% of women and 64% of men reported ownership of a mobile phone.

The rural-urban divide is extremely high, with 24% versus 65% mobile ownership among rural and urban women respectively. Rural men account for 50% of mobile phone ownership with a fair 81% for urban men. Currently, only 27% of the population has access to mobile internet, and only 12% has access to broadband internet. The internet users represent less than a third of the population as of 2021.

The focus of this pillar is to ensure that the appropriate digital infrastructure and platforms are in place to promote affordable access to digital services, especially for underserved and unserved communities. Figure 8 visualizes the connectivity "mileage".

# THE CONNECTIVITY "MILES"



## 2.2.1 Policy Statement

The Government of Sierra Leone is committed to putting in place a conducive environment for the upgrade, improvement, and deployment of modern digital infrastructure and platforms across the country that will increase the uptake of digital services. To stimulate the rollout of digital infrastructure in rural areas, the government shall encourage private investment in digital development and the provision of high-quality digital services by creating an enabling environment and a level playing field for all players.

## 2.2.2 Policy Objectives

### Infrastructure

- To promote and facilitate initiatives targeted at ensuring the availability of a reliable, fast, adaptive, robust, and affordable digital infrastructure.
- To facilitate partnerships with other utilities providers that are aimed at expanding access to digital services.
- To promote open access to digital infrastructures for a fair and competitive environment.
- To promote resilience in infrastructure deployment to ensure the availability of quality digital services.
- To develop a framework for optimal utilisation of available capacity of critical information infrastructure (terrestrial backbone, undersea submarine cable, middle-mile microwave links, city, and district metro access networks).
- To develop appropriate policy and legal frameworks that will promote infrastructure sharing that is cognisant of technical and commercial considerations.
- To encourage technology neutrality through the development of common and interoperable standards and protocols.
- To work with central and local authorities to harmonise access to natural resources

(land, right of way, etc.) to protect the digital infrastructure and physical environment and optimise usage.

- To encourage partnerships that enhance peering and interconnection to improve the quality and affordability of internet services.
- To foster cooperation with border agencies and customs department to reinforce interoperable standards and type approval for electronic hardware.

### Universal Access

- To develop frameworks that ensure that spectrum allocations accommodate connectivity objectives in unserved and underserved areas.
- To incentivise the delivery of broadband connectivity to both unserved and underserved areas, as well as disadvantaged populations.
- To strengthen the Universal Access and Development Agency mandate to ensure rural communities have access to digital services and can participate in the digital economy.
- To promote research and innovation, including in low-cost community-based networks and mini-grid solutions, to power local networks and increase access to network infrastructures.
- To put in place the requisite infrastructure to support the expansion of digital TV coverage in unserved and underserved areas.
- To prioritise access to digital services in public institutions, including national libraries, public schools, government hospitals, and postal infrastructure, so they can become hubs of public access to internet and digital services.
- To prioritize homes and families (the basic social/geographical unit of the society) as the target for the ultimate universal access and digital inclusion.



#### Affordability

- To promote initiatives that increase the affordability of broadband and technology to citizens, such as tax waivers and the review of interest rates on credits.
- To promote subsidies on electronic devices and payment flexibility for users by technology service providers.
- To restructure the public postal licensee to ensure the provision of affordable postal services to all parts of Sierra Leone.

#### Regulation and Standards

- To develop a framework for the rapid development and implementation of broadband connectivity.
- To develop and promote a “Dig-Once Policy” to reduce the cost of deployment.
- To develop digital infrastructure sharing and a co-location policy framework to reduce waste and promote efficiency in the expansion of digital infrastructure.
- To develop or adapt appropriate standards, encourage their adoption and application across all government agencies, and recommend them as best practices to private-sector businesses for improved quality of service.
- To promote and raise awareness among decision-makers about the importance of accelerating migration to digital broadcasting.
- To encourage and promote local internet server hosting and local digital content development and applications.
- To develop guidelines to ensure the full migration from analogue to digital broadcasting services.
- To harmonise the use of released radio frequencies by developing a regulatory framework to ensure equitable access and efficient use of scarce resources.
- To develop the capacity of policymakers in infrastructure policy formulation, implementation, and enforcement.

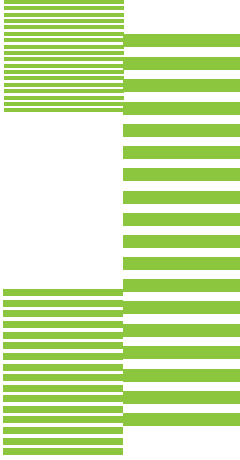
#### Business Continuity

- To integrate business continuity and disaster management into the risk-management culture across the government.
- To institutionalise the provision of system support data backup for business continuity across government.
- To develop and standardise disaster recovery and business continuity procedures and plans.
- To ensure disaster recovery and business continuity procedures are continuously updated, documented, tested, and made available to focal points in the MDAs.
- To promote research and continuous training in disaster recovery and business continuity management.
- To develop a framework for performance monitoring, evaluation, and review for business continuity management procedures, plans, and structures.
- To integrate redundancy in all critical areas of the digital nation (power, internet, data, fibre, and skilled professionals) in the implementation of the policy.
- To facilitate training and capacity building for business continuity and disaster recovery in the MDAs.

## 2.3 Digital Skills and Human Capital Development

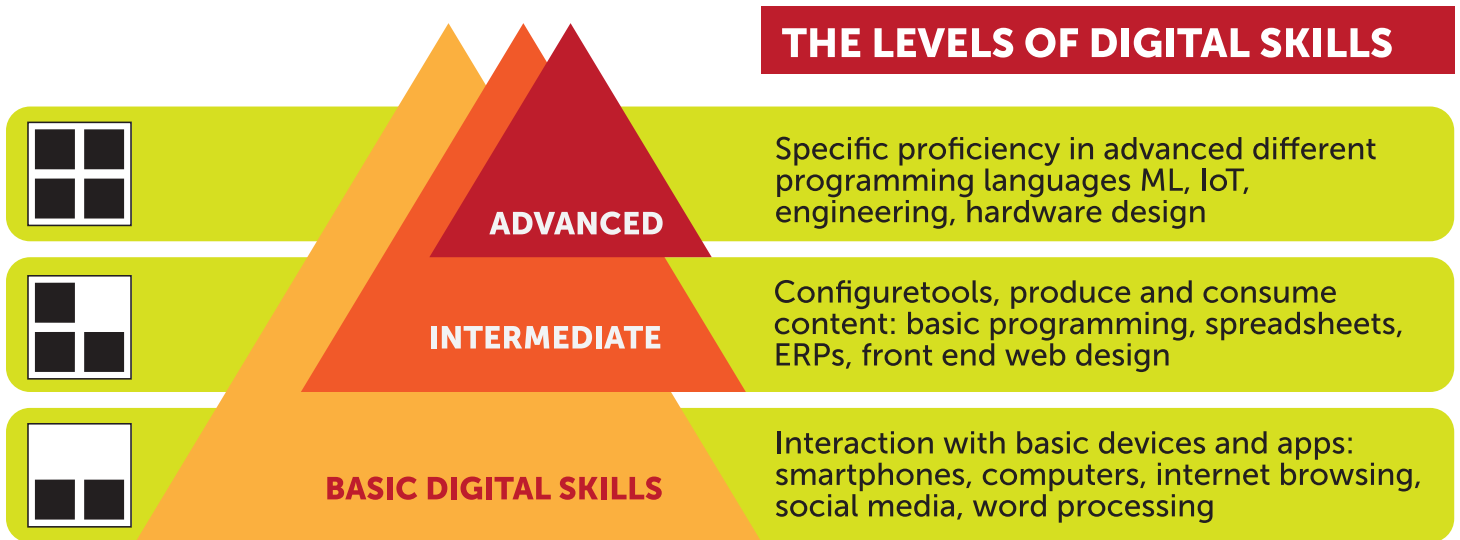
Digital skills enable citizens to participate in the digital economy as users or skilled professionals. Digitalisation and the shift towards a digital economy require substantial investment in general literacy, digital literacy, and 21st century skills, including critical thinking, problem-solving, creativity, and innovation. These required skills cut across three distinct layers:

- The digital capabilities required for the general populace to consume digital goods and produce solutions that solve local challenges.



- The appropriate digital skills embedded in the educational curricula that empower the younger generation to thrive in the digital era.
- The skills needed for current professionals across all private and public institutions.

Due to the low literacy rate in the country, the digital literacy rate is relatively low among professionals and the general citizenry. This massive gap in digital literacy and digital skillsets can negatively impact the degree to which government can leverage opportunities of the digital era. Thus, it is of vital importance that the government expose its citizenry to continuous skills development, training, and awareness raising for an inclusive development process. Figure 9 visualises the levels of advancement in digital skills and capabilities.



Source: ITU Digital Skills Toolkit

### 2.3.1 Policy Statement

The Government of Sierra Leone is committed to incorporating ICTs within the educational system and curricula to develop necessary 21st-century skills, such as critical thinking, creativity, and collaboration. In addition, the government is devoted to strengthening Science, Technology, Engineering and Mathematics (STEM) education, as well as addressing gender inequalities that hinder access to STEM. Furthermore, it shall strengthen technical and vocational education and training institutions to develop a skilled workforce for the digital economy.

### 2.3.2 Policy Objectives

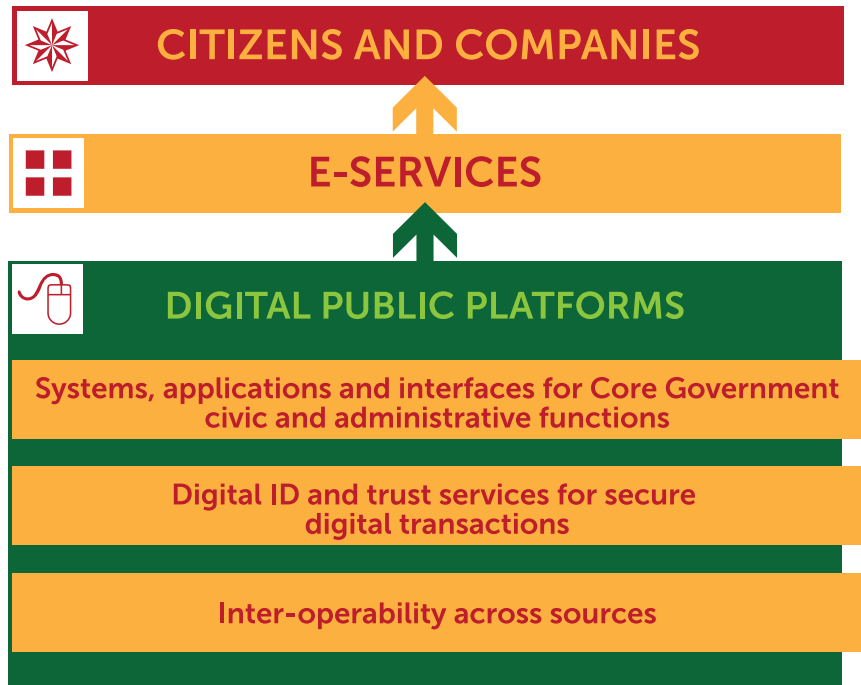
#### Digital Education

- To promote digital literacy in schools and other educational systems by integrating and continuously updating ICTs into the curricula at all levels of education.
- To develop continuous digital skills training and upgrade programmes for teachers and instructors at all levels of education; hire teachers who are experts in digital literacy.
- To provide educational institutions with the necessary digital equipment; coordinate their operations and maintenance.
- To promote the awareness and use of digital channels such as radio, IVR, social media (e.g., YouTube) and local languages to deliver educational content to drive social inclusion.
- To encourage partnerships and collaborations in educational initiatives that increase digital literacy and confidence at all levels of education and across society.
- To encourage technology-supported learning, including establishing e-learning platforms and open educational resources to reach people from diverse educational and social backgrounds and geographies.

- To provide a learning environment that is fully accessible and usable to persons with disabilities, youth, and women to ensure that they equitably benefit from digital programmes.
- To mainstream digital skills in every academic program at all levels of education (including lifelong education and continued professional development) to equip professionals that can work in the digital society across diverse specializations.

#### Lifelong Learning and Knowledge Dissemination

- To mainstream digital skills and knowledge dissemination among all citizens to enable them to be active and successful participants in the digital society.
- To facilitate on-the-job training, rapid skill training, and digital learning opportunities that are delivered by public and private partners across all sectors.
- To create a skills-related policy environment that keeps abreast with technology trends and is aligned with existing and future opportunities.
- To encourage the use of more local digital resources to build the local innovation ecosystem.
- To promote capacity building of policymakers in all sectors to empower them in identifying opportunities in the digital economy.
- To nurture and incentivise government employees to develop and maintain services and platforms locally to build indigenous know-how and enhance technical sustainability.
- To encourage the establishment of research centres and innovation hubs to promote local and international knowledge transfers.
- To explore the use of tertiary education to raise awareness and train people in digital skills at the local level.



SOURCE: WB DIAGNOSTIC REPORT - DIGITAL PUBLIC PLATFORMS

- To encourage civil society in their advocacy for digital-rights awareness to stimulate debates that hold the potential to develop the digital economy.
- To provide opportunities for retooling skills to help professionals stay in tune with the dynamic digital society.

Further, the emerging technologies provide an avenue for the public postal licensee to play a critical role in the digital revolution. Postal services have an extensive and well-connected network and have the potential to address the challenges of accessibility. The outlets can also serve as a disseminator of social benefits and a facilitator of the financial and logistical capabilities necessary to stimulate and increase e-commerce.

## 2.4 Digital Government

Digital government is the use of technology to provide public services to citizens and residents. This means leveraging digital technology and data to transform business/service models, services, and improve citizen service delivery. The Government of Sierra Leone hopes to achieve these expectations, including building citizens’ trust, by deploying e-services. The government hopes to establish a national digital ID, civil registration, and e-signature infrastructure as essential building blocks for an e-governance platform. Additionally, the government will take strides to ensure interconnectivity between all vital service centres and registries, such as the civil registry, tax and business registry, health, telecoms, and the banking sector. Figure 10 shows the layers towards efficacious digital government.

### 2.4.1 Policy Statement

The Government of Sierra Leone recognises that e-governance offers opportunities for the country to take full advantage of the digital economy. Thus, it is committed to creating an enabling environment that supports the use of digital technologies to modernise and streamline service delivery in the public sector. Moreover, the government is devoted to implementing e-government systems across all sectors to increase citizens’ engagement, build stronger accountability, and provide quality administrative and social services. Further, the government intends to integrate the provision of e-services, developed by both the public and private sector, with adequate legal and regulatory frameworks at all levels. As it does so, it will take into consideration concerns around data privacy and protection rights.

## 2.4.2 Policy Objectives

### Legal and Regulatory Framework

- To establish a legal and regulatory framework, as well as an enabling institutional framework, for the coordination and implementation of a digital government.
- To establish shared services and integrate systems through system interoperability layers that can be leveraged by private-sector players.
- To establish a legal framework for the use of the country code top level domains (ccTLDs).
- To develop regulatory frameworks for the utilisation of the public postal network as a hub for the delivery of government services.

### E-government Services

- To develop a WoG e-government strategic and operational plan and procedures.
- To create a WoG digital framework and common standards and architecture across MDAs.
- To implement digital ID and e-signature infrastructure as essential building blocks of e-governance services, based on internationally recognised standards.
- To promote integration of digital tools and technologies in public service delivery, encourage the standardisation of the tools, and raise awareness of the benefits thereof.
- To drive efficient resource utilisation and planning and ensure all MDAs are provided with broadband internet through e-government platforms.
- To promote the digitalisation of government registers and back-end core government processes across all sectors to provide a single source of harmonised data and ensure seamless interactions across government systems.
- To enforce use of the .gov.sl sub-domain for all government communications (e.g., websites, email systems, web portals) across all government institutions and officials, as well as licensed software.

- To support digital development across MDAs by helping them monitor technical standards and performance indicators.
- To allocate a proportion of the national budget to develop e-government systems and processes across MDAs.
- To transform government systems to a citizen-centred framework, facilitating awareness and a sensitisation exercise on e-government at all levels.
- To deploy a one-stop, e-government platform to deliver public and essential social services such as registration (birth/death, national IDs, business permits, etc.), health, education, security, immigration, and tax services among others.
- To create funding mechanisms for an e-services pilot and reference framework projects in government priority areas.
- To make digital literacy compulsory for entry-level government employees.
- To continuously assess the digital skills of public servants across MDAs to ensure they are properly trained on digital technologies and include it as part of their assessment.
- To strengthen the civil service college to offer digital skills and e-government training at all levels.

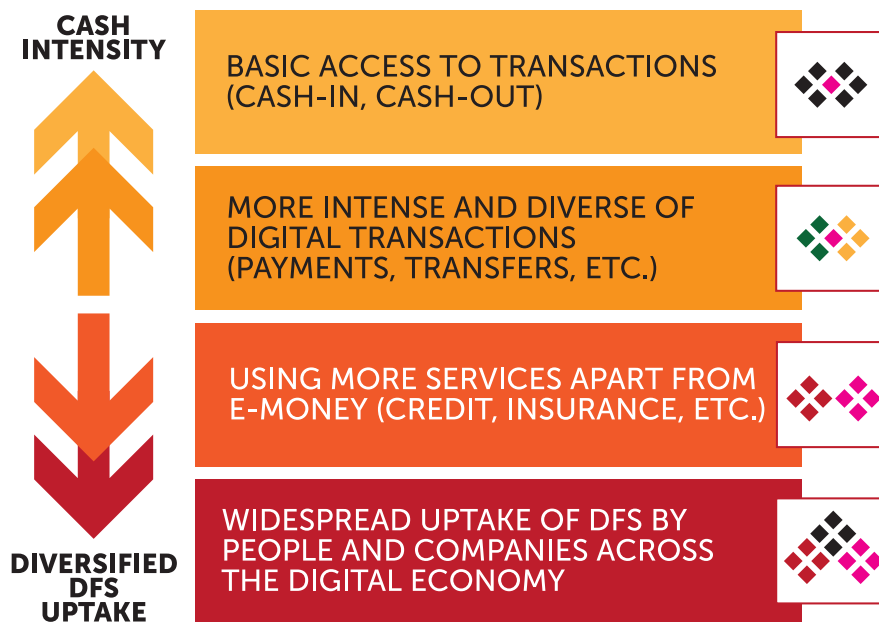
### The National Postal System

- To expand and strengthen the role of the postal network in the digital economy as a hub for e-government services.
- To facilitate the digitalisation of postal products and services, including the interconnection of the national postal service systems and offices for effective and efficient service delivery.
- To harness the national postal system for the attainment of financial and digital inclusion, as well as job creation.
- To promote the use of the postal sector as an access point for exchanging mobile money and leverage it for improved parcel delivery of e-commerce platforms.

- To encourage the provision of postal services in unserved and underserved areas through kiosks, mobile channels, or the internet.
- To develop national training and programmes targeted at building the soft and technical abilities of postal employees.
- To increase cooperation with sub-regional, regional, and global postal service organisations.

## 2.5 E-commerce and Digital Financial Services

The aim of this pillar is to develop a robust marketplace of digital trade and digital financial services. Digital financial services hold tremendous promise to deliver financial services to underbanked and unbanked populations. DFS can expand the delivery of essential financial services to the whole population, including in remote areas, through innovative technologies like mobile phone-enabled solutions, electronic money models, and digital payment platforms. The use of digital channels can drastically drive down costs for customers and service providers, opening the door to remote and underserved populations in the digital economy. Figure 11 visualises the progression into widespread uptake of DFS services.



Source: WB - DFS





In Sierra Leone, mobile money service providers (MMSPs) dominate the DFS market. However, the lack of interoperability between these mobile network operators and financial institutions combined with frequent network failures, especially in rural areas, limits the uptake of DFS across the country. Interoperability across different financial services providers in the ecosystem depends largely on bilateral arrangements between players, which are currently inadequate. Furthermore, there is a lack of an appropriate legal and regulatory framework for DFS to allow innovation and provide strong commitment, support, and coordination from other regulatory bodies.

E-commerce is at the heart of any thriving digital economy. Nowadays, the evolution of digital technologies is rapidly removing traditional trade barriers and providing micro, small, and medium enterprises (MSMEs) with the opportunities of a new marketplace and access to a broader and more competitive market. Thus, digital technologies are creating new jobs, attracting new investments, and accelerating the socio-economic growth of countries that have harnessed their capabilities.

Though some MSMEs are increasingly making use of the digital space to advertise and sell their products, the lack of an enabling infrastructure hampers the growth of e-commerce in Sierra Leone. The low internet penetration across the country, combined with a lack of proof-of-identity systems, including postal address systems and trade logistics, complicates the secure delivery of products. Most MSMEs need to upgrade their capabilities by formalising their operations and mastering marketing and customer service to succeed in digital trade. Also, the lack of appropriate legislative and policy frameworks at all levels makes it difficult for the government to fully reap the benefits of digital trading, including exporting of local products.

## 2.5.1 Policy Statement

The Government of Sierra Leone acknowledges the tremendous role DFS plays in financial inclusion and, thus, is committed to unlocking this potential by creating the requisite enabling legal and regulatory environments. In partnership with stakeholders in the payment ecosystem, the government hopes to establish a national switch to promote cashless payments and interoperability between financial institutions and DFS providers. Additionally, critical to the adoption of DFS in Sierra Leone, the government is committed to raising citizens' business awareness and empowerment, including consumer protection.

The government recognises that the banking sector, postal service, and communication systems, coupled with an appropriate legal and regulatory framework, are critical to the success of e-commerce. Thus, it is committed to creating the necessary policy framework to support e-commerce integration into all economic activities.

The government shall develop initiatives targeted at strengthening the availability of MSMEs' products and services over the internet. Since e-commerce can accelerate rural development as well as enhance the productivity of businesses, the government hopes to address the challenges posed to cross-border e-commerce.

## 2.5.2 Policy Objectives

Legal and Regulatory Framework

- To create the required legal and regulatory framework around digital financial services and payment systems.
- To develop a regulatory framework to guide the linkages between fintech and proptech solution providers (including mobile money and apps), formal banks, credit bureaus, bulk payments, micro loan providers, and real estate services.
- To develop a WoG approach to the provision and use of DFS across MDAs.
- To facilitate forums that foster public and private dialogue around digital finance to develop the subsector.

- To complement the regulatory framework for digital IDs and digital signatures.
- To develop an enabling regulatory framework around consumer protection and open market to allow full participation in national, regional, and global digital trade.
- To support ECOWAS in its effort to establish a regional digital single market by aligning the legal and regulatory framework, adopting international standards, and harmonising tariff regimes that affect cross-border e-commerce.
- To incentivise private actors to digitise their transactions and operations.
- To establish a national addressing plan by leveraging successful benchmarks and enlisting the Universal Postal Union (UPU) to support e-commerce and ensure the effective delivery of parcels, goods, and services, such as taxi services.
- To promote joint ventures between local companies and experienced international partners to achieve synergies in the DFS sector.
- To develop effective strategies for reliable parcel delivery by leveraging the national postal service and using mini grid localised providers to ensure nationwide coverage and proximity to communities.
- To facilitate the creation of an efficient and competitive environment in the supply chain and transportation industry.
- To develop robust digital and business skills training programmes for MSMEs to partake in the digital economy.

#### Safe Usage and Awareness Initiatives

- To enhance users' financial education and digital literacy to facilitate trust in digital transactions, interoperability, and DFS to drive financial inclusion, while cooperating with local governments to raise awareness at all levels.
- To increase the adoption of e-commerce by developing the training and outreach campaigns needed to raise awareness about its benefits.
- To implement risk-based approaches to anti-money laundering/combating the financing of terrorism (AML/CFT) through tiered customer due diligence requirements and the establishment of e-know-your-customers (eKYC) registries.
- To improve the registration process for mobile services and DFS through the implementation of digital IDs.
- To strengthen financial consumer protections, including disclosure and transparency, efficient customer services, responsible lending, data privacy, and dispute resolution.

#### Digital Businesses

- To develop a shared switch platform with the capacity to connect banking services providers, mobile network operators, and other DFS providers through a common national ID platform.
- To incentivise the entry of innovative, technology-driven financial service providers and solutions through open-market principles.
- To promote the use of e-money as a key driver to a cashless society.
- To allow the government to champion and embrace digital payments by ensuring MDAs have the capacity to offer digital payment modes.
- To promote the use of low-cost delivery channels for DFS, including retail agents.
- To incentivise the use of digital payments, points of sale, and electronic fund transfers by MSMEs.
- To promote local service industries to meet international standards in the production and delivery of their products and services.



## 2.6 Emerging Technologies, Innovation and Digital Entrepreneurship

This area is focused on the ecosystem that fosters innovation and entrepreneurship to boost the development of a digital economy. For instance, artificial intelligence (AI) is being utilised in a wide range of applications, including medical diagnosis, marketing, research, communications, and agriculture. Blockchain has also changed how information is stored across networks using distributed ledger technology. Technologies such as internet of things (IoT) and cloud computing go hand in hand, as cloud computing enables IoT.

This increase in devices and connectivity fosters a new age of learning and allows a physical manifestation of digital development in homes and workplaces. Thus, governments may leverage these to refine internal processes for efficient and effective service delivery.

The Government of Sierra Leone also acknowledges that the country is not making much progress in developing a high-tech export industry and service. Although there are some research and development (R&D) activities, R&D with a focus on digital economy is limited. As such, efforts need to be directed at investing in R&D activities and initiatives. These will include developing the nation's scientific and industrial research base and devoting particular attention to establishing linkages between industries, research institutions, and universities. As part of these efforts, the government recognises the need to increase the number of R&D scientists and engineers working in both industry and academia.

Furthermore, the government recognises that digital entrepreneurship has the unique ability to accelerate Sierra Leone's economy, provide jobs, create wealth, and expand markets. Though the segment is growing in Sierra Leone, the regulatory frameworks are inadequate to support this growth.

### 2.6.1 Policy Statement

The Government of Sierra Leone is aware of the vast potential of the digital economy, particularly emerging technologies, as it has immensely helped other nations develop rapidly. Thus, the government wants to leverage the enormous possibilities of emerging technologies to radically transform government processes and positively impact growth sectors like health, energy, agriculture, water, and the economy.

The government intends to leverage emerging technologies for economic diversification, stabilisation, and growth, with the ultimate goals of boosting socio-economic development, making the economy more competitive, and driving efficiency and effectiveness in governance.

The government is further committed to promoting and supporting R&D initiatives in the ICT sector by creating an enabling environment for research institutes and universities to enhance Sierra Leone's capacity to develop, produce, fabricate, and assemble digital devices and roll out digital services. This effort will serve as a step towards developing a globally competitive digital economy and society. As part of this commitment, the government shall promote partnerships and collaborations between local R&D institutions and international centres of excellence to speed up the process of knowledge- and know-how transfer to Sierra Leoneans by creating innovation hubs in both rural and urban areas.

The government is committed to creating an enabling environment that accelerates digital entrepreneurship for digital enterprises, including MSMEs and start-ups. It will also encourage flexibility in regulation to enhance the ease of doing business for these digital enterprises. Additionally, it will develop legislative and regulatory frameworks that will guarantee the protection of intellectual property rights (IPR) of digital products and services, including patents. Moreover, the government will strive to create financial and funding mechanisms (other than bank loans) to digital enterprises, including promoting collaborations and partnerships between big corporations and start-ups.



## 2.6.2 Policy Objectives

### Legal and Regulatory Framework

- To develop an incentive-based regulatory framework for new business areas such as fintech through start-up-friendly tax regimes, enabling cyberlaws, and robust intellectual property rights.
- To ensure an adequate institutional framework that allows for effective coordination between market regulators and market players in the digital innovation ecosystem.
- To create an enabling environment aimed at facilitating foreign direct investment (FDI), as well as national private-sector investment in innovation and viable start-ups.
- To develop and implement appropriate legal and regulatory frameworks for promoting the use and widespread application of emerging technologies in the innovation ecosystem.
- To develop the legal and regulatory framework for the identification, documentation, filing, protection, harnessing and commercialization of intellectual property.
- To implement mechanisms for the rapid adoption and utilisation of locally developed high-quality digital products and services.
- To promote awareness and accuracy of, and accessibility to, market information in a bid to enhance public trust.
- To develop a procurement framework that motivates local digital entrepreneurs and start-ups to bid for public projects that address local issues.
- To promote a digital entrepreneurial mindset among Sierra Leoneans and incentivise the entry of new players in the market to drive competition and innovation.
- To encourage indigenous digital entrepreneurs to meet high-quality standards to expand commercial opportunities.
- To facilitate start-up advocacy and mentorship between universities and national, regional, and continental institutions to support government developmental goals.
- To provide a platform for the creation and growth of informal employment for citizens while ensuring that it becomes a significant contributor to economic growth.

### Digital Entrepreneurship and Business Support

- To landscape the market to better understand start-up strategies and offer local and international investors visibility into the local players, dynamics, and opportunities.
- To facilitate access to finance for innovation start-ups and encourage partnerships and collaborations with local and international investors.
- To enable small-scale funding mechanisms for MSMEs through local funding capacities, public-private partnerships, and development banks.
- To ease doing business by facilitating the digitalisation of services relating to business permits, tax filings, and licence applications.

### Research, Development, and Innovation in the Digital Economy

- To harness and utilise the results of research to inform the expansion of the digital economy.
- To ensure that adequate resources are provided for digital economy-related research.
- To provide a framework for the development and approval of national incubation/acceleration hubs and research centres as a means of building the expertise and tools necessary for the development of the digital economy.

- To stimulate and encourage digital economy-related research and innovation at local universities and research institutions as a basis for developing local sector and talent.
- To develop a collaborative framework across sector stakeholders in the design, execution, and exchange of knowledge.
- To promote indigenous innovation and support resource mobilisation efforts to develop a green economy that characterises digital development.
- To protect and harness/commercialize the resulting intellectual properties.

#### Emerging Technologies

- To support the development and use of emerging technologies for the country's socio-economic development.
- To leverage the potential of IoT, AI, blockchain and big data to refine processes and promote efficient and effective service delivery.
- To encourage the use of quantum technology to strengthen the security of government information systems and build trust in the digital marketplace.
- To review the Public Procurement Act and rethink the procurement process for digital technologies for a streamlined and efficient acquisition of digital technology across government, in a manner that drives the local ecosystem of vendors towards national digital transformation objectives.

## 2.7 Management of Scarce Resources

This area can be summarised as the efficient and fair use of national scarce resources that industry players and sector actors need to offer digital products and services. These resources, including spectrum, right of ways, and orbital assets (among others) are globally acknowledged to be scarce. Hence,

the need is clear for prudent, and judicious management of these resources to maximise socio-economic benefits.

### 2.7.1 Policy Statement

Overlapping regulatory functions, bureaucracy, and a less-coordinated approach to the management of these scarce resources pose a challenge that may harm the overall pace of digital development in Sierra Leone. Therefore, the government is committed to reviewing the existing policy framework to ensure a well-coordinated and efficient management of scarce natural resources and government-influenced assets.

### 2.7.2 Policy Objectives

- To review the existing framework to ensure more effective planning, allocation, reallocation, utilisation, assignment, and monitoring of the existing spectrum resources.
- To put in place a spectrum licencing regime that accounts for the new realities of technology convergence and neutrality.
- To incentivise the efficient use of spectrum by providing licensees with financial, operational, and technological flexibility in their usage to drive innovation.
- To review the existing framework to ensure the judicious allocation and use of electronic addressing systems and the assignment of numbers and short codes.
- To clearly provide for a national framework and plan for effective coordination of government-owned orbital assets.

## 2.8 Data Governance and Cybersecurity

Data governance and cybersecurity policy focus on the protection of digital systems, users, and their data. The government acknowledges that the country will only fully exploit the opportunities of a digital economy if cyberspace is safe and secure. Easy access



to data allows individuals and organisations to develop new insights and innovations.

With the support of Statistics SL, the government will champion the implementation of open government data, which can spur innovation and expand job opportunities in the gig economy. It will also help government MDAs operate more efficiently, share information, and engage the citizens they serve. However, these data should be collected in data lakes and made available for public use in an anonymised manner, compliant with data protection and data security regulation.

The Government of Sierra Leone has made strides in ensuring open government data by enacting the Right to Access Information law and developing the Open Data Portal. However, most of the data collected and shared by MDAs on this platform is not standardised and does not support efficient data sharing. Thus, the government aims to establish common standards to enhance data use and reuse.

While the digital era provides unprecedented opportunities, its misuse and vulnerabilities create new and severe threats that have the potential to harm the economy and compromise national security. Cybercrimes such as spam, phishing, ransomware, computer-related fraud, and other offences like SIM box fraud are increasing rapidly with the development and adoption of new digital services. Therefore, increased protection of critical information infrastructures and networks is necessary to build an environment of trust and allow the effective functioning of electronic markets and government systems.

## 2.8.1 Policy Statement

The Government of Sierra Leone is committed to taking specific policy measures to open government data programmes to foster innovation, build a knowledge base, create a wealth of insights, and enhance transparency; at the same time, it must remain cognisant of data privacy and protection concerns. The government is engaged in developing policy measures and legislation to address information and cybersecurity, data privacy, online child safety, and consumer protection.

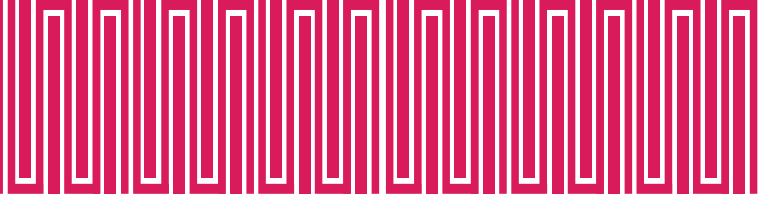
## 2.8.2 Policy Objectives

### Legal and Regulatory Framework

- To develop legislative and regulatory frameworks to ensure a safe and secure cyber ecosystem, the protection of critical information infrastructures, and the exploitation of data through open access.
- To establish and enact the required legal and institutional framework to assure the privacy and protection of people's data.
- To enact laws around cyber safety, intellectual property, copyrights, online child protection, and digital identity to facilitate the country's participation in the digital economy.
- To develop regulations and standards for guiding the procurement of informational resources, digital technologies, and equipment.
- To develop a data hosting policy that incentivises local hosting and ensures it is readily available upon request, while fully respecting data protection principles.
- To provide a framework for partnership with relevant national authorities for the effective prevention, investigation, and prosecution of cyber-related crime.
- To create and harmonise standards and a regulatory framework to implement open data across all MDAs.

### Cybersecurity

- To create a secure cyber ecosystem that espouses trust and confidence in the use of digital devices.
- To develop a framework to guide enforcement and encourage compliance with global cyber security standards.
- To develop and sustain global collaborations and partnerships for a shared understanding that furthers the cause of cyberspace security.
- To support streamlining and co-operation within the ECOWAS cybersecurity and cybercrime strategy.
- To develop and leverage a unified digital ID system for the safe and lawful use of e-services and the e-government platform.



- To develop a legislative framework that ensures that vulnerable and children are protected online, using a multistakeholder approach.
- To establish a public key infrastructure to serve as a foundation for online commerce and other e-government applications that require security and authentication in an open network.
- To build multistakeholder public-private partnerships that can provide training on responsible online behaviour and digital hygiene.
- To enhance capacity development in the field of cybersecurity across academic institutions, vocational training centres, and other public institutions, including the staffing and training of policymakers and law enforcement.
- To promote the use of digital technologies in enhancing national security, law, and order, as well as leveraging emerging technologies for trust-linked services, such as blockchain.
- To demonstrate and promote the value of data-driven applications and promote innovative reuse across government.
- To implement mechanisms for informed, voluntary, and active consent for processing personal data or private health information.

## 2.9 Digital Broadcasting & Media

The Digital Broadcasting & Media Policy guides the trends affecting broadcasting and digital media, including the digital TV switchover and strengthening of new media to foster engagement with society. This not only creates opportunities for the provision of digital applications and multimedia services but contributes to the digital dividends released in the process of digital television transition. This digital migration will enable the government to offer different services to all its citizens, irrespective of their location, educational background, or ethnicity.

However, the migration of Sierra Leone's broadcasting system from analogue to digital is one area where the country has lagged compared to other countries in the region. To date, Sierra Leone is not in compliance with ITU Guidelines for the Transition from Analogue to Digital Broadcasting and faces the risk of not benefiting from the digital dividends. This delays the attainment of a full digital economy.

Further, the Government of Sierra Leone acknowledges that the media and civil society are increasingly playing an essential role in the country's socio-economic development. These sectors play a fundamental role in the preservation of human development, consolidation of governance systems, and dissemination of information. Currently, new media is performing a vital role in disseminating information, video, and voice messages over the internet. Therefore, the government wants to leverage digital infrastructure to further develop the media and support civil society as an essential ingredient of development.

### Data Governance (Protection, Openness, and Exploitation)

- To put in place measures to protect the rights, privacy, and digital identity of citizens and residents by safeguarding their data during processing and transit.
- To promote the use of data in the digital era as a key public resource to guide policy decisions across ministries, departments, and agencies.
- To ensure users have easy access to relevant data about the government.
- To build or modernise information systems for data use and re-use, including attributes that facilitate the extraction of data in multiple formats.
- To incorporate new interoperability and openness requirements into core processes of MDAs.
- To develop a catalogue of all data processed on the Open Data Portal and ensure these meet approved standards.
- To promote the use of open licences in the publishing of data while respecting users' data privacy.

## 2.9.1 Policy Statement

The Government of Sierra Leone is committed to championing the digital TV switchover for optimal utilisation of spectrum, in line with international guidelines. The government will facilitate a national digital broadcasting system that promotes freedom of expression, access to information, and knowledge, while ensuring transparency and accountability in governance. It is also committed to encouraging community broadcasters to augment its effort. The government is committed to strengthening and extending the operations of media, especially the emerging new media, to promote widespread public access to information. Additionally, the government aims to help increase awareness of civil society groups and provide a head start for them to engage in various issues surrounding digital development.

## 2.9.2 Policy Objectives

### Digital Broadcasting

- To comply with international standards such as the ITU Guidelines for the Transition from Analogue to Digital Broadcasting.
- To facilitate enabling regulations to guide the digital TV switchover process across players and actors and set synchronised timelines for compliance.
- To clearly delineate the roles of players, regulators, signal distributor/aggregator, content provider, and consumers to develop a competitive broadcasting market segment.
- To develop a framework that incentivises the uptake of Digital Terrestrial Television (DTT) across all classes of citizens and residents.
- To ensure the broadcasting of appropriate content that educates, enlightens, empowers, and espouses national values.
- To develop a framework that facilitates the entry of new broadcasting providers while considering the gaps related to programming in various segments, including provincial content, parliamentary proceedings, entertainment, education, and economics.

- To promote the economic sustainability of DTT providers through advocacy and awareness campaigns to increase willingness to subscribe to the services.
- To develop a framework that coordinates and harmonises sector regulatory efforts across the Independent Media Commission (IMC) and the National Communications Authority (NATCA) to ease entry into the market.
- To provide a framework for the provision of local television and mobile broadcasting services and promote community broadcasting as a tool for improving universal access and the rights to freedom of expression.
- To develop copyright protections for digital innovation in broadcasting and media.
- To promote initiatives that encourage MNOs to launch DTT services and expand access in more local languages and to persons with disabilities.
- To incentivise development and broadcasting of appropriate quality local content.

### New Media and Civil Society

- To promote the responsible use of new media tools within social media groups and the entire citizenry to foster increased use of digital technologies for interaction and collaboration among citizens, civil society, the media, and government.
- To promote the ethical use of social media to address emerging threats such as hate speech, disinformation, and misinformation.
- To harness new media tools for the transmission and dissemination of information as a vehicle to promote national development, security, integration, and cohesion.
- To promote the use of new media in both community-led development programmes and initiatives supported by national and international organisations.





- To create institutional mechanisms to spearhead new media awareness, including the implementation of new media-related projects at the local and national levels.
- To provide tax incentives to encourage local content creation in new media, as well as supporting the training of local content creators.
- To promote initiatives that have the potential to nurture the local film industry and encourage the production of content that showcases national languages and culture.
- To support the potential of civil society to improve the digital economy by engaging in advocacy; conducting capacity building; and offering alternative policies for government, the private sector, and other institutions.

## 2.10 Gender Mainstreaming and E-accessibility

The empirical evidence shows that there is a digital gender gap in education and business, with fewer women studying STEM and taking up ICT-related jobs. Moreover, female participation, leadership, and investment in the digital sector are still low. This could be for many reasons, including cultural norms and lack of access to broadband internet in rural areas. Furthermore, jobs in the areas of business services, health, education, and social services, which are traditionally female-dominated, will negatively affect women's participation in digitalisation. Thus, the Government of Sierra Leone will ensure that digital development is implemented in such a way as to maximise women's economic involvement in the process.

Digital technologies such as mobile phones, tablets, and the internet, along with broadcasting services, have the potential to promote digital inclusion by expanding access to information, knowledge, and vital public services. If these developments are not effectively managed, further barriers to women, youth, and people with physical, sensory, or mental impairments may be

introduced. Recognising this limitation, the government seeks to make digital products and services available to all users, irrespective of their differing capabilities. This will ensure that minority populations are empowered to meaningfully participate in the digital economy.

### 2.10.1 Policy Statement

The Government of Sierra Leone is committed to accelerating women's economic empowerment by increasing awareness of the digital gender divide, strengthening women's participation in STEM and high-technology sectors, and improving women's digital and soft skills. The government commits to facilitating women's participation in the digital labour market and digital entrepreneurship and shall promote the use of digital tools as an instrument to address cyberviolence towards girls and women. The government is further committed to ensuring access to digital content, applications, and services for persons with disabilities (PWD) and senior citizens so that they can participate fully and effectively in digital society.

### 2.10.2 Policy Objectives

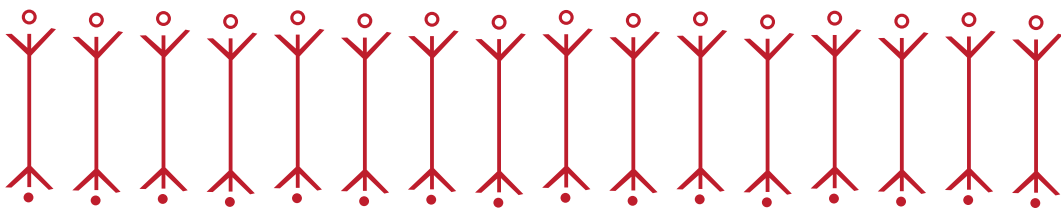
Gender Mainstreaming

- To increase empowerment opportunities through digital skills and the participation of women in national development in both the formal and informal sectors of the economy.
- To design and implement national digital strategies and enforcement plans that actively aim to bridge the gaps in gender digital access, adoption, and use; enhance the affordability of digital technologies; and ensure the online safety of women.
- To increase awareness of the gender, divide across all sectors and among the general public as a main focus area for inclusive digital development.
- To encourage the spread of gender-inclusive STEM education across the country to produce a critical mass of human capital and a digital-savvy citizenry.

- To mainstream ICT in curricula and education strategies for women's lifelong learning.
- To address stereotypes, cultural challenges, and gender biases in education curricula that hinder bridging the skills gender gap in the digital era.
- To encourage higher female enrolment in STEM studies with initiatives such as scholarships, grants, and gender quotas at all levels of education.
- To put in place a framework to guide the development of digital skills among women and girls who are out of school for various reasons, including child marriages or teenage pregnancies.
- To establish a girl-ambassadors programme for girls to take active roles in the digital economy, serve as role models to other girls, and become agents of change in society.
- To collaborate with the private sector to encourage the participation of women in ICT-related jobs, including the provision of support services aimed at allowing women to work and pursue their goals while being mothers.
- To promote women's participation across all industries, especially in the production and services sectors, and encourage their presence in marketplaces.
- To foster women's entrepreneurship and engagement in innovation through the promotion of diversity among teams of researchers and inventors.
- To promote progress monitoring, benchmarking initiatives, and best practices and high-impact measures that are critical for maintaining momentum in efforts to close the digital gender divide.
- To implement suitable mechanisms to ensure gains in one gender are not diluted by losses in the other gender.

#### E-accessibility

- To promote measures that ensure that PWDs have equitable access to digital services, platforms, and applications, and that content is provided in a favourable format.
- To incentivise the private sector to offer website services, develop applications and tools such as handsets, and provide digital content that accounts for the challenges faced by PWDs.
- To develop a framework that promotes the research, innovation, and development of affordable and available e-accessibility devices by encouraging the private sector to conduct training and design tariff plans that meet the needs of PWDs.
- To work with technology service providers at the local and international levels to promote the development of assistive mobile technologies and run awareness campaigns around e-accessibility functionalities in smartphones and tablets.



**PART 3:**

# **INSTITUTIONAL FRAMEWORK**





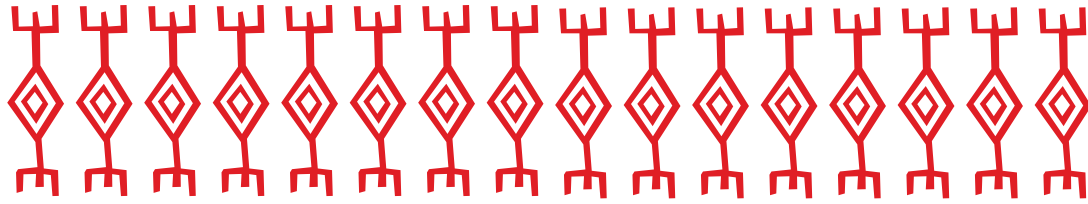
The Government of Sierra Leone recognises and acknowledges that development of a robust digital economy requires strong leadership backed by appropriate laws, governance, and institutional structures. The government will take a WoG and WoS approach to institutional reforms and develop strong organisational structures that will support the national digital development agenda. This policy will ensure that digital development initiatives are better coordinated so limited resources can be better utilised to achieve economies of scale.

Considering the crosscutting and catalytic nature of digital technologies, the National Digital Development Policy 2021 defines the roles and mandates of the actors involved in the implementation of objectives. The actors include state agencies and semi-autonomous government agencies under the direct policy influence of the Ministry of Information and Communications, as well as other MDAs across government.

The following are the actors under the direct statutory oversight responsibility of the Ministry:

- Ministry of Information and Communications (MIC)
- National Communication Authority (NATCA)
- Independent Media Commission (IMC)
- National Fibre Transmission Company (NFTC)
- Cable Landing Station (CLS)
- Sierra Leone Postal Service (SALPOST)
- Universal Access Development Fund (UADF)
- Rights to Access Information Commission (RAIC)
- National Cybersecurity Coordination Centre (NC3)

The policy provides the framework to reform the directorate of communication in the ministry to create a National Digital Development Agency (NDDA) that will consolidate digital development initiatives to ensure a proactive and whole-of-government approach to digital development. The policy also recommends that the existing National ICT Committee be transformed into a National Digital Development Council (NDDC).



### 3.1 The National Digital Development Council

The proposed National Digital Development Council (NDDC) will be a high-powered national body established to provide policy and strategic direction on the country's digital development. Under the leadership of the President of the Republic of Sierra Leone, the NDDC will take ownership at the highest level. This will ensure that the digitalisation process receives sufficient political support for the success of the WoG and WoS digital transformation strategy.

The Council is made up of representatives of public- and private-sector entities, as well as development partners, and is responsible for setting priorities for the implementation of the National Digital Development Strategy. Specifically, the council is expected to:

- Provide oversight and supervision on programmes geared towards moving Sierra Leone into a digital economy.
- Provide input on the strategic direction of the government's National Digital Development Strategy.
- Provide direction on national digital development initiatives in the context of the overall portfolio of investment, as prioritized in the Medium-Term National Development Plan.
- Offer the political support needed to drive the adoption of digital development technologies and business models in the government.

The membership of the NDDC is shown in Table 2.

## **MEMBER** POSITION

H.E President of the Republic of Sierra Leone **CHAIRPERSON**

Chief Minister **MEMBER**

Minister of Information and Communications **SECRETARY**

Financial Secretary **MEMBER**

Minister of Finance **MEMBER**

Directorate of Science Technology and Innovation **MEMBER**

Minister of Higher and Technical Education **MEMBER**

Representative of Sierra Leone Chamber of Commerce and Trade **MEMBER**

Director-General, National Communication Authority **MEMBER**

Permanent Secretary, Ministry of Information and Communications **MEMBER**

Director of Communications, Ministry of Information and Communications **MEMBER**

Head, National Digital Development Agency (NDiDA) **MEMBER**

Director-General, National Civil Registration Authority (NCRA) **MEMBER**

Governor of the Bank of Sierra Leone **MEMBER**

Representative of Mobile Network Operators **MEMBER**

Representative of Internet Service Providers **MEMBER**

Representative of Academia **MEMBER**

Minister of Planning and Economic Development **MEMBER**

Civil Society Representative **MEMBER**

Chief Executive Officer, Sierra Leone Research & Education Network **MEMBER**

Managing Director, SALPOST **MEMBER**

Coordinator, NC3 **MEMBER**



### 3.2 The Ministry Responsible for Digital Development

The ministry, through the Directorate of Communications, shall formulate broad digital development policies and strategies. The specific roles will include:

- Build and sustain an enabling policy environment for the operations and development of the digital economy in Sierra Leone.
- Provide overall policy direction and guidelines for the national digital development process.
- Propose policy options and recommend to the government such measures as legislative and regulatory interventions or fiscal incentives.
- Monitor, evaluate and review the implementation of this policy and other related policies across the sector.
- Represent Sierra Leone in all statutory meetings, workshops, and conferences in regional and international forums where the national digital economy is on the agenda.
- Liaise with other MDAs on matters affecting the implementation of the National Digital Development Policy, especially those that require inter-ministerial intervention.
- Liaise with the Parliamentary Oversight Committee on digital technologies and digitalisation matters.
- Provide technical support to the legislative arms of government in enacting ICT-related laws and legislation.
- Identify emerging global trends and evaluate their potential impact on the Sierra Leone ICT sector and the economy.
- Formulate and review the National Digital Development Policy and National Digital Development Strategy, which should be in harmony with the policies and strategies of the global, continental, and regional economic communities to which Sierra Leone is a signatory.

### 3.3 The Sector Regulators

The successful transformation of Sierra Leone into a robust digital economy hinge on an effective policy, legal and regulatory framework that ensures a fair and competitive environment for the development and provision of digital services. In line with this, the government will continue to strengthen the capacities of the relevant regulatory authorities in the country, as well as review their institutional framework to meet the emerging trends in the sector. The following outlines each of the regulators.

#### 3.3.1 The National Communication Authority

The National Telecommunications Commission (NATCOM) was established by an Act of Parliament in 2006 to regulate the Sierra Leone telecoms sector, protect consumer interests, and ensure fair competition among service providers. Following its establishment, the commission crafted a strategic direction with a clearly stated mission and vision to surmount the various challenges in the telecoms industry and catch up on time lost in its late establishment as a national regulatory authority.

Due to the semi-convergence of all communication regulatory activities to one body, the government reviewed the National Telecommunications Act and renamed the new regulatory body as the National Communication Authority (NATCA). The NATCA will set rules, implement standards, and ensure compliance for the converged market environment with the following specific functions:

- To develop and enforce a regulatory regime for the ICT sector, guided by the National Digital Development Policy and the ensuing legal frameworks.
- To regulate the ICT industry in line with the government's policies, objectives, and national development goals.



- To promote, encourage, and protect private-sector-led investment in a fair and competitive environment; provide economic and technical regulation of the industry.
- To ensure a level playing field for all players through open access opportunities to spectrum and other scarce resources.
- To provide equitable and transparent assignment of scarce resources, including frequency spectrum and the electronic numbering system.
- To review the current licensing categories to ensure compliance with the converged framework.
- To establish and enforce technical/operational standards and practices to assure quality of service (QoS).
- To balance regulatory concerns to ensure that the interests of all stakeholders are carefully considered and protected.
- To foster transparency through consultation during rulemaking, including undertaking regulatory impact assessments (RIA) on proposed regulatory initiatives.
- To promote and ensure infrastructure sharing among facilities and service providers to enhance efficient investment decisions, encourage competition, and minimise the impact of ICTs on the environment.
- To prepare and implement responsive regulatory programmes and plans and support the development of the digital economy and the provision of digital services.
- To develop and enforce consumer protection and awareness standards to ensure safety, fairness, and transparency in service provision.
- To ensure that tariff-setting rules are transparent, with stable, predictable, and understandable standards for current prices and for changes to those prices over time.

### 3.3.2 The Independent Media Commission

An act of Parliament established the Independent Media Commission (IMC) in 2000 with amendments in 2006 and 2007 for self-regulation. It had always been a part of the advocacy and lobbying group for the enactment of the Freedom of Information Law (FIL) in Sierra Leone to enhance the work of journalists without hindrance. One of the core mandates of this statutory body is to ensure that media institutions achieve the highest level of efficiency in the provision of media services and to protect the interests of the public against exploitation or abuse by media institutions. The mandate of the commission is:

- To advise the minister on media policy formulation and development.
- To promote a free and pluralistic media throughout Sierra Leone.
- To ensure that media institutions achieve the highest level of efficiency in the provision of media services.
- To promote fair competition among media institutions and persons in the provision of media services.
- To protect the public against exploitation or abuse by media institutions.
- To promote technological research and the development of adequate human resources for the advancement of media institutions in Sierra Leone.
- To ensure compliance with the enabling Acts and the Regulations made under it.
- To establish categories of licences; grant such licences to media institutions.
- To prescribe a minimum percentage of total broadcast hours to be devoted to public service programmes by various types and categories of electronic media institutions.
- To maintain a register of print and electronic media institutions in Sierra Leone.
- To establish clear limits on media ownership, including cross-media ownership.

- To establish, monitor, and enforce a media code of practice throughout Sierra Leone in consultation with the Sierra Leone Association of Journalists and other media practitioners and associations.
- To provide strategic advice on possible public-private partnerships and ensure the involvement of relevant stakeholders, citizens, businesses, and government agencies in the design and implementation phase of e-government services.

### 3.4 The National Digital Development Agency

The proposed National Digital Development Agency is an institution in the public service under the policy direction of the Ministry of Information and Communications. NDiDA shall be responsible for coordinating the implementation of the National Digital Development Strategy across the public sector to facilitate Sierra Leone's goal of becoming a technology-driven, digital economy as espoused in the National Development Plan. NDiDA's key role will be to lead the implementation of e-government and cybersecurity strategies across MDAs when the scope of the initiatives is crosscutting, provide advice to MDAs about their implementation, and monitor the alignment of practices and standards when the scope is sector-specific. More specifically, NDiDA's mandates include:

- To coordinate, promote, and monitor digital development in Sierra Leone within the context of the National Development Plan.
- To lead the Digital Development Team (DDT) and recommend, develop, and implement cost-effective e-solutions in line with the National Digital Development Strategy (NDDS).
- To support the Ministry responsible for ICT/Telecoms in the development/review of the National Digital Development Policy and the National Digital Development Strategy and work closely with MDAs and the private sector to deliver digital solutions for e-government programmes.
- To provide high-level advice on the National Digital Development Policy and National Digital Development Strategy and work closely with MDAs and the private sector to deliver digital solutions for e-government programmes.
- To develop technical frameworks, standards, and guidelines, including interoperability and e-government frameworks, for the development and use of digital technology in the delivery of public services.
- To provide leadership for digital government project formulation and implementation to ensure a WoG approach, as well as advice on the procurement of digital goods and services.
- To manage and maintain government shared platforms, including the Government Common Core Network, Government National Data Centre, and Government One-Stop-Shop Portal.
- To foster collaborations across MDAs to achieve a WoG- and WoS- approach to the implementation of the National Digital Development Strategy.
- To serve as the authoritative registrar and manager of the country code top level domains space (ccTLD) (.SL) and the sub-level (. gov.sl) to promote the uptake of digital technologies.
- To provide oversight on significant investments in digital infrastructure by the government, as well as develop a quality assurance policy to guide such digital developments.
- To provide advice to MDAs on digital investment proposals in tandem with the National Digital Development Strategy and the National Development Plan.
- To ensure MDAs comply with information security policies, procedures, and best practices.
- To identify, promote, and develop innovative technologies, standards, guidelines, and practices across government at all levels.

- To identify, promote, and develop, standards, guidelines, and best practices across government and at all levels.

### 3.5 National Cybersecurity Coordination Centre

A central point of communication is needed to optimise the operational cooperation between all state authorities, including improving the coordination of protection and response measures related to cybercrime and cybersecurity.

The National Cybersecurity Coordination Centre (NC3), supervised by the Ministry of Information and Communications, is charged with the overall responsibility to oversee, and coordinate all issues related to cybersecurity.

The Centre will work with local and international cyber constituents to promote the objectives of the global culture of cybersecurity. More specifically, its mandate is:

- To provide oversight of all national cybersecurity initiatives, which include coordination, planning, and implementation.
- To serve as the national point of contact for domestic and international stakeholders, including hosting and managing the National Computer Security Incident Response Team (CSIRTs).
- To provide support to computer systems and networks to prevent and combat cybercrime in Sierra Leone.
- To formulate and implement national cybersecurity policy and strategy.
- To oversee the management of computer forensic laboratories and provide support to the judiciary and other law enforcement agencies in the discharge of their functions related to cybercrime in Sierra Leone.
- To promote Sierra Leone's involvement in international cybersecurity cooperation and ensure compliance with information security procedures and best practices for the effective monitoring and defence of the national cyberspace.

- To perform cybersecurity audits, undertake cyber threat and attack-readiness exercises, raise public awareness about cybersecurity and build cybersecurity capabilities/expertise within the country.
- To coordinate and provide the necessary support to the public and private sectors in developing cybersecurity competencies.
- To conduct research and development activities to better understand the country's cyber landscape and distil this knowledge into practical guidance for the utilisation of all.
- To contribute to the protection of critical infrastructures and critical information infrastructures (CII).
- To foster a strategic alliance between the national intelligence system, military (cybercommand), national police and the CSIRTs for effective cybersecurity preparedness, deterrence, and response.

### 3.6 The National Digital Development Technical Working Group

Under the supervision of the NDIDA, the National Digital Development Technical Working Group (NDDTWG) will provide a forum for government institutions to voice their needs and requirements with respect to e-government standards.

The NDDTWG will bring together representatives from diverse MDAs to support the modernisation of government and assist in the electronic delivery of services to citizens and businesses through the coordination and adoption of e-government standards. The Technical Working Group will perform the following tasks:

- To coordinate technical inputs from MDAs on the development of emerging government applications and services.
- To review and give feedback on strategic and operational plans with immediate improvement on the National Digital Development Strategy (NDDS).

- To ensure that the design of e-government applications and services are flexible to allow for the following: interoperability and data standardisation/transfer with other legacy database systems in other MDAs; scalability over time, with an increase in volume as well as the inclusion of additional modules; future linkages with decentralised district databases of civil registration systems.

## MEMBER/INSTITUTION POSITION

Head of NDiDA **CHAIRPERSON**

Director of Communications **SECRETARY**

Deputy Director Policy **MEMBER**

Head, e-Government **MEMBER**

Head, ICT Infrastructure **MEMBER**

National Communications Authority **MEMBER**

Academia **MEMBER**

Directorate of Science, Technology and Innovation **MEMBER**

Sierra Leone Research & Education Network **MEMBER**

Ministry of Finance (Head of ICT) **MEMBER**

Ministry of Agriculture (Head of ICT) **MEMBER**

Ministry of Basic and Senior Secondary Education (Head of ICT) **MEMBER**

Ministry of Health and Sanitation (Head of ICT) **MEMBER**

Ministry of Higher and Tertiary Education (Head of ICT) **MEMBER**

National Revenue Authority (Head of ICT) **MEMBER**

National Social Security and Insurance Trust **MEMBER**

Sierra Leone Road Safety Authority **MEMBER**

National Civil Registration Authority **MEMBER**

National Cybersecurity Coordinator **MEMBER**

Bank of Sierra Leone **MEMBER**

The Technical Working Group may co-opt on a need basis.

### 3.7 Partners Coordinating Committee

Sierra Leone will work with diverse partners towards the realisation of the policy objectives of the National Digital Development Policy. The Partners Coordinating Committee (PCC) is expected to provide coherent relationships, harmonize technical and financial needs, and orchestrate coordinated effort among MDAs, donor partners and other collaborating agencies for timely technical and financial support to meet the intents of the NDDP and NDDS.

The mandates of the Committee include:

- Analyse the technical and financing gaps for the NDDP and the NDDS.
- Coordinate the mapping of projects and initiatives of development partners,

donors, development banks and other stakeholders at sub-regional, national, and regional levels.

- Map and explore opportunities for enhanced cooperation and coordination with actors dealing with digital development and digital economies.
- Develop and implement a communication strategy for partner/donor engagement.
- Advise and engage MDAs and the institutions identified in the NDDP and NDDS on emerging issues on partnerships, donors, and opportunities for the digital economy.

The membership of the PCC is shown in Table 4.

<b><u>MEMBER/INSTITUTION</u></b>	<b><u>POSITION</u></b>
<b>Minister of Planning and Economic Development</b>	<b>CHAIRPERSON</b>
<b>Chief Minister</b>	<b>MEMBER</b>
<b>Minister of Information and Communication</b>	<b>SECRETARY</b>
<b>Head of National Digital Development Agency</b>	<b>MEMBER</b>
<b>Minister of Foreign Affairs</b>	<b>MEMBER</b>
<b>National Cybersecurity Coordinator</b>	<b>MEMBER</b>
<b>Directorate of Science, Technology and Innovation</b>	<b>MEMBER</b>
<b>Sierra Leone Research &amp; Education Network</b>	<b>MEMBER</b>
<b>Bank of Sierra Leone</b>	<b>MEMBER</b>

### 3.8 The Sierra Leone Postal Service

As Sierra Leone strives to develop a digital economy, the Sierra Leone Postal Service (SALPOST) should be positioned to play a critical role in universal service and access to information. As a government-owned entity under the policy direction of the Ministry of Information and Communications, SALPOST has the mandate to provide, develop, operate, and manage all postal services in Sierra Leone. It has a network of post offices across the country, including in unserved and underserved areas, making it the most suitable government partner for dealing with the provision of digital services and information to rural communities. For the government to maximize the potential of the postal service in the digital economy, there is an urgent need to reform the postal sector to cope with socio-economic and technological changes and increase its response to market needs.

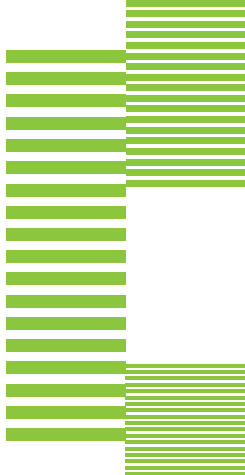
The mandate of SALPOST includes:

- To ensure the provision of prompt, reliable, efficient, and affordable postal services across the country and internationally.
- To develop, expand, and automate products and services to support digital services.
- To serve as an effective physical interface for the delivery of e-communication and e-government solutions.
- To provide a universal platform for e-commerce and facilitation of international trade in the digital marketplace.
- To provide citizens with access to digital services across the country, especially in unserved and underserved areas.

### 3.9 Universal Access Development Fund

Universal services constitute access to quality communications services by the entire population of Sierra Leone regardless of demographic category or geographic location. Though this should be within affordable tariffs, it should not distort competition. Thus, to ensure universal service, there is the need for widespread access to i) public fixed line or mobile telephone network services, ii) mobile or fixed wireless or fixed line internet services, iii) emergency communications that are accessible toll-free, and iv) other services that the ministry in charge of ICT may include, in consultation with the Universal Access Development Fund. The fund's mandate includes:

- To manage and administer the funds for universal access and service.
- To set out the operations to be undertaken to ensure universal services.
- To define annual and multi-annual universal access programmes and budgets, as well as activity plans to be submitted.
- To define, plan, and coordinate the implementation and monitoring of universal access and universal service.
- To designate one or more licensees to oversee universal service or components of universal service.



### 3.10 The Right to Access Information Commission

The Right to Access Information Commission was established by an act of Parliament in 2013 to ensure the systematic disclosure of information held by public authorities or persons providing services to the public. This commission plays a pivotal role in ensuring the success of the government open-data initiative geared towards improving and sustaining the digital economy. RAIC will be well-positioned to coordinate the various stakeholders and conduct periodic assessments of open data and how it aids in building the digital economy. The mandate of the commission includes:

- To monitor and report on the compliance by public authorities to record and maintain records of their activities in a manner that facilitates easy access and downstream processing and dissemination.
- To develop and enforce the required standards and regulatory framework for the collection and timely publishing of information online as open data, using standardised machine-readable data formats by all government institutions.
- To ensure cross-coordination among MDAs of the open data initiative, including ascertaining compliance of open data policies.
- To provide oversight for open government data, including following up on political decisions to release high-profile, high-value datasets by MDAs.
- To develop open data key performance indicators, monitor whether they are met, issue open data declarations and policies, and ensure alignment of laws and policies with open data initiatives.
- To cooperate with or undertake training activities for public authorities on open data and the rights to access information.

### 3.11 Sierra Leone Research & Education Network

The national research and education networks (NRENs) play a critical role in the digital transformation of research and education communities, including universities, colleges, schools, research centres, research hospitals, and innovation hubs. Successful NRENs in Africa have spurred the digital readiness of research and education institutions and contributed, to an exceptional extent, to the adoption and utilization of digital technologies. The mandate of Sierra Leone Research & Education Network (SLREN) includes:

- To provide secure, fast, reliable broadband connectivity services to member institutions, including network engineering, bandwidth monitoring and optimization, email management, and public internet addresses.
- To provide shared services to member institutions, including web hosting, domain services, mail filtering, bandwidth monitoring, IP address assignment and management, web/video conferencing, and eduroam, among others.
- To facilitate education, research, and innovation through provision of electronic identity services, data storage, and pre-configured virtual appliances for research activities.
- To operate a network operation centre to provide network infrastructure monitoring, maintenance, and security for the SLREN community.
- To provide capacity building services for the SLREN community, including Network Management and Monitoring, Campus LAN & WLAN Design, Scalable Campus Wireless LAN design and Cybersecurity.

**PART 4:**

# **POLICY RECOMMENDATIONS, IMPLEMENTATION AND REVIEW**







## 4.1 The way forward

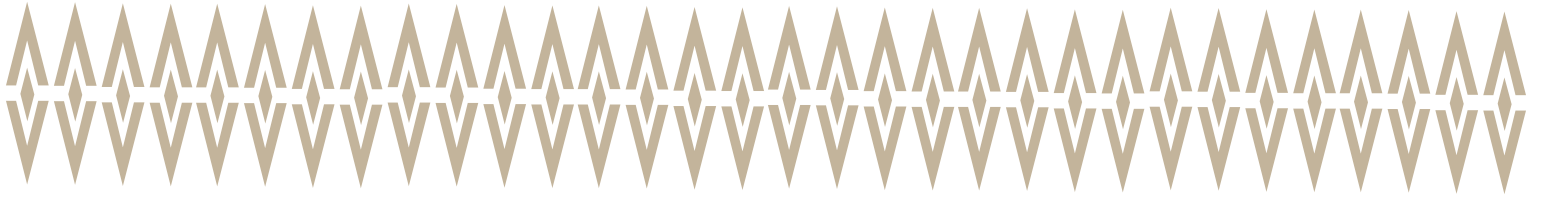
Digital development comprises cross-sectoral activities that require a focused and coordinated approach in their design and implementation to achieve significant results. Therefore, a digital development strategy will be developed to provide the implementation framework for this Policy. All sectors shall define their digital transformation goals and implementation plans based on the National Digital Development Policy framework.

These plans will be synchronised with the national planning and budgeting cycles and consolidated into the National Digital Development Strategy, including subplans and resources required for implementation, defined benchmarks, targets, and responsibilities for performance monitoring and evaluation. Thus, government agencies will formulate their specific projects and programmes within the framework of the objectives and strategies set out in the national masterplan.

Action plans will support both the NDDS and sectoral plans as guides for implementation. Appropriate structures will be established to facilitate the implementation of the National Digital Development Policy at the national and local council levels. To create ownership for the implementation process, existing sector-specific policies have been incorporated into the National Digital Development Policy.

In view of the above, the Policy recommends the following:

1. Approve the National Digital Development Policy 2021 and replace the National ICT Policy of 2016 with the approved NDDP 2021.
2. Approve the National Digital Development Council and replace the National ICT Council with the newly constituted NDDC.
3. Instruct MIC to work with the Office of the Attorney-General to develop the legal framework to reform the e-Government Unit in the Ministry of Information and Communication to the National Digital Development Agency as the government implementing agency to drive digital development.
4. Instruct MIC to develop the implementation plan for the NDDP and accompanying monitoring, evaluation, and learning (MEL) framework.
5. Approve the formation of the National Digital Development Technical Working Group (NDDTWG) to coordinate e-government implementation across government.
6. Institutionalize the implementation of the NDDP through internal digital development policies, structures, processes, procedures, and indicators in the MDAs.



## 4.2 Conclusion

The National Digital Development Policy 2021 is the end product of the harmonisation of various existing ICT-related policies, laws, and committee reports, as well as inputs from diverse stakeholders. In addition to the consultations that took place during the harmonisation process, broad-based stakeholder input from industry bodies, regulators, legal practitioners, civil society, consumer associations, donors, service providers, and technocrats, among others, has enriched the policy document significantly.

The process has carefully considered the context and challenges around digital development in Sierra Leone. Issues that constrain the ICT sector's ability to support digital development towards a vibrant and sustainable digital economy by the year 2039 have been considered. The views, opinions, and inputs of every relevant constituency were sought, captured, and considered to ensure that the National Digital Development Policy 2021 is all-inclusive.

The development of the National Digital Development Strategy forms the basis for the monitoring and evaluation of the provisions of this policy. The Ministry of Information and Communications, in collaboration with the private sector, academia, civil society, and other stakeholders, shall develop an M&E system based on agreed sector indicators.

Periodic consultative sector reviews shall be built into the implementation process at all levels. The process will include an overall evaluation of the implementation strategy, considering policy directives as well as other national priorities. The review process shall, in turn, feed back into the policymaking cycle continually. This policy shall be reviewed every five years to account for emerging technologies and socio-economic issues and sustained relevance to the aspirations of Sierra Leone.



