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Report No: PAD4799

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED GRANT

IN THE AMOUNT OF SDR 37.1 MILLION
(US$50.0 MILLION EQUIVALENT)

TO THE

REPUBLIC OF SIERRA LEONE

FOR A

SIERRA LEONE DIGITAL TRANSFORMATION PROJECT

June 30, 2022

Digital Development Global Practice
Western and Central Africa Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective May 31, 2022)

Currency Unit =	Special Drawing Rights (SDR); Sierra Leonean Leone (SLL, Le)
0.74090539 SDR =	US$1
13,250.30 Le =	US$1

FISCAL YEAR
January 1 - December 31

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ABBREVIATIONS AND ACRONYMS

ACE	Africa Coast to Europe
AFS	Audited Financial Statements
AT	Assistive Technology
AU	African Union
AWP	Annual Work Plan
AWPB	Annual Work Plan and Budget
CAP	Common Alerting Protocol
CBA	Cost Benefit Analysis
CE	Citizen Engagement
CERC	Contingent Emergency Response Component
CII	Critical Information Infrastructure
CIIP	Critical Information Infrastructure Protection
CMM	Cybersecurity Maturity Model
COVID-19	Coronavirus Disease 2019
CREST	Climate Resilience and Environmental Sustainability
DA	Designated Account
DAP	Digital Access Point
DE4A	Digital Economy for Africa
DIAL	Digital Impact Alliance
DSTI	Directorate of Science, Technology, and Innovation
EA	Enterprise Architecture
E&S	Environmental and Social
e-Cabinet	Electronic Cabinet System
e-Justice	Electronic Justice System
e-Parliament	Electronic Parliament System
e-waste	Electronic waste
EOC	Emergency Operation Center
EPA	Environmental Protection Agency
ESCP	Environmental Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESRS	Environmental and Social Review Summary
ESS	Environmental and Social Safeguards
EWMP	E-Waste Management Plan
EWS	Early Warning System
FCS	Fragile and Conflict-affected Situations
FM	Financial Management
FMS	Financial Management Specialist
GBV	Gender Based Violence
G2B	Government-to-Business
G2C	Government-to-Citizen
G2G	Government-to-Government
GDP	Gross Domestic Product

GIF	Government Interoperability Framework
GIMS	Government Integrated Messaging System
GLAN	Government Local Area Network
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
GSMA	Groupe Spécial Mobile Association
GSP	Government Service Platform
GWAN	Government-Wide Area Network
ICT	Information Communication Technology
IDA	International Development Association
IFC	International Finance Corporation
IFMIS	Integrated Financial Management Information System
IFR	Interim Financial Report
IPF	Investment Project Financing
IPR	Independent Post Review
IRR	Internal Rate of Return
IRU	Indefeasible Rights of Use
IT	Information Technology
ITU	International Telecommunication Union
IVR	Interactive Voice Response
IXP	Internet Exchange Point
LMP	Labor Management Procedure
M&E	Monitoring and Evaluation
MDAs	Ministries, Departments, and Agencies
MFD	Maximizing Finance for Development
MIC	Ministry of Information and Communications
MoF	Ministry of Finance
MOPED	Ministry of Planning and Economic Development
NATCOM	National Telecommunication Commission
NCA	National Communication Authority
NCAA	National Civil Aviation Authority
NCCC	National Cybersecurity Coordination Center
N-CIRT	National Computer Incident Response Team
NCRA	National Civil Registration Authority
NDDA	National Digital Development Agency
NDDP	National Digital Development Policy
NDMA	National Disaster Management Agency
NGO	Nongovernmental Organization
NPV	Net Present Value
OPDs	Organizations for Persons with Disabilities
PCU	Project Coordination Unit
PFMU	Project Fiduciary Management Unit
PIM	Project Implementation Manual
PPIAF	Public-Private Infrastructure Advisory Facility
PPR	Procurement Post Review
PPSD	Project Procurement Strategy for Development

PSC	Project Steering Committee
PWDs	Persons with Disabilities
RPF	Resettlement Policy Framework
SALPOST	Sierra Leone Postal Service Limited
SDR	Special Drawing Rights
SEA/SH	Sexual Exploitation and Abuse and Sexual Harassment
SEP	Stakeholder Engagement Plan
SLIX	Sierra Leone Internet Exchange Point
SLL	Sierra Leone Leones
SMP	Significant Market Power
SMS	Short Message Service
SPD	Standard Procurement Document
STEP	Systematic Tracking of Exchanges in Procurement
TA	Technical Assistance
TC	Technical Committee
TLA	Technical Lead Agency
ToR	Terms of Reference
UADF	Universal Access Development Fund
UN	United Nations
UNICEF	United Nations Children's Fund
USSD	Unstructured Supplementary Service Data
WA	Withdrawal Applications
WARCIP	West Africa Regional Communications Infrastructure Program
WBG	World Bank Group

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DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Sierra Leone	Sierra Leone Digital Transformation Project	
Project ID	**Financing Instrument**	**Environmental and Social Risk Classification**
P177077	Investment Project Financing	Moderate

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[✓] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[ ] Fragile State(s)
[ ] Performance-Based Conditions (PBCs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternate Procurement Arrangements (APA)	[ ] Hands-on Enhanced Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
22-Jul-2022	30-Sep-2027

Bank/IFC Collaboration

No

Proposed Development Objective(s)

To expand access to broadband internet, enhance digital skills and improve government capacity to deliver public services digitally.

Components

Component Name	Cost (US$, millions)
Component 1: Expanding Digital Access, and Increasing Resilience of the Digital Environment	21.30
Component 2: Digital Skills Development and Innovation	5.30
Component 3: Laying Key Foundations for Digital Government Services and Systems	19.80
Component 4: Project Management and Implementation Support	3.60
Component 5: CERC	0.00

Organizations

Borrower:	Republic of Sierra Leone
Implementing Agency:	Ministry of Information and Communications

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	50.00
Total Financing	50.00
of which IBRD/IDA	50.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	50.00
IDA Grant	50.00

IDA Resources (in US$, Millions)

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
Sierra Leone	0.00	50.00	0.00	50.00

National PBA	0.00	50.00	0.00	50.00
Total	**0.00**	**50.00**	**0.00**	**50.00**

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2023	2024	2025	2026	2027	2028
Annual	2.00	5.00	12.00	15.00	15.50	0.50
Cumulative	2.00	7.00	19.00	34.00	49.50	50.00

INSTITUTIONAL DATA

Practice Area (Lead)

Digital Development

Contributing Practice Areas

Education, Finance, Competitiveness and Innovation, Governance

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Substantial
2. Macroeconomic	Substantial
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Moderate
8. Stakeholders	Substantial
9. Other	
10. Overall	Substantial

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
Cultural Heritage	Relevant
Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank's due diligence assessment of the Project's potential environmental and social risks and impacts, please refer to the Project's Appraisal Environmental and Social Review Summary (ESRS).

Legal Covenants

Sections and Description
Schedule 2. Section I. A. 2. (a): The Recipient shall not later than sixty (60) days of the Effective Date, establish a steering committee ("Project Steering Committee" or "PSC"), and thereafter, maintain, throughout the period of Project implementation the said steering committee with mandate, composition, and resources, satisfactory to the Association.

Sections and Description
Schedule 2. Section I.A.3. (b): (ii)The Recipient shall not later than sixty (60) days of the Effective Date, recruit a deputy Project coordinator, in accordance with the Procurement Regulations.

Sections and Description
Schedule 2. Section I.F.1.: The Recipient shall not later than sixty (60) days after the Effective Date:
(a) assign an internal auditor with qualifications, experience, and terms of reference, satisfactory to the Association; and
(b) approve an internal audit plan for the Project, in form and substance satisfactory to the Association.

Sections and Description
Schedule 2. Section I.F.2.: The Recipient shall, not later than ninety (90) days after the Effective Date, establish an audit committee for the Project, in form and substance satisfactory to the Association.

Sections and Description
ESCP: Establish the PCU with a full-time environmental and social specialist within three months of the Effective Date.

Conditions

Type	Financing source	Description
Effectiveness	IBRD/IDA	The Recipient has prepared and adopted, a Project Implementation Manual, in form and substance satisfactory to the Association.
Effectiveness	IBRD/IDA	The Recipient has: (i) established the Project Coordination Unit (PCU) with functions, and terms of reference satisfactory to the association; (ii) hired to the PCU a Project coordinator, a procurement specialist, a financial management specialist, and a monitoring and evaluation specialist, all in accordance with the provisions of the Procurement Regulations; and (iii) put in place a financial management software system, acceptable to the Association.
Effectiveness	IBRD/IDA	The Recipient has prepared, disclosed, consulted upon, and adopted, the following ESS Instruments: (i) Labor Management

		Procedures (LMP); and (ii) the Sexual Exploitation and Abuse, and Sexual Harassment (SEA/SH) Action Plan, all in form and substance satisfactory to the Association.
Type Disbursement	Financing source IBRD/IDA	Description No withdrawal shall be made for payments made under Category (2) unless, the Recipient has prepared and adopted the Rural Mobile Broadband Program Manual, in the form and substance satisfactory to the Association;

I. STRATEGIC CONTEXT

A. Country Context

1. **Sierra Leone is a small country in West Africa with rich natural resources but multiple development challenges.** It has a total population of 7.9 million.[1] The country has rich mineral, agricultural, and "blue" (aquatic) resources. However, it is facing multiple development challenges including poverty; a growing youth population and high youth unemployment; weak institutions; and a North-South ethnic/regional divide. About 43 percent of the population lives under the poverty line (US$1.9 per day)[2] and per capita gross domestic product (GDP) at US$509.4 (in current US$)[3]. Three-quarters of the poor live in rural areas, poverty among subsistence farmers remains a major challenge. The economy is vulnerable to several exogeneous shocks, including commodity prices, weather, health, and global inflation. Agriculture, mining, and tourism have remained important drivers of growth, but are constrained by recurrent shocks. The economy has been struggling to diversify the labor market, increase productivity, and create jobs for the growing youth population. Approximately 75 percent of the population are under 35 years of age, and 40 percent of the population is under 15 years old[4]. An undiversified economy remains highly dependent on agriculture and natural resources for revenue. The high youth unemployment rate is associated in part with a low level of skills and some frustration with unmet expectations; this is an important source of fragility.

2. **The Government of Sierra Leone (hereafter "Government") continues to work to maintain macroeconomic stability and improve fiscal balances since the Ebola shock, aggravated by the Coronavirus Disease 2019 (COVID-19) pandemic and the war in Ukraine.** Due to the COVID-19 pandemic, the initial growth projection of 4.2 percent in 2020 was revised downwards to minus 2.8 percent. However, this was revised upwards to minus 2.0 percent at the end of December 2020, reflecting the better performance of the mining sector and the positive impact of the Government's COVID-19 response. In addition to that, the Government's revenue mobilization strategy and reforms, including those leveraging technology, continue to yield positive returns[5].

3. **Despite being assessed as at risk of debt distress, Sierra Leone's authorities continue to roll out measures to ensure that debt and inflation remains within control.** The Government has approved the Arrears Clearance Strategy and Principles (2020-2025), paving the way to update the Medium-Term Debt Strategy. Paying down the stock of arrears supports the flow of money in the local economy. The inflation rate has fluctuated between 10.5 to 13.9 percent. The Government managed to moderate Inflationary pressures significantly from 13.9 percent in the end of 2019 to 10.5 percent in the end of 2020. The

[1] World Bank, 2020. Available at: https://data.worldbank.org/indicator/SP.POP.TOTL?locations=SL
[2] World Bank, 2018. Available at: https://data.worldbank.org/indicator/SI.POV.DDAY?locations=SL
[3] World Bank, 2020. Available at: https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=SL
[4] World Bank, 2020. Available at: https://data.worldbank.org/indicator/SP.POP.0014.TO.ZS?locations=SL&view=chart
[5] Domestic revenues collected during 2018 increased to Le 4.35 trillion (14.0 percent of GDP) from Le 3.34 trillion (12.6 percent of GDP in 2017). Domestic revenue increased from Le 5.4 trillion in 2019 to Le 5.5 trillion in 2020, exceeding the revised COVID-19 projection by Le 140.3 billion. However, this was less than the original pre-COVID-19 target by Le 963.7 billion. Sierra Leone could have achieved over 15 percent of GDP in revenues since 2020, if there was no global pandemic disruption on economic activities (Source: Government of Sierra Leone).

authorities remain committed to economic management that mitigates the economic and social impact of ongoing shocks. Growth is expected to return to positive rates, at an estimated 3.2 percent for 2021 and averaging 4.5 percent in the medium term. The Government will continue to implement sound economic policies and public financial management reforms focused on maintaining a stable economy, responding to shocks and creating the fiscal space needed to provide critical goods and services for the people of Sierra Leone whilst leveraging technology and innovation.

4. **Gender disparities in Sierra Leone remain a challenge, as low literacy rates, high rates of early pregnancy and early marriage, as well as restrictive social norms constrain economic opportunities for women and girls**. Women's economic participation in Sierra Leone has historically suffered due to high rates of dropout from the formal education system. More than a third of girls (39 percent) are married before the age of 18, and by 19, the average girl in Sierra Leone already has two children.[1] High rates of school dropout among teenage girls due to early marriage and pregnancy limit their educational attainment and contribute to widening gender gaps in access to information, services, infrastructure, and employment opportunities. Working-age women who were teenage mothers have an average of one year less of education and earn 25 percent less than women who were not teenage mothers. Most of the work done by women is not remunerative (e.g., household work, including childcare and elderly care),[2] which contributes to them accruing less than one-seventh of men's total income through their lifetimes.[3] While data on the supply of digital skills in Sierra Leone is lacking, a 2020 United Nations Children's Fund (UNICEF) study found that two percent of male adolescents aged 15-18 years have information and communications technology (ICT) skills, compared to one percent of females.[4] Restrictive social normal prioritize women's household work, constrain women's time and physical mobility, and limit interactions between men and women. As a result, young women are less likely to participate in vocational training, such as digital skills training programs, than young men (4 versus 7 percent).[5] Additionally, the Government reports that improved Internet access has led to online violence against women. Lack of awareness of the benefits of digital literacy, lack of relevant content, and concerns about online violence led women to be less likely to use the Internet for economic activities. Having said that, some efforts have been recently started to tackle gender disparity by the Government, especially in girls' access to education.

5. **Persons with disabilities (PWDs) are among the most disadvantaged and are at risk of being left behind.** Approximately 4.3 percent of the population ages five and over in Sierra Leone is considered to have moderate to severe disabilities.[6] The majority have at least one type of physical impairment (49.7 percent); 32.1 percent have a visual impairment; many of these impairments are caused by diseases or illnesses. PWDs in Sierra Leone face various barriers to full social, economic, and political participation, and are particularly disadvantaged in terms of access to formal education: roughly two thirds of PWDs (67.4 percent) have never been to school, compared to 42 percent of persons without disabilities. Similarly, only 15.6 percent of PWDs have completed primary school, compared to 32.5 percent of people without disabilities. The exclusion from education causes further exclusion from economic opportunities such as continuing education and employment, exacerbating the risk of poverty. PWDs from already vulnerable groups such as women and the poor are among the most disadvantaged of the population. Women with disabilities--about half of PWDs--face double discrimination and stereotyping, which further limits their access to education and employment opportunities. Seventy percent of PWDs also live in rural areas, where

[6] Ibid.

poverty is highly concentrated. The Ministry of Social Welfare has been leading inclusive agenda in Sierra Leone. A few commitments and programs to support economic empowerment for PWDs have been launched by the Government as well as the support from development partners[7].

B. Sectoral and Institutional Context

6. **Sierra Leone lags behind in the development of its market for telecommunications and broadband and other digital services, which is preventing it from achieving wider digital dividends.** Only 18 percent of the population was using internet in 2020, compared with the Sub-Saharan Africa average rate of 30 percent.[8] Mobile broadband penetration remains low with the unique subscriptions estimated at 35 percent of the population in 2021[9] though slightly higher than the Sub-Saharan Africa average of 33 percent in the same year. Access to digital public services is also extremely low. Sierra Leone was ranked 174 out of 193 countries in the United Nations (UN) E-Government Development Index 2020. The Government lacks core infrastructure and shared systems—the key basis of the Government digital stack—necessary for enabling and scaling the delivery of secure and cost-effective digital public services. For example, the Government connectivity is extremely unreliable due to the fragmentation in the Government network design and management. Also, the lack of a shared data infrastructure within the Government not only results in the presence of multiple standalone data centers hosted by different Ministries, Departments, and Agencies (MDAs) without a centralized manner, but also prevents the development and seamless hosting of government services and applications at scale. Digitalization of government services is nascent, with room for improvement in the enabling policy and regulatory environment such as digital service standards and data governance. Furthermore, addressing the need of cybersecurity and cyber resilience is urgent to protect against increasing cyber threats. Sierra Leone was ranked 121 out of 130 countries in the International Telecommunication Union (ITU)'s Global Cybersecurity Index in 2020.[10] Enhancing cyber resilience is critical for both telecommunication infrastructure and networks as well as critical sectors such as energy and financial services.

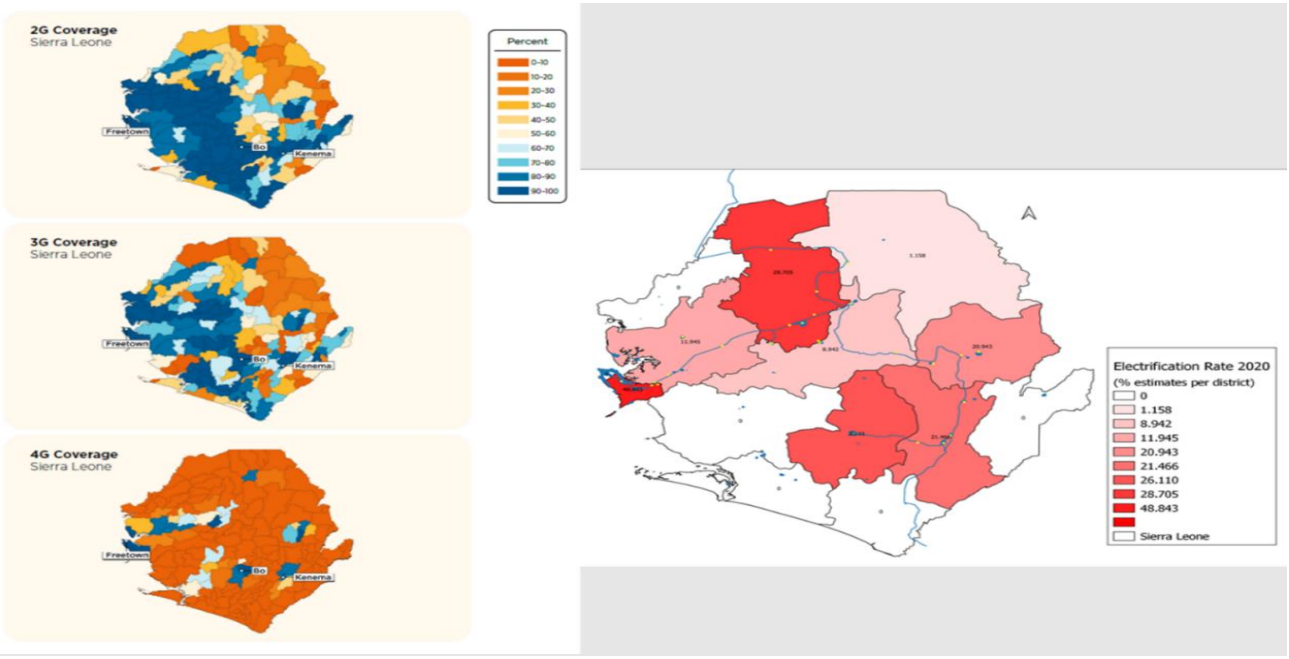
7. **Lack of affordability, availability, and quality of broadband connectivity, coupled with limited human and institutional capacity, constrains use of digital technologies and access to services in Sierra Leone**. Sierra Leoneans are paying 9.86 percent of their monthly income to purchase 1GB equivalent of mobile broadband data, significantly higher than the 2 percent global benchmark.[11] In a joint study by the World Bank and Groupe Spécial Mobile Association (GSMA), limited affordability of mobile broadband services and handsets was one of the key barriers preventing the use of mobile broadband along with lack of digital skills, literacy, and locally relevant content.[12] The usage gaps are especially pronounced among

[7] Source: https://statehouse.gov.sl/sierra-leones-president-julius-maada-bio-launches-socio-economic-empowerment-for-persons-with-disabilities-calls-for-barrier-free-environment/
[8] ITU World Telecommunication/ICT Indicators Database. Available at: *https://www.itu.int/en/ITU-D/Statistics/Dashboards/Pages/Digital-Development.aspx*
[9] World Bank analysis on the unique mobile-broadband subscriptions per 100 in 2021 based on the GSMA Mobile broadband capable connections divided by SIMs per Unique Subscriber (GSMA) divided by UN Population data.
[10] ITU. Global Cybersecurity Index 2020. https://www.itu.int/dms_pub/itu-d/opb/str/D-STR-GCI.01-2021-PDF-E.pdf
[11] *https://a4ai.org/affordability-report/data/?_year=2020&indicator=INDEX&country=SLE*
[12] World Bank and GSMA. 2022. *Mobile Infrastructure In Sierra Leone: An Appraisal of Policy Options to Expand Deployment and Mobile Adoption in the Period 2020-2030.* Washington, DC: World Bank Group (WBG).

underserved and marginalized communities, particularly among women and PWDs. Similarly, a smaller share of women owned smartphones compared to men during the same year. In addition, anecdotal evidence suggests that PWDs are largely excluded from digital access in Sierra Leone, despite the vast potential of these tools to facilitate social and economic participation and empowerment.

8. **Persistent digital divides between urban and rural areas are hindering inclusive digital growth in Sierra Leone.** As of September 2018, 76.8 percent of the population was covered by 3G, of which 98.2 percent was in urban and 60.4 percent in rural areas. For 4G, 41.3 percent of the population was covered by 4G signals, of which 80.5 percent was in urban areas and only 11.5 percent in rural areas. The urban/rural access gap is also affected by the limited availability of electricity, with the national electrification rate only around 30 percent, and even lower in rural areas (Figure 1). The existing access gap is further widening the internet usage gap in rural areas: in 2021, only 6 percent of the rural population used mobile internet, compared to more than half in urban areas.[13]

Figure 1. Current Network Coverage by Technology (left) and Electrification Rate in Sierra Leone (right)



Source: GSMA (left) and World Bank Energy Team (right)

9. **There are a number of interlinked factors behind these constraints, including a lack of competition in the international connectivity, internet exchange point (IXP), and weak regulatory authority and instruments**. In the first mile of the broadband value chain, Sierra Leone is connected to only one submarine cable landing station (Africa Coast to Europe [ACE]cable), rendering the entire broadband value chain vulnerable to cable cuts and susceptible to natural hazards and physical shocks. The Government has delegated the operation of the ACE cable landing station via a management contract to Zoodlabs, a private

[13] World Bank and GSMA. 2022. *Mobile Infrastructure In Sierra Leone: An Appraisal of Policy Options to Expand Deployment and Mobile Adoption in the Period 2020-2030.* Washington, DC: WBG.

sector operator.[14] In terms of the actual usage of ACE cable capacity, some unused capacity could be better utilized, and operational efficiency could be further enhanced[15]**.** The absence of a functioning IXP is further contributing to the high costs of internet usage and content provision since a significant part of Sierra Leone's internet traffic is being exchanged internationally. Moreover, there are regulatory restrictions that limit private sector investment in further development of the backbone infrastructure in Sierra Leone (e.g., lack of infrastructure-sharing frameworks). Some of the key telecommunication regulations and baseline studies necessary for promoting market competition and increasing broadband internet affordability, such as tariff/cost assessment, Significant Market Power (SMP) legislation, and interconnection regulations, are missing.

10. **Low digital literacy rates, combined with limited opportunities to develop digital skills, mean that many Sierra Leoneans cannot reap the benefits of the digital economy.** For youth in Sierra Leone to take advantage of opportunities offered by the digital economy, they must develop foundational to advanced digital skills. Yet, few primary and secondary schools across Sierra Leone teach computer skills or have computer labs, and most lack reliable internet and the electricity infrastructure for ICT-based instruction to be feasible. As a result, digital illiteracy among youth remains low. Ongoing World Bank initiatives, including the World Bank-financed Sierra Leone Skills Development Project (P163723), seek to develop a digital skills training curriculum in primary, secondary, and tertiary schools. However, high levels of dropout at the secondary level, as well as high rates of early marriage and early pregnancy, mean that many youths, particularly girls and young women, are excluded from this training.

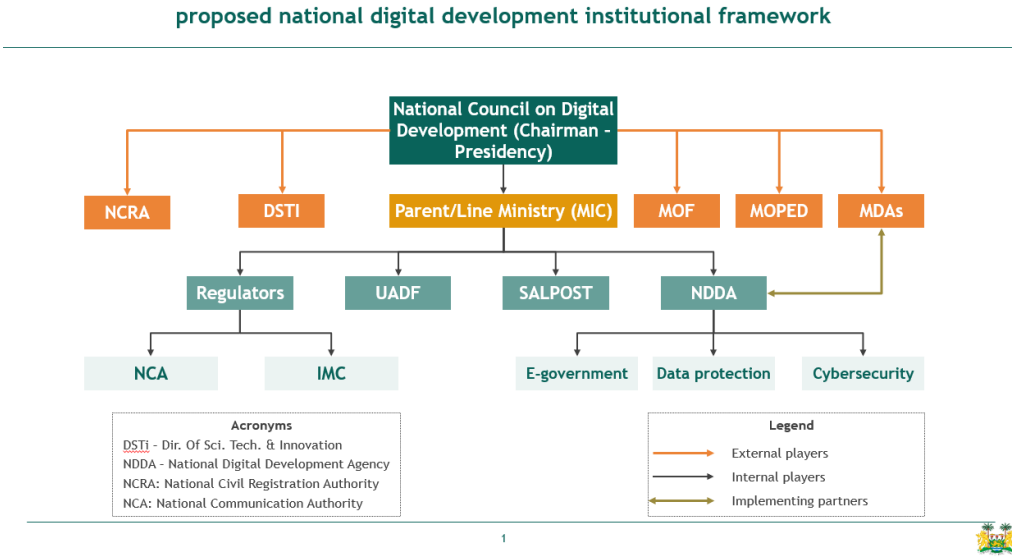
11. **Access to digital skills training is limited outside formal education as well, particularly for women, and PWDs.** Social norms in Sierra Leone prioritize women's household work, creating significant time constraints that often prevent women's continued education and training. As a result, men are more likely than women to participate in vocational training (7 percent versus 4 percent), as well as urban residents (10 percent) compared to rural residents (3 percent).[16] New digital skills programs are seeking to close the digital skills literacy gap, with many targeting the most underserved and marginalized communities. However, these initiatives are largely supply-driven, with employers having little or no input into the design of digital skills training curricula, leading to a disconnect between digital skills training and employment opportunities.[17] Trainings are often held in locations that women find either unsafe or inappropriate to visit, and women with less disposable income or who are in remote areas often cannot afford commute costs. Further, many training centers lack the physical infrastructure and Assistive Technology (AT) equipment needed to be accessible for PWDs.

12. **Despite the existing challenges, the Government of Sierra Leone is committed to transforming its economy through institutional realignment and strengthening, and a more inclusive and human-centric digital growth and development strategies.** The Ministry of Information and Communications (MIC) is the

[14] *https://globaltimes-sl.com/en/2021/04/06/zoodlabs-promises-additional-investment/*
[15] The total used international internet bandwidth in Sierra Leone was 53 Gbps against 1,810 Gbps Lit Capacity of the ACE cable in 2019 (Source: World Bank. Digital Economy Country Diagnostic for Sierra Leone. https://openknowledge.worldbank.org/handle/10986/35805).
[16] World Bank. 2018. "Sierra Leone Skills Development Project (P163723): Project Appraisal Document." Washington, DC: WBG.
[17] World Bank. 2020. *Digital Economy Diagnostic: Sierra Leone.* Washington, DC: WBG.

line ministry in charge of driving the government's digital transformation strategic vision and promoting digital development policy. The MIC has a dedicated e-Government department, which is responsible for setting the agenda for the core government infrastructure and shared systems and providing information technology (IT) services to all MDAs. However, the Government's digital transformation efforts so far have been hampered by a siloed approach due to the lack of an overarching institutional framework to promote a whole-of-government digital transformation. Against this backdrop, this e-Government department is expected to become part of a new National Digital Development Agency (NDDA), which is being proposed to implement the Government's digital transformation initiatives to facilitate coordination and collaboration between MDAs, accelerating the whole-of-government digital transformation based on the recommendation in the National Digital Development Policy (NDDP) (Figure 2). The Government is also proceeding with an institutional reform in the existing regulatory authority, replacing the National Telecommunication Commission (NATCOM) with the National Communication Authority (NCA). NCA will assume a broader regulatory mandate for converging broader topics in digital space such as cybercrime and cybersecurity. The Government is buttressing these efforts for the digital development in the NDDP.

Figure 2. Proposed National Digital Development Institutional Framework



Source: Government of Sierra Leone

13. **It is critical that this commitment for digital transformation be reinforced and realized by practical actions to keep Sierra Leone's vision on trajectory and to ensure inclusive digital growth based on market competition**. A significant scale-up in private infrastructure investment needs to be encouraged based on the Maximizing Finance for Development (MFD)[18], especially in rural and underserved areas that do not offer sufficient commercial return for the private sector to invest. Competition needs to be strengthened through forward-looking government policy and light-touch regulatory approach. Narrowing digital access and usage gaps should pay particular attention to the underserved and marginalized communities whose

[18] See details in paragraph 19.

economic opportunities could potentially be widened by digital technologies and digital services. Furthermore, basic digital literacy and skills need to be nurtured to equip the Sierra Leoneans to build the inclusive and human-centric digital economy. Finally, improved government communication systems can further expand the reach of service and information delivery to citizens, which can effectively mitigate emergencies and risks, such as climate change and disasters.

C. Relevance to Higher Level Objectives

14. **The proposed Sierra Leone Digital Transformation Project is fully aligned with the latest World Bank Group (WBG) Country Partnership Framework (CPF) FY21-FY26[19].** The CPF identifies digital technologies as a cross-cutting theme and supports building a strong foundation for the digital economy. The following proposed activities of the project will directly and indirectly contribute to the three focus areas anchoring the CPF: Expanding Digital Access and Increasing Resilience of the Digital Environment (Component 1) and Laying Key Foundations for Digital Government Services and Systems (Component 3) will both support CPF **Focus Area 1: Sustainable Growth and Accountable Governance**, by using digital technologies to maximize government functions (Objective 1.2) and service delivery (Objective 1.1). Expanding Digital Access and Increasing Resilience of the Digital Environment (Component 1) and Digital Skills Development and Innovation (Component 2) are directly aligned with CPF **Focus Area 3: Economic Diversification and Competitiveness with Resilience,** by closing digital access gaps and increasing adoption. Digital connectivity support for public institutions, including health facilities, and Digital Skills Development and Innovation will contribute to CPF **Focus Area 2: Human Capital Acceleration for Inclusive Growth.** The Sierra Leone Digital Transformation Project has complementarity with the following active and pipeline operations, including but not limited to: (i) Sierra Leone Financial Inclusion Project (P166601); (ii) Accountable Governance for Basic Service Delivery (P172492); (iii) Sierra Leone Economic Diversification Project (P164212); (iv) Resilient Urban Sierra Leone Project (P168608); (v) Sierra Leone Skills Development Project (P163723); (vi) Sierra Leone – Quality Essential Health Services and Systems Support Project (P172102); (vii) Reforming Africa's Institutes for Computer Science, Engineering and Digitalization (P171450); (viii) Sierra Leone Land Administration Project (P177031); and (ix) West Africa Food System Resilience Program (FSRP)—Phase 2 (P178132).

15. **The project fits well within the World Bank ’s and the Government’s efforts to respond to COVID-19-related shocks, and to mitigate its social and economic consequences.** The proposed intervention activities are closely aligned with Pillar 2 (Protecting Poor and Vulnerable People), Pillar 3 (Ensuring Sustainable Business Growth and Job Creation), and Pillar 4 (Strengthening Policies, Institutions, and Investments for Rebuilding Better) of the WBG’s COVID-19 Crisis Response Approach paper (FY20).[20] While an array of measures is being undertaken to mitigate the direct health-related impact of the COVID-19 pandemic, the long-term financial and economic consequences are expected to remain for years to come. The proposed activities integrated into Components 1, 2, and 3 are designed to support the Government in

[19] Report No. 148025-SL. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/851731590804122431/sierra-leone-country-partnership-framework-for-the-period-fy21-fy26
[20] *Strengthening Policies, Institutions, and Investment for Rebuilding Bette*r. Available at: https://documents1.worldbank.org/curated/en/136631594937150795/pdf/World-Bank-Group-COVID-19-Crisis-Response-Approach-Paper-Saving-Lives-Scaling-up-Impact-and-Getting-Back-on-Track.pdf

building resilient and inclusive policies by strengthening its legal and regulatory frameworks and scaling up the citizen-centric digital public service delivery by reinforcing the Government portal and relevant MDA capacity (Pillar 4). By enhancing the service delivery infrastructure and platforms, the project will support ensuring the continuity of public services for businesses and citizens in times of crisis (Pillars 2 and 3).

16. **The project contributes to several other WBG and government strategies, such as the WBG Gender Strategy (FY16-23), the World Bank's Western and Central Africa Regional Priorities, 2021–2025, the AU Digital Transformation Strategy, and the International Development Association (IDA)-20 Digital Commitments.** The proposed activities will contribute to two pillars under the WBG Gender Strategy: (i) Improving Human Capital Endowments (by improving digital literacy among women) and (ii) Removing Constraints for More and Better Jobs (by improving women's access to digital training; connecting women with new income-earning opportunities; and increasing their participation in the digital economy). The project activities are also aligned with the Western and Central Africa Regional Priorities, 2021–2025, in which broadband connectivity is seen as critical for economic transformation and the creation of better jobs for more people. The proposed project also supports the WBG's Digital Economy for Africa (DE4A) initiative, which contributes to the operationalization of the AU Digital Transformation Strategy, which aims to ensure that every African individual, business, and government is digitally enabled by 2030.[21] All intervention activities will prioritize women, PWDs, and other marginalized groups in order to increase their access to and use of digital services, in line with IDA-20 commitments (see details in Annex 3).

17. **Citizen engagement (CE) is incorporated throughout the project design.** Although specific CE activities applicable to relevant project activities are fully mainstreamed at the component level, general outreach activities are planned under Component 3 to cut across all project components, namely: (i) the establishment of Government notification and communications platform under Subcomponent 3.2 which will solicit citizen feedback, and (ii) the Government-to-Citizen (G2C) approach under Subcomponent 3.3 which involves a prototyping approach to facilitate interactive citizen feedback. In addition to a Grievance Redress Mechanism (GRM), the project will support interactive communication and constant dialogue with the general population to increase understanding of the project and the intensification of digital public services. Three CE related indicators have been included in the project's results framework.

18. **The project mainstreams digital inclusion for women, PWDs, and rural communities.** The project will use several approaches, including regulatory review, reforms, and investments, to unlock the physical and invisible barriers to enhancing access to broadband internet and digital services for underserved andI marginalized population, particularly women, PWDs, and rural communities. The project will support inclusive digital access and digital skills learning opportunities for women and PWDs under Component 2, which will improve their safe access to and participation in economic and social activities.[22] Rolling out of reverse auction for rural subsidies under Subcomponent 1.3, and piloting Digital Access Points (DAPs) under Subcomponent 3.2 will enhance digital accessibility for people in rural and remote areas.

21 https://www.worldbank.org/en/programs/all-africa-digital-transformation

[22] See Annex 3 for a detailed description of proposed activities to address project-relevant gender gaps.

19. **The project will promote the MFD approach by designing interventions that will crowd in private sector funding and stimulate private sector development.** The project will support legal and regulatory reforms to unlock private sector participation in the international gateway where competition does not yet exist under Subcomponent 1.1. The lack of enabling regulatory environment and limited regulatory capacity have been identified as key constraints to introduce competition in the international gateway in Sierra Leone. Also, the project will create a trust environment and strengthen industry collaboration, the absence of which hindered the creation of an IXP despite its advantages of lowering internet costs. The project will ensure that locally licensed private sector operators will be fully involved in the TA to set up a neutral IXP, as agreed, which will be established and operated based on the joint industry approach with MIC and NATCOM. Under the Subcomponent 1.2, the project will incentivize the private sector investment for last-mile connectivity to select public institutions through the demand aggregation of internet bandwidth capacity purchase. The Subcomponent 1.3 activity will incentivize the rollout of mobile broadband infrastructure in rural and remote areas that do not offer sufficient commercial returns in the medium term for the private sector through the least cost reverse subsidy auction scheme, a proven method for introducing competition into the provision of subsidies.[23]

II. PROJECT DESCRIPTION

A. Project Development Objective (PDO)

20. The PDO is "to expand access to broadband internet, enhance digital skills and improve government capacity to deliver public services digitally". The achievement of the PDO will be measured by the following results indicators:

Expand Access to Broadband Internet

- People provided with new or enhanced access to broadband internet, of which rural and of which female (number)

Enhance Digital Skills

- Youth with certified foundational to advanced digital skills (number), of which female (percentage), of which persons with disabilities (PWDs) (percentage)

Improve Government Capacity to Deliver Public Services Digitally

- Government Ministries, Departments, and Agencies (MDAs) and public institutions benefiting from improved government infrastructure and networks (number)
- MDAs utilizing shared services operationalized by the project (number)

B. Project Components

21. **The Sierra Leone Digital Transformation Project proposes four integrated and mutually**

[23] *Broadband Strategies Toolkit*. WBG. Available at: https://ddtoolkits.worldbankgroup.org/broadband-strategies/universal-access/instruments-fiscal-support-universal-broadband-access

reinforcing components, with a fifth component dedicated to contingent response to future eligible emergencies (*Contingent Emergency Response Component*, *CERC)*. Table 1 summarizes the component structure.

Table 1. Project Components and Proposed Costs

Components	US$ million
Component 1. Expanding Digital Access, and Increasing Resilience of the Digital Environment	**21.3**
Subcomponent 1.1. Broadband Market Policy and Regulation	3.8
Subcomponent 1.2. Last-mile Connectivity Access for Public Institutions	9.2
Subcomponent 1.3. Inclusive Access for Underserved and Marginalized Communities	3.8
Subcomponent 1.4. Increasing Resilience of the Digital Environment	4.5
Component 2. Digital Skills Development and Innovation	**5.3**
Subcomponent 2.1. Digital Skills Training	4.0
Subcomponent 2.2. Drones for Innovation	1.3
Component 3. Laying Key Foundations for Digital Government Services and Systems	**19.8**
Subcomponent 3.1. An Enabling Environment for Digital Government	3.6
Subcomponent 3.2. Government Networks and Service Delivery Infrastructure	10.1
Subcomponent 3.3. Demonstration of Digital Services and Systems	6.1
Component 4. Project Management and Implementation Support	**3.6**
Component 5. Contingent Emergency Response Component (CERC)	**0.0**
TOTAL	**50.0**

Component 1: Expanding Digital Access, and Increasing Resilience of the Digital Environment (US$21.3 million equivalent)

22. **This component will provide support to improve broadband market competition, expand access to broadband internet, and address existing digital divides in Sierra Leone.** The country continues to experience challenges in strategic parts of the broadband value chain, from the first mile where the internet enters the country to the last mile where it reaches end users. A combination of financing and technical assistance (TA) is expected to strengthen regulatory capacity and instruments in order to increase competition, lower prices, and facilitate more private sector investments in underserved areas.

Subcomponent 1.1. Broadband Market Policy and Regulation (US$3.8 million equivalent):

23. **This subcomponent will strengthen the upstream policy and regulatory environment in the broadband value chain in line with a MFD approach.**

24. ***International Connectivity.*** The project will support the Government in developing a strategic approach to addressing the potential risk of having a single submarine cable-landing station, as well as to better leverage the existing international gateway for improved efficiency of the broadband market in Sierra

Leone. TA will be provided to support the sector regulator in (i) developing a business case and policy instruments to facilitate increased network redundancy; (ii) providing measures to address the climate vulnerabilities of the submarine landing cable with the aim of increasing the overall climate resilience of digital infrastructure; and (iii) carrying out a feasibility study for the operationalization of a Sierra Leone Internet Exchange Point (SLIX), including an assessment of internet traffic, identification of a business model, and development of operational guidelines. In order to establish a sustainable IXP after several unsuccessful past attempts, it is agreed that this activity will take a joint industry approach with private sector operators and aim to nurture trust between the Government and such operators. Based on the findings of the feasibility study, the project will finance the purchase of equipment for SLIX in collaboration with the private sector.

25. ***Broadband Market.*** This activity will provide TA to support review and reforms of policy and legal frameworks, such as infrastructure sharing policy, to create an enabling environment for improved competition and economies-of-scale infrastructure deployment that will lead to affordable access to broadband services. Also, this subcomponent will provide TA to the Government to conduct an institutional gap assessment of NCA, the new regulatory authority which will emerge from the Government's institutional reform, and to draft related legislation and regulations. The project will provide capacity development support to NCA based on the findings of the gap assessment. In the meantime, the subcomponent will support the existing sector regulator's efforts to address challenges related to competition and the high price of telecommunication services through the following activities: (i) TA to draft SMP legislation, clear interconnection regulations; and tariff/cost studies to ensure fair pricing to boost market competition and increase the affordability of broadband services; and (ii) the purchase of equipment and development of regulatory capacity for efficient spectrum and network monitoring and management.

Subcomponent 1.2. Last-Mile Connectivity Access for Public Institutions (US$9.2 million equivalent)

26. **This subcomponent will provide last-mile connectivity access to selected public institutions, including MDAs, local government offices, hospitals and health clinics, and schools, at the central and local levels in Freetown, and in secondary cities that currently do not have broadband access.** Access to reliable broadband internet in priority government offices and public institutions is a critical stepping-stone to improving coordination and management among MDAs. The connectivity support will enhance wider adoption of public financial management (FM) systems and platforms, as well as improved government-wide communication and response in national emergencies. The approach being applied for last-mile

connectivity under the project is demand aggregation and prepurchase of capacity for the Government.[24] [25] This approach ensures value for money, through competitively tendered contracts with the private sector that guarantee medium- to long-term supply agreements with the Government, which is enabling MFD. The specific locations and the target number of institutions will be determined with the Government based on the findings of the Public-Private Infrastructure Advisory Facility (PPIAF)-funded comprehensive mapping exercise.[26] The PPIAF study will first assess the status of supply and demand of the existing and planned investments in digital infrastructure by both the private and public sectors, follow with a technical feasibility study to validate configuration of selected locations. The list of public institutions will also reflect the priority sites identified in close collaboration with various MDAs, as well as other ongoing World Bank-funded projects to maximize synergies and development impacts.

Subcomponent 1.3. Inclusive Access for Underserved and Marginalized Communities (US$3.8 million equivalent)

27. **This subcomponent will address the access gap in rural and remote areas, and will support digital access inclusion, especially for women and PWDs.** While the project primarily focuses on improving access to broadband connectivity in urban and peri-urban areas, where access to electricity is generally available, this subcomponent will support the government's innovative approaches, elaborated below, to promoting inclusive access to broadband for underserved and marginalized communities.

28. ***Rural Connectivity Access*.** Key activities to support the Government in developing an approach for expanding access to broadband internet in selected rural areas that the private sector is unlikely to cover for reasons of non-profitability will include: (i) provisioning of financing of least-cost subsidy reverse auctions[27] ("Subsidy Payments") to eligible private sector providers ("Service Providers") for deployment of shared infrastructure and mobile broadband services (3G/4G) in selected rural and remote areas ("Rural Mobile Broadband Program"); (ii) partnership with the private sector, NATCOM, Universal Access Development Fund (UADF), and academia to pilot and scale-up innovative technologies, such as satellite,

[24] The approach will be based on Indefeasible Rights of Use (IRUs), which by definition are commercial capacity supply agreements that require the private sector to guarantee long-term capacity over a fixed route, such as fiber networks. The Government will provide bidders with the fixed capacity needed for its operations (based on the demand study being funded under Subcomponent 1.1) as well as a fixed cost, and will request the private-sector operator to provide the least and most competitive cost for providing the service. The effective IRU cost will set a floor on the amount that private sector investors will have to recover from end-user customers to break even, before taking account of any profits they may try to earn. These are very efficient but fairly sophisticated commercial transactions for which the government lacks the capacity to engage the private sector. Hence, the project will provide negotiation support and/or transaction advice to the Government, and will build their capacity to monitor transactions during and beyond project implementation.

[25] Any operations and maintenance costs that go beyond the closing date of the project, as well as additional bandwidth purchase after the closing date, would fall under the responsibility of the Government.

[26] These activities will be complemented by technical assistance work being funded by the PPIAF to strengthen the enabling policy, legal, and regulatory environment for improved private sector participation that is specifically focused on a comprehensive mapping exercise to assess the status of supply (digital infrastructure and service availability); demand (based on the demand topology to be developed); and investment (the existing and planned investments in digital infrastructure by the private and public sectors, and PPIAF's Climate Resilience and Environmental Sustainability (CREST) support for Sierra Leone's digital infrastructure and services).

[27] Least-cost subsidy reverse auction is a mechanism for introducing competition into the provision of subsidies, which has been used successfully by governments in their partnerships with the private sector hat have delivered a range of services, particularly telecommunications, to areas beyond the current reach of the market (World Bank, 2022).

and business models for rural broadband deployment. The objective of these pilots is to develop a proof of concept for an MFD approach that could inform subsequent possible scaling up to narrow the urban-rural network coverage gap.

29. ***Assistive Technology (AT) Digital Equipment.*** The project will also finance the purchase of AT digital equipment that can enable access to digital technologies and broadband internet for selected organizations for persons with disabilities (OPDs).

Subcomponent 1.4. Increasing the Resilience of the Digital Environment (US$4.5 million equivalent)

30. **This subcomponent will provide TA to increase the overall resilience of the digital environment by enhancing cybersecurity and climate resilience, and effectively managing electronic waste (e-waste).**

31. **Cyber Resilience**. Addressing growing and evolving cyber risks and threats are key to ensuring a safe, secure, and cyber-resilient digital transformation in Sierra Leone. The activities elaborated below are designed based on the cyber-threat landscape in Sierra Leone and the identified objectives and critical paths outlined in the Government's National Cybersecurity Strategy 2021-25.

32. ***Critical Information Infrastructure Protection (CIIP).*** The project will support the operationalization of CIIP through the following activities: (i) TA to identify sectors and systems to be considered as the critical information infrastructure (CII) by establishing a set of defining criteria, and the development of a nationwide CIIP Plan Directive, which will define the criteria for assigning and designating CIIs and will set out the processes, requirements, and specific standards for CII sectors/systems to consider when devising sector-specific CIIP plans;[28] (ii) the development of the legal and regulatory frameworks necessary for implementing the CIIP Plan; and (iii) the development of sector/system-specific CIIP plans for the priority sectors (for example, financial services, government, telecommunications, energy, and/or aviation). Once the CII is defined and identified under the TA, the project will finance the development of risk registries and standard operating procedures for the selected priority CII.

33. ***National Cybersecurity Coordination Center (NCCC) and National Computer Incident Response Team (N-CIRT).*** The project will also support the operationalization of the NCCC, which will house the Sierra Leone N-CIRT. Support will include the purchase and installation of key operational infrastructure, such as a threat intelligence monitoring and management system; an incident management platform; a contact center platform; an information-sharing platform; and other software licenses for NCCC that will be financed by the project. For the N-CIRT, the purchase of necessary hardware equipment and software licenses will be supported for the project duration, and the project will seek sustainability of the N-CIRT operation beyond the project cycle. For sustainable operationalization of NCCC and N-CIRT, the project will support the development of critical paths and a road map. This component will also finance training and capacity-

[28] The CIIP Plan will also identify functional dependencies between CII sectors/systems; ensure effective coordination and information exchange across various CII sectors and relevant agencies, operators, and stakeholders; and elaborate reporting mechanisms to keep updated on the status of various CII sectors/systems.

building activities, particularly for N-CIRT and civil servants working in the relevant domains of cybersecurity across the Government.

34. ***Cybersecurity Skills and Online Safety Awareness*.** The project will support developing Sierra Leone's cyber expertise and skills capacity and enhancing the country's day-to-day cybersecurity and online safety awareness and behavior. Key activities include:

i. ***Upstream TA to support the development of National Strategy and Action Plan on Cybersecurity Skills and Cyber Awareness*.** The strategy will be an anchoring document in which to outline the Government's vision for nurturing cybersecurity skills development and fostering a cyber-safe culture in order to enable a resilient environment for digital transformation. The Cybersecurity Skills section of the strategy will lay out the Government's vision for creating a vibrant cybersecurity skills development and training ecosystem that can be woven into both informal training opportunities and formal education curricula. The Cyber Awareness section of the Strategy and the Action Plan will lay out the Government's vision for increasing public cybersecurity awareness and facilitating basic "cyber hygiene" practices among individuals, businesses, and communities in Sierra Leone. Both the Strategy and the Action Plan will incorporate the principles of inclusion in order to unleash opportunities for marginalized communities, particularly women, people in remote/rural areas, and PWDs. The TA will support the implementation of selected activities from the action plan.

ii. ***Implementation of the Strategy and Action Plan.*** The project will support implementation of selected activities from the action plan, including the roll out of targeted events or a launch of public cyber awareness campaign for the population of Freetown and other major cities in Sierra Leone. The campaign will increase online safety, including through paying particular attention on child online protection and online sexual harassment. It will also support the provision of training to selected government officials in IT departments of selected MDAs.

35. ***Cybersecurity Maturity Model (CMM) Assessment*.** The first round of CMM was assessed in 2016 by the support from the United Kingdom Government with partnership of ITU. The project will support for the next round of the CMM assessment to identify progress made, and propose the next action plan.

36. **Climate Resilience**. This activity will finance to enable data-driven climate adaptation measures at various stages of the climate early-warning communication value chain, focusing on early warning system (EWS) communication infrastructure deployment, early warning information generation, and last-mile information dissemination. The activity will strengthen digital communication systems across the climate information value chain underlying Emergency Operations Center (EOC). It will be housed within the National Disaster Management Agency (NDMA) to facilitate the EWS for reliable information delivery and communication with other government offices, local councils, and citizens. For the back-end communication system for EWS, the project will finance the purchase of servers, data storage, and back-up and recovery systems to operationalize the EWS to facilitate seamless data exchange with subnational, national, regional, and international partners, and to ensure secure data management practices. For climate early warning information generation, the project will finance multistakeholder-based capacity development workshops for government offices, Mobile Network Operators, and nongovernmental organizations (NGOs) to adopt the Common Alerting Protocol (CAP) standard. And for effective last-mile information dissemination, the project will finance the inclusion of weather information as one of the services to be available under the

Government Service Platform (GSP). Weather information from the meteorological system will be interfaced with the GSP and formatted to be available as user-friendly messages sent to citizens through text messages (for example, Unstructured Supplementary Service Data [USSD]), voice-based services (such as Interactive Voice Response (IVR)), and mobile and Web-based interfaces like WhatsApp and Facebook Messenger.

37. **E-Waste Management**: In line with the Government's commitment under the ITU Connect 2030 agenda to reduce the volume of e-waste by 50 percent and improve e-waste policy and legislation, dialogue for an e-waste management policy in Sierra Leone has begun, however, it is still in a draft stage in the Sierra Leone Environmental Protection Agency (EPA). The project will finance quantitative and qualitative baseline surveys to assess the footprint of e-waste in Sierra Leone and support finalization of the e-waste management policy framework based on a circular economy approach. The policy framework will also include the development of an e-waste reduce, recycle, and reuse (3R) strategy to address the full life cycle of electronic devices and equipment, thereby building a complete circular system. After the development of the policy framework, the project will support the implementation of the policy to ensure the collection and disposal, recycle and reuse of e-waste at the community-level through the partnership with local entrepreneurs and the private sector to encourage e-waste innovation[29].

Component 2. Digital Skills Development and Innovation (US$5.3 million equivalent)

38. **This component aims to tackle Sierra Leone's digital literacy and innovation gaps by offering digital skills training to youth aged 15 to 35 years old, enabling them to develop and use digital skills to improve their livelihoods.** Given that the digital skills agenda is nascent in Sierra Leone, the design of digital literacy trainings will be based on a robust market assessment of the country's supply of and demand for digital skills, as well as an analysis of the potential for youth to access livelihood opportunities through the gig economy. Leveraging Sierra Leone's progress in fostering innovative drone use for development, the project will also include training to enhance the Government's plan to expand drone ecosystem and strengthen the regulatory capacity for relevant regulatory bodies such as the National Civil Aviation Authority (NCAA) and NATCOM to improve the enabling environment for drone use in delivery of strategic services.

Subcomponent 2.1. Digital Skills Training (US$4.0 million equivalent)

39. ***Comprehensive market study to assess the supply and demand of digital skills.*** The project will finance TA to conduct a market study to assess available skills in the target areas; determine in-demand skills; identify bottlenecks in the digital jobs value chain;[30] and inform the design of an appropriate demand-driven training curriculum targeting youth who are outside of the formal education system. This activity will also include a detailed assessment of the local digital ecosystem to determine the capacity of key stakeholders to deliver basic, intermediate, and advanced digital skills training to youth beneficiaries.

[29] example in Ghana: https://www.scidev.net/global/features/upcycling-e-waste-trash-into-innovative-treasure/

[30] "Digital jobs" include work in the ICT industry, work in any industry that is increasingly digitized (accounting, cashiers), work that is performed online through digital platforms (microwork, freelancing), and traditional jobs where workers can connect with potential customers through digital platforms (e-commerce, on-demand services).

40. ***Feasibility assessment for the potential of the "gig" economy[31] to provide youth with access to new and/or supplemental income opportunities***. The project will finance TA to assess barriers affecting the digitization of traditional and nontraditional jobs, and to identify potential entry points for public sector, private sector, and community organizations to accelerate job digitization through "gig work" platforms.[32] The study will assess the market for on-demand service platforms that enable traditional and informal workers to market their services and connect directly to customers,[33] and will also explore the potential of community-based initiatives that build digital skills and generate supplemental income.[34] Additionally, as Sierra Leone continues its COVID-19 response and recovery, the assessment will determine the feasibility of making online jobs available through a public sector-led digital platform. Findings will inform the digital literacy training scheme and innovation activities linking youth with employment opportunities.

41. ***Digital Literacy Training Scheme and Certification targeting youth outside of the formal education system, with a focus on young women and PWDs***. The project will finance training schemes and certification that combine face-to-face and remote learning to provide basic, intermediate, and advanced-level training to youth beneficiaries. The curriculum will be informed by the *Digital Skills Market Study* and the *Gig Economy Feasibility Assessment* described above, and will also emphasize the development of complementary socioemotional and professional skills.[35] As young women face several barriers to access digital skills training, including restrictive gender norms, mobility and time restrictions, and less disposable income, the training scheme will incorporate strategies for maximizing their recruitment, retention, and livelihood outcomes.[36] Local trainers will be recruited to participate in a Train-the-Trainers program, helping to ensure that the training content is relevant and contextualized. The project will collaborate with global private-sector companies to finance IT equipment, software applications, and ATs at training locations, and provide certification of skill attainment. Following a "funnel approach," the training scheme will include a digital jobs pilot that will connect beneficiaries with intermediate- and advanced-level skills with employment and mentorship opportunities (see Box 1).

[31] https://www.weforum.org/agenda/2021/05/what-gig-economy-workers/

[32] There are two main types of gig work platforms: online web-based platforms, where gig work is performed online and remotely by workers; and location-based platforms, where gig work is performed at a specified physical location by individuals. Online web-based platforms may facilitate microwork, freelancing, or competitive programming (among other functions), while location-based platforms include those offering taxi, delivery, or domestic services. (ILO. 2021. *World Employment and Social Outlook: The Role of Digital Platforms in Transforming the World of Work.* Geneva: International Labour Organization.)

[33] For example, *iCreate Africa* is an online platform that aims to facilitate employment in technical and vocational jobs such as plumbers, electricians, mechanics, or construction workers.

[34] For example, pilots in Kenya, Mali, Sierra Leone, and Tanzania hired and trained youth to perform geospatial mapping of infrastructure in local communities via digital gig platforms. (World Bank. 2021. *Digital Works for Urban Resilience: Supporting African Youth: Rapid Pilot Phase.* Washington, DC: WBG.)

[35] "Soft" skills improve the adaptability of workers, allowing them to transfer easily from one job to another and adapt to the changing nature of work. Soft skills are just as important as technical skills for girls and women to increase their participation in STEM-related studies and careers. (World Bank. 2019. *World Development Report 2019: The Changing Nature of Work*.. Washington, DC: WBG; and Hammond, Rubiano, Matulevich, Beegle, and Kumaraswamy. 2020. *The Equality Equation: Advancing the Participation of Women and Girls in STEM.* Washington, DC: WBG.)

[36] Strategies to maximize young women's recruitment, participation, and successful completion are detailed in Annex 3, and include: flexible hours of operation; locations that female beneficiaries consider safe and easily accessible; women-only training cohorts; on-site childcare; transportation and meal stipends; and female role-models (staff, mentors).

42. ***Innovation Series of events for youth beneficiaries—including young women and youth with disabilities—to leverage digital skills to address development challenges in their communities***. This program will support the growth of the digital ecosystem by financing a series of workshops, bootcamps, "hackathons," and other events in partnership with local innovation hubs. These events may leverage open data generated from government digitization activities under this operation. The Innovation Series will partner with women's groups, disability organizations, and youth organizations to maximize recruitment of young women and PWDs. Private sector partners will co-sponsor events, scale solutions, and provide employment opportunities to beneficiaries.

Box 1. The Funnel Approach: Linking Digital Skills Training to Digital Job Pilots

The Digital Literacy Training Scheme will start with large-scale events to raise awareness and build community buy-in. These events will provide a basic introduction to the digital economy (e.g., digital financial services, gig work platforms), and will build the pipeline of participants for smaller, more intensive bootcamps, hackathons, and other innovation events.

Beneficiaries will also participate in the basic digital literacy training programs, which seek to equip vulnerable youth in peri-urban centers across Sierra Leone with foundational digital skills. High-potential graduates of the basic trainings, as well as youth who already have basic or intermediate digital skills, will be invited to complete advanced training.

The training scheme will include *Digital Jobs Pilots* to connect youth—with a focus on women and PWDs—with work opportunities. Through a competitive bidding process, the team will select training partners leveraging innovative models to deliver digital skills training while guaranteeing employment for graduates (e.g., CareerBox in South Africa; Digital Divide Data in Kenya; EnableCode in Vietnam; Click-On Kaduna in Nigeria). The program will also partner with gig work platforms (e.g., Upwork) to provide training, mentorship, and on-the-job support. Performance-based contracts will require training providers to track employment data during and after the pilot. To overcome gender barriers, digital skills trainings and digital job pilots will include women-only cohorts, as well as other strategies detailed in Annex 2.

Subcomponent 2.2. Digital Innovation Flagship: Drones for Development (US$1.3 million equivalent)

43. The project will advance Sierra Leone's innovative ecosystem and strengthen the country's position as an innovative hub in West Africa by developing drone ecosystem as an innovation flagship initiative. This subcomponent will provide training for selected use of drones cases, and strengthen regulatory bodies such as NCAA and NATCOM, including: (i) Review and finalization of the draft Drone Regulation currently being developed by NCAA, which will set the regulatory foundation of safe drone usage in Sierra Leone; (ii) development of the National Drone Policy and Strategy to set the strategic vision for maximizing the potential of drone applications in responding to growing climate risks; (iii) drone use case development in prioritized sectors such as medical supply chain and for sector addressing climate risks and demonstration of at least three use cases (two use cases for climate risks, such as cadastral mapping and agricultural crop monitoring), including stakeholder and community engagement to sensitize the use of drones and stimulate youth; grow Sierra Leone's digital innovation capacity; and develop private sector links to facilitate the local drone ecosystem development; and (iv) training and capacity building for drone operation in the identified

use cases for drone practitioners and stakeholders, ensuring the recruitment and participation of women entrepreneurs.

Component 3. Laying Key Foundations for Digital Government Services and Systems (US$19.8 million equivalent)

44. **This component will provide support to build the core infrastructure and institutional capacity to strengthen digital public service delivery, build prioritized services and systems, and enhance the government's operational efficiency.**

Subcomponent 3.1. Enabling Environment for Digital Government (US$3.6 million equivalent)

45. This subcomponent will provide support to establish the enabling policy, legal and regulatory, institutional, and technical environment in which the building blocks of digital government will be implemented at scale without duplication or inefficiencies, across various MDAs.

46. ***Policy, legal and regulatory frameworks for digital government***. The activity will strengthen the enabling environment including review, implement, and modernize policy, legal and regulatory frameworks to support and accelerate the digital government agenda. Currently, the Data Protection and Privacy legislation completed nationwide validation processes and is pending approval at the Cabinet, and the new Electronic Data Act is under Parliamentary review. The project will finance the review of these legislations to ensure that they are aligned with international best practices.

47. ***Technical frameworks for digital government.*** The project will lay the technical frameworks necessary for shared government systems and services. The activity will develop and implement the Digital Service Standards to guide the ideation, design, implementation, and operation of citizen-centric services**,** which will contain best practice principles, instruction guides, and templates to aid the public sector in delivering quality services with consistency. The Standards, once developed, will be applied to the e-services to be developed and demonstrated under the subcomponent 3.3. The activity will further support the implementation of enterprise architecture (EA) and government interoperability framework (GIF), which are currently being developed by the Government in partnership with UN Foundation's Digital Impact Alliance (DIAL), to at least ten MDAs in order to enable efficient and secure intragovernmental data exchange. Prior to the implementation, the activity will provide TA to develop transition architecture and governance mechanisms for implementation of the EA to assess the existing EA efforts for alignment with international frameworks, and to describe and facilitate the desired state and roll-out of the EA and GIF.

48. ***Organizational Change Management***. The activity will provide TA and capacity building to strengthen organizational change management for effective digital transformation in public service delivery, targeting political leaders and senior civil servants as well as public sector IT professionals and civil servants across MDAs. The activities will include conducting a change management assessment to identify challenges faced by political leaders and senior civil servants; developing an action plan to mitigate the identified challenges in adopting and using these project investments; and developing a communications plan to outline key goals, target stakeholders, and convey key messages, outreach approaches, and timeline details.

This activity's training will focus on developing skills for digital leadership, technologies, project planning and operational management; mainstreaming EA to MDAs, and will incorporate lessons on the Digital Service Standards for officials involved in public service planning, design, development, and deployment.

49. ***Open Data***. The project will scale up and strengthen Sierra Leone's Open Data initiatives and Data Analytics in line with the recommendations of *World Development Report 2021: Data for Better Lives*. The project will finance the provision of training and capacity building activities for selected MDAs to effectively analyze data for policy making, including: (i) TA for the development of streamlined procedures for information disclosure and practices for regularly updating the disclosed data (quarterly, semi-annually); (ii) pilot implementation of the data disclosure procedures and practices across selected MDAs; (iii) capacity development to select MDAs for increasing data analytics, with a particular focus on strengthening data-driven climate resilience measures for disaster risk management and early warning practices; and (iv) partnership development with entrepreneurs and technology hubs to incentivize the use of open government data in the form of hackathons or challenge funds in tackling climate risks in Sierra Leone in connection with the subcomponent 2.1.

Subcomponent 3.2. Government Service Delivery Infrastructure and Networks (US$10.1 million equivalent)

50. This subcomponent will provide support to strengthen key infrastructure and networks for digital government service delivery. It will address and implement prioritized government data hosting and storage infrastructure and network upgrades; assess current gaps in establishing a national cloud-enabled data center; establish a common notification and communications platform to serve the needs of MDAs to notify and communicate with citizens; and pilot DAPs for citizens, to bridge digital divides. Key activities will include:

51. ***Digital government data hosting, service delivery infrastructure, and network upgrades***. The project will finance a TA to assess the data and application hosting needs for digital services and systems implemented under subcomponent 3.3. Also, the project will provide TA to conduct a comprehensive assessment of the current government networks (Government Wide Area Network [GWAN] and Government Local Area Network [GLAN]), and to develop a transition strategy with a phased implementation plan to guide MIC toward an optimal network design that is aligned with international network standards. The project will subsequently finance part of phase 1 of the implementation plan with an estimated network connectivity for 50 prioritized MDAs.

52. ***Shared data hosting solution/government cloud*.** The project will finance a TA to conduct a gap assessment of government data hosting and storage infrastructure; and to develop recommendations on the technical architecture and operational design needed to address existing core infrastructure gaps, including the development of blueprints to guide government-wide implementation for shared government data infrastructure with disaster recovery capabilities. The TA shall provide recommendations on policies, processes, and standards to support the set-up and operationalization of shared government data hosting and storage infrastructure, such as a cloud-enabled data center which serves to provision data and application hosting to MDAs.

53. ***Government notification and communications platform***. The project will finance a TA to support the rationalization and synthesis of the two existing platforms. One of these platforms is the GSP, implemented by the Directorate of Science, Technology, and Innovation (DSTI), which presently offers communication channels inclusive of USSD and short message service (SMS); the other is the Government Integrated Messaging System (GIMS), which offers email, short code messaging, and online chat. The objective is to provide a unified and simplified notification and communications platform to serve the needs of MDAs in notifying citizens of public service transaction statuses; soliciting feedback from citizens; and broadcasting messages (for example, emergency alerts). This activity will contribute to a significant enhancement of citizen engagement channels in Sierra Leone and will facilitate more frequent and timely communication between citizens and the government.

54. ***Digital Access Points (DAPs)***. The project will pilot establishment of DAPs for citizens by leveraging existing citizen-facing outlets such as post offices, digital learning hubs, internet cafes, etc. in order to provide citizens with access to the internet and to basic government and private sector services. The DAPs will be distributed across the central business district, the west end, and the east end of the capital. The project will first finance a TA to conduct a feasibility study to identify potential sites to serve as DAPs, and to assess the availability of internet connectivity and the viability of providing key Government-to-Citizen (G2B)/ Government-to-Business (G2C) public services with a list of potential e-services to be provided. The project will subsequently finance the pilot to deploy selected DAPs based on the findings of the feasibility study, which will consider the demand for services as well as demographic information to maximize accessibility for women and PWDs.

Subcomponent 3.3. Demonstration of Digital Services and Systems (US$6.1 million equivalent)

55. This subcomponent will support the implementation of selected prioritized digital services for which there is a high demand. It will finance at least three high-impact citizen/business service developments based on the public service landscape review. It will also support digitalization of the three distinct branches of the Government by developing the Electronic Cabinet System (e-Cabinet) to support evidenced-based decision making; developing the Electronic Parliament System (e-Parliament) to strengthen the bond between parliamentarians and their constituents; and providing a TA to establish a blueprint for an electronic justice system (e-Justice) in Sierra Leone.

56. ***G2C and G2B.*** The project will finance a TA to conduct a public service landscape review to prioritize high-demand, high-impact digital services suitable for implementation. It will subsequently finance the development of at least three public services (such as applications for birth certificates, death certificates, and driver's licenses), applying the Digital Service Standards highlighted under subcomponent 3.1 to align with good practices on design thinking principles. The services will be implemented through a prototyping approach in order to facilitate iterative feedback by citizens and public sector stakeholders, to ensure that their needs and expectations are being adequately addressed.

57. ***Government-to-Government (G2G) systems: e-Cabinet and e-Parliament systems development and e-Justice system blueprint***. The project will finance the digitization of processes and documents essential for the Parliament to enable communication and information exchanges between

Parliamentarians and their constituents, and for the Cabinet to increase efficiency in the workflow of the Cabinet Secretariat and Ministers, and support an evidenced-based decision-making. The activity will support the development of the e-Cabinet system to increase efficiency in the workflow of the Cabinet Secretariat and to provide timely and adequate information to Ministers to support evidence-informed decision-making. It will also support the development of the e-Parliament system to enable communication and information exchange between parliamentarians and with their constituents. This system will integrate relevant stakeholders and processes into an orchestrated platform. Lastly, the activity will finance a TA to support transition to e-Justice system to accelerate digitization and enhance the efficiency of judicial services in Sierra Leone. Given the complexity of this initiative and the Government's limited budget, the actual implementation of e-Justice is not anticipated under this project.

Component 4: Project Management and Implementation Support (US$3.6 million equivalent)

58. **This component will finance the Republic of Sierra Leone's project management and coordination capacity, including in procurement, FM, monitoring and evaluation (M&E), environmental and social (E&S) safeguards management, project communication, and citizen engagement.** It will also cover the cost of modest office equipment, independent audits, and learning/training for key beneficiaries (for example, the Project Coordination Unit (PCU) staff and the Technical Committee) to support the public sector's ability to build and retain skills for implementing a whole-of-government digital transformation. Special attention will be devoted to promoting the equal participation of women in all decision-making bodies under the project, and contributing to tackling barriers in the recruitment, retention, and promotion of women.

59. **Citizen Engagement (CE) support will be financed under this subcomponent, and will include**: (i) the development and implementation of a comprehensive GRM to collect and respond to issues encountered by beneficiaries, system users, and other system stakeholders, as well as the general population, including links between the GRM and M&E systems in order to improve project monitoring data; (ii) the development of a comprehensive CE strategy and national consultation mechanism to ensure that all relevant stakeholders, including beneficiaries and marginalized groups, are consulted about the project design and implementation on at least an annual basis, and that the feedback from those consultations is incorporated into the implementation plan and the design of project-financed systems; (iii) qualitative user research to identify barriers to accessing and successfully using project-financed systems and services, particularly barriers faced by marginalized groups and underserved populations, and to inform the design and implementation of the activities; and (iv) surveying the use and satisfaction of users of project-financed systems and services.

Component 5: Contingent Emergency Response Component (CERC) (US$0.0 million)

60. **In the context of the COVID-19 crisis, a CERC has been added to the project structure to provide the Government with support for swiftly responding to eligible crises, including climate or natural disasters, and public health emergencies.** Including CERC at the preparation stage, albeit with zero funding, provides flexibility for an agile response to an imminent or actual emergency (such as COVID-19) through quick disbursement of uncommitted balances from other components. The crisis response expenditures could cover, for instance, the facilitation of emergency payments to vulnerable groups of the population

using mobile money or ensuring the continuity of core government functions when civil servants are required to continue home-based work. The CERC is not expected to finance civil engineering works that can induce risks and/or negative environmental and social impacts. Details on the modalities of the CERC will be integrated in the Project Implementation Manual (PIM).

C. Project Beneficiaries

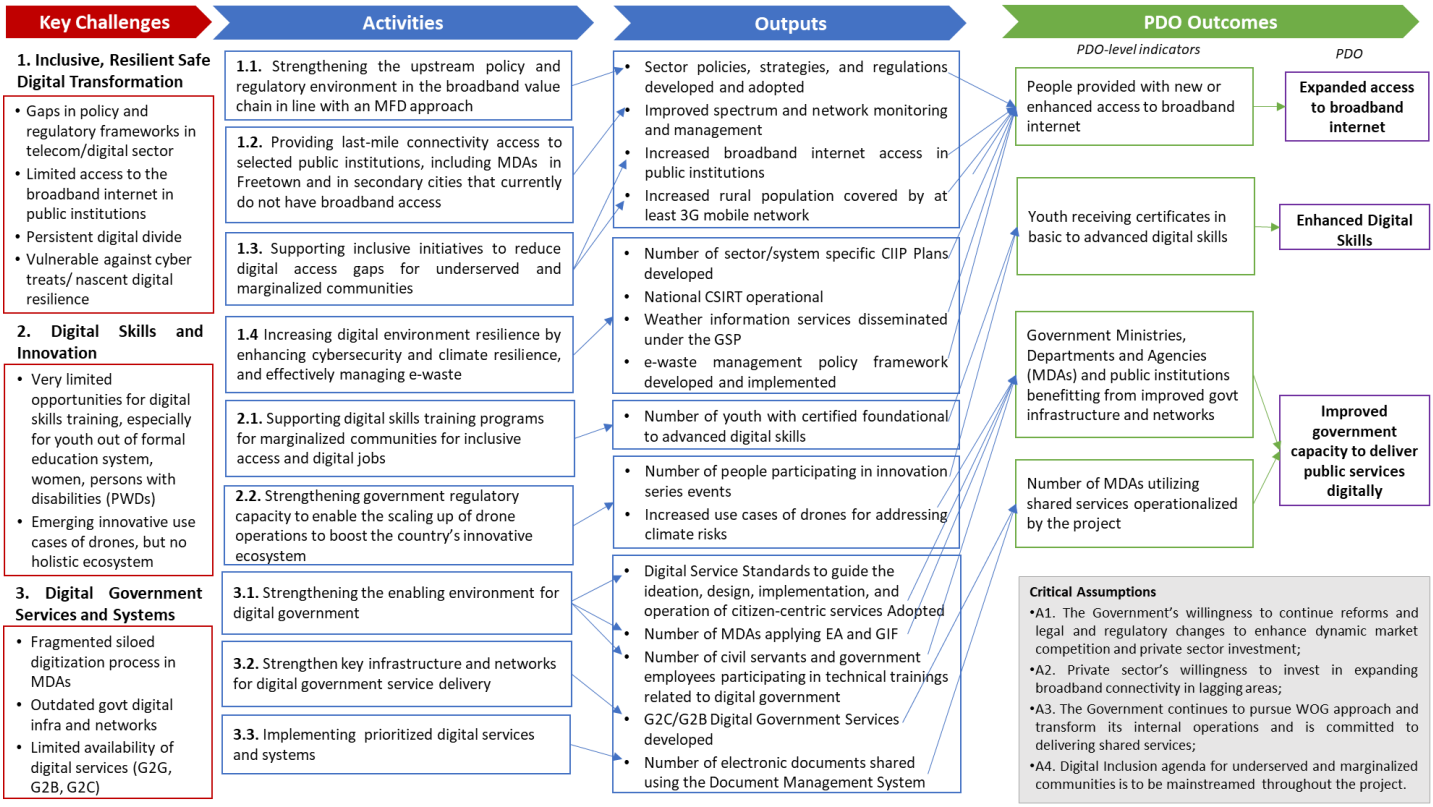
61. **The project beneficiaries will be all people in Sierra Leone, including individuals, businesses, and government. At a macro level,** the project will support improving the enabling foundations of the digital economy; improving digital skills, digital access, and adoption; setting key enablers for digital government service delivery and systems; and mainstreaming digital solutions. **At the project level:**

- **Individuals will benefit from wider opportunities to participate in the digital economy through activities that promote digital access and inclusion**. Local communities, including disadvantaged young women and PWDs will benefit from broadband network expansion and local connectivity access initiatives[37], and will receive training in basic digital literacy[38]. Individuals will also benefit from increased access to new and improved e-services[39].
- **Businesses will benefit from a variety of new opportunities** generated from the project including (i) **new investment opportunities** for providing digital infrastructure; (ii) **improved legal, regulatory, and institutional frameworks** for leveling the playing field, increasing market competition, and dismantling barriers to market entry; (iii) **an enhanced entrepreneurial and innovation ecosystem**; and (iv) **better opportunities to recruit a local skilled digital workforce**.
- **Government will benefit from improved access to broadband internet, a government network[40], IT equipment, and new and improved common digital service enablers** for whole-of-government, G2G digital services and systems, digital skills training, and capacity building. It will also benefit from a coherent and sustainable environment for more resilient, safe, and interoperable digital systems and services.

[37] The project aims to support 1 million people to have new or enhanced access to broadband internet.
[38] The project will support 2,500 youth to be trained with certified basic to advanced digital skills (including 40 percent female, and 15 percent PWDs).
[39] At least 3 new digital government services (G2C, G2B) will be developed under the project.
[40] The project will support to improve digital infrastructure and networks for 300 MDAs and public institutions.

D. Results Chain

Figure 3. Theory of Change



E. Rationale for World Bank Involvement and Role of Partners

62. **The World Bank is well positioned to support the Government's aspirations for bringing universal access to the internet for its citizens, bridging the digital divide, and to modernizing public service delivery through the adoption of digital solutions.** The World Bank has been supporting these agendas across the region for several decades. It completed a comprehensive DE4A Country Diagnostic for Sierra Leone in 2021 that covers five foundational digital economy pillars (Digital Infrastructure, Digital Platforms, Digital Skills, Digital Financial Services, and Digital Business). This comprehensive analytical work has enabled the Government to build a strong partnership with the World Bank and with other development partners working on the Digital Transformation and Digital Economy Agenda in Sierra Leone, such as UN Foundation's DIAL and UNICEF. Using its convening power at the highest levels of government, the World Bank is in a unique position to provide the needed expertise and neutral technical advice, and to gain buy-in and support from government officials at the highest level.

63. **Public financing can be used appropriately to (i) address market failures and connectivity gaps; (ii) support digital public goods; (iii) stimulate and/or crowd in the private sector in line with MFD principles; and (iv) amplify the digital innovation ecosystem and entrepreneurship opportunities.** The project will finance last-mile digital connectivity of public institutions and expansion of broadband internet

coverage in rural areas. The proposed project is expected to bring valuable economic and social benefits--such as more meaningful use of digital technologies, and digital literacy--to the segment of Sierra Leone's population that would remain excluded without public interventions. Digital connectivity and services have increasingly become a necessity for households; but they remain out of reach for many in Sierra Leone, due to issues of accessibility or affordability. Narrowing the digital divide by expanding access to the internet, lowering prices, and improving service quality can significantly close the opportunities gap between various segments of the population. Digital services can also dramatically enhance resilience to shocks (including emergency/early warning systems, public health information, digital communications, and digital transactions during crises, such as the COVID-19 pandemic). Finally, the project will be actively stimulating private sector development through TA for enabling market and regulatory reform, and some digitized services.

64. **The project has also identified, leveraged, and complemented support provided by other partners, thereby maximizing synergies and lessons learned.** The World Bank has established close working relationships with several UN agencies and programs and is coordinating partnerships and programs to avoid duplication and optimize the use of limited resources. Examples of these engagements include: (i) collaboration with DIAL of the UN Foundation, which has been supporting finalization of the Government's National Digital Development Policy and Strategy and the development of key frameworks for enabling digital government, such as EA, interoperability framework, and responsible data use policies; (ii) collaboration with UNICEF and the Gates Foundation on the use of drones for innovation and use cases; (iii) collaboration with the Economic Community of Western African States, which supported the initial stage of N-CIRT establishment, as well as an international connectivity study for the countries with a single landing station.

F. Lessons Learned and Reflected in the Project Design

65. **This project takes a comprehensive approach to stimulating digital adoption from both the supply and demand ends.** Global lessons point to the need for layered interventions that tackle all of the key access barriers related to affordability, readiness, and relevance—including accessible DAPs, affordable data services, digital literacy, digital public services, attractive local contents, and universal/inclusive design. The project will apply lessons learned from experiences in other African countries, including designing digital literacy and digital skills training schemes for disadvantaged youth, women, and PWDs, like the Digital Jobs program in Nigeria; last-mile connectivity support from Ghana and Malawi; as well as other global experiences.

66. **The project will also take a whole-of-government approach and a "build once, reuse always" principle, to enhance cross-ministerial coordination and streamline digital transformation.** Experience in other countries has demonstrated that laying "key building blocks for digital government" and "digital service enablers" is critical in order to accelerate development of the digital economy and the delivery of digital public services. The ICT sector and the digital innovation ecosystem in Sierra Leone is emerging rapidly, creating unprecedented opportunities for new jobs and entrepreneurship. However, in order for the Government to accelerate its digital transformation and create an enabling environment for its innovation ecosystem, it is necessary to upgrade the core infrastructure and the networks underlying

government service delivery; increase cyber resilience; strengthen data protection; and establish appropriate regulatory frameworks. The approach and design of project activities have benefitted from project designs used in Ghana, Rwanda, Uganda, and from international best practices.

67. **Lessons learned from the West Africa Regional Communications Infrastructure Program (WARCIP) Sierra Leone Project[41] (P116273) have further informed the project design and risk mitigation.** The Implementation Completion and Results Report noted that the Government had deviated from the agreed-upon design without following due process in such a way that compromised the core principle of private sector participation in the project. The need for more robust risk mitigation measures to address potential political interference and conflicts of interest was raised for future operations. Since this project will not finance similar private sector's ownership of public infrastructure, such as a submarine cable landing station, there is little chance for repetition of the same challenges. The project will apply a robust procurement approach as risk mitigation measures. The Project Procurement Strategy for Development (PPSD) and Procurement Plan clearly spelled out the processes that will ensure transparent and competitive bidding processes and articulate the consequences of non-conformance (See Procurement section below). The project will also support the government's capacity building throughout project implementation, in order to maximize its sustainable impact.

III. IMPLEMENTATION ARRANGEMENTS

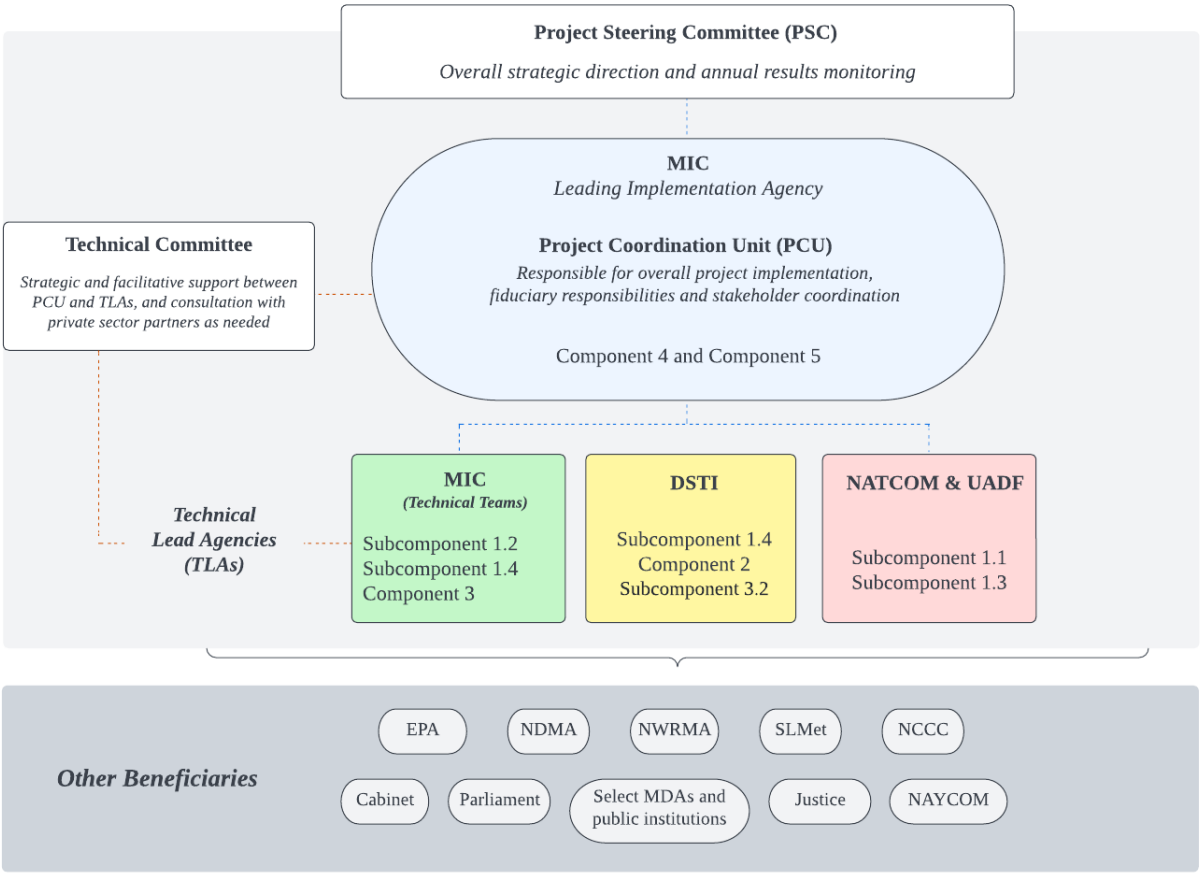
A. Institutional and Implementation Arrangements

68. **This project will be implemented by a dedicated PCU with MIC as the main implementing agency.** MIC will have overall responsibility for handling the day-to-day coordination of project activities. The PCU will be responsible for the preparation of annual work plans (AWPs) and budgets, fiduciary arrangements and reporting, preparation of Terms of References (ToRs) and specifications, and project monitoring and reporting, as well as general stakeholder management. At a minimum, the PCU will be staffed with a Project Coordinator; a Deputy Project Coordinator; an M&E Specialist; a Procurement Specialist; an FM Specialist; and an Environment and Social Safeguards Specialist. All PCU staffing will be recruited in a transparent and competitive manner by MIC in accordance with the World Bank recruitment process guideline in Sierra Leone. Other technical expert positions and administrative positions will be added as needed, or PCU may consider hiring technical consultants/experts on a part-time basis. PCU will report directly to the Minister of MIC. The PCU structure, under MIC, will remain the same even if a new government agency (for example, NDDA) is established during the project implementation period. A Project Implementation Manual (PIM) will be adopted to guide implementation arrangements for key stakeholders, such as a project review process; strategic guidance/recommendations for project implementation; and coordination of the roles and responsibilities of the committees, the technical lead agencies (TLAs), and project beneficiary agencies (Figure 4). In terms of provision of Rural Mobile Broadband Program (Subcomponent 1.3), a manual (Rural

[41] Closed in June 2017.

Mobile Broadband Program Manual) will be developed and to be cleared by the World Bank prior to the disbursement of funding.

Figure 4. Proposed Implementation Arrangement for the Sierra Leone Digital Transformation Project



Note: NAYCOM stands for National Youth Commission of Sierra Leone

69. **The selected government MDAs (MIC e-government and cybersecurity teams, DSTI, NATCOM, and UADF) will serve as TLAs under the project.** TLAs will be responsible for providing technical expertise and support to the PCU. ToRs of TLAs will be spelled out in a dedicated section of the PIM. Each TLA will designate a project focal point who will work closely with the relevant technical specialists in the PCU. The PCU will provide quality oversight and technical support to TLAs as needed. Eligible operational expenditures in TLAs will be funded under Component 4. Details to be spelled out in the PIM.

70. **A Project Steering Committee (PSC)** will be established to provide guidance throughout project implementation. The PSC will be cochaired by the Ministers of Finance and MIC. The proposed PSC will closely liaise with the National Council on Digital Development, which will serve as a high-level advisory committee for the Government's digital development policy making and initiatives (see Figure 3). A wide range of government stakeholders related to the country's digital transformation agenda will be members

of the PSC. The detailed composition and mandate of the PSC will be further defined through ToRs, which will be included in the PIM, to be prepared before project effectiveness.

71. **A Technical Committee (TC)** will be established to facilitate and provide problem-solving support to the project. The committee will be chaired by the Minister of MIC or another delegated senior official, such as the Deputy Ministers or the Permanent Secretary of MIC. It will consist of the relevant TLA focal points and representatives of key beneficiary institutions. The Project Coordinator will serve as secretary of the Committee and will lead technical and operational discussions. The TC can escalate issues, as needed, to the PSC if they require strategic discussion. It can also reach out to or engage with private sector or industry groups concerning relevant issues. ToRs explaining the committee's roles and responsibilities, objectives, and expected output will be prepared and included in the PIM.

B. Results Monitoring and Evaluation Arrangements

72. **The PCU will have responsibility for results M&E and reporting to the World Bank.** Project M&E will be tracked by component by the PCU M&E specialist, with support and input provided by the TLAs. The M&E specialist will provide guidance and support for all of the components. The PCU will prepare progress reports biannually for submission to the World Bank no later than 45 days after the end of June and December, in accordance with the agreed-upon template. Details will be provided in the PIM.

C. Sustainability

73. **The sustainability of the project will be ensured by using private-sector-led and market-based mechanisms for resource allocation to digital connectivity, and digital skills development; and by supporting capital investments in shared public infrastructure and platforms that can reduce the long-term costs of public service delivery.**

Table 2. Sustainability Mechanisms by Project Component

Component	Sustainability Mechanisms
Component 1: Expanding Digital Access and Increasing the Resilience of the Digital Environment	• Policy, legal, regulatory, and institutional capacity building for addressing the value chain of the broadband market is designed to address market barriers and create an enabling environment for mobilizing the provision of new and expanded digital services by the private sector. • A joint industry approach toward SLIX activity will result in a sustainable IXP environment in Sierra Leone, which will improve local data traffic management, and create trust between NATCOM and private operators. • Last-mile connectivity support for prepurchase of broadband capacity will ensure access to connectivity for select public institutions throughout the project period. Support for business planning will encourage the development of a sustainable model. • The reverse subsidy auction and innovative technology pilot adopted for rural connectivity will maximize private financing through competitive bidding, ensuring the highest possible value for money, while shifting the financial risk associated with the operation/maintenance of the infrastructure to commercial providers. • Robust management of UADF can help replicate and scale up the pilot activities. • Increased cybersecurity protection and capacity investments will strengthen cyber

	resilience and ensure sustainable development of the cyber ecosystem.
Component 2: Digital Skills Development and Innovation	• Digital skills/digital literacy trainings will help to build a critical mass of digitally enabled citizens that could generate more demand for digital services, digital work, local content development, and further investment by the private sector.
Component 3: Laying Key Foundations for Digital Government Services and Systems	• Project-funded capital investments in a new digital shared infrastructure, platforms, and services approach will allow for significant savings and will be more sustainable and efficient in operation and maintenance when compared with each MDA maintaining siloed IT infrastructure, platforms, and applications. • TA and capacity building provided to key MDAs will help build local digital capabilities and will be retained after project closing.
Component 4: Project Management and Implementation Support	• Implementation will leverage existing structures/teams/processes wherever possible to avoid creating an additional burden on the government. • Capacity building within the government through training will allow for sustainable continuation of the activities beyond the project life cycle.

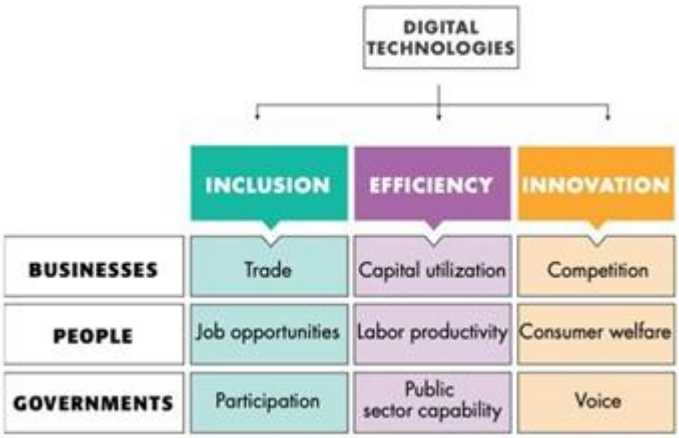
IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis

74. **The project is expected to contribute to sustainable economic growth through long-term cost savings, efficiency, and productivity gains, fueled by greater digital adoption by citizens, businesses, and government.**[42] Greater adoption of digital technologies can enable inclusion, as people gain access to new and improved services that were previously out of reach, enabling wider participation in an increasingly digitized economy. It can also increase efficiency by reducing the transaction and operational costs associated with both accessing and delivering public and commercial services. Digital innovation and the adoption of technology among citizens can support new business models that increase competition, productivity, and consumer welfare (Figure 5).

42 World Bank (2016). World Development Report: Digital Dividends.

Figure 5. Benefits of Digital Technologies through Increased Inclusion, Efficiency, and Innovation



Source: World Bank (2016). World Development Report: Digital Dividends.

75. **Increased Digital Access, supported under Component 1, is estimated to stimulate GDP and job growth[43].** Previous research suggests that a 10 percent increase in mobile broadband penetration in developing African countries is associated with a GDP growth coefficient of 2.46. Likewise, the ITU[44]estimates that the number of jobs can be expected to increase by between 0.2 and 0.4 percent for every 1 percent increase in broadband penetration. In addition, each dollar invested in cybersecurity is expected to yield an economic return of approximately 9.1 percent.[45]

76. **In addition to the net economy-wide gain from increased access to affordable, high-quality internet and digital devices, the project is expected to mobilize private capital using reverse auction instruments for rural underserved areas.** For example, under the RCIP-3 Tanzania project (P111432), some US$30 million in IDA funding mobilized around US$70 million in private sector investment through least-cost reverse subsidy auctions. With the growth of the subscriber base and the extended range of services offered, the Government can also expect a boost in sales taxes and other fees (for example, annual license fees, excise taxes on handsets, universal service contributions, spectrum fees, and corporation taxes) stemming from a larger and revitalized market, as well as the commercial use of scarce public resources, such as spectrum.

77. **Furthermore, the digital skill development activities under Component 2 will lead to increased employability of trainees and may contribute to higher salaries and better livelihoods.** Activities under this component will bridge the supply-and-demand skills gap, and contribute to local digital innovation, sparking entrepreneurial spirit and potentially leading to the virtuous circle of a resilient economy. According to experiences in Colombia, Lebanon, Nigeria, and Peru, digital literacy training boot camp organizers described high employment rates among graduates, and improved earnings as two of the most important achievements.

[43] "How Broadband, Digitization, and ICT Regulation Impact the Global Economy." November 2020. ITU Publications.
[44] ITU. 2019. Available at: https://www.itu.int/pub/D-PREF-EF.BDT_AFR-2019
[45] Integrating cost–benefit analysis into the National Institute of Standards and Technology Cybersecurity Framework via the Gordon–Loeb Model.

78. **The digitization of selected government services, investment in core infrastructure, and key technical foundations for digital public service delivery supported under Component 3 and Subcomponent 1.4, are expected to yield cost savings and efficiency gains.** The use of digital technologies is expected to reduce transaction costs by lowering the time spent on manual processing, thus allowing public sector staff to focus on important tasks. Numerous examples of savings from a reduction in errors, fraud, and corruption[46] are also expected to apply. A "build once, re-use always" approach will reduce the incremental costs of offering each new service, through capital investments in shared public infrastructure, platforms, and services.

79. **The project-level economic and financial analysis undertaken follows a standard Cost-Benefit Analysis (CBA) approach and reveals a positive Net Present Value (NPV).** The model relies upon available secondary data and reasonable assumptions, based on prior experience, but also on additional evidence gathered in consultations and interviews. The model was used to run a cash flow and financial analysis that features three different scenarios: Optimistic, Pessimistic, and Neutral. Where possible, the model also ran sensitivity assessments to quantify the benefits and costs attributable to the project against current baseline indicators. Based on this CBA, the overall NPV for the project in the neutral scenario is estimated at US$5.23 million and is expected to demonstrate an Internal Rate of Return (IRR) of 26 percent over a 10-year period. In the optimistic and pessimistic scenarios, the NPV is expected to be US$13.33 million and US$-2.05 million, respectively, whereas the IRR is expected to be 37 and 14 percent, respectively. In addition, the reverse auction economic calculations for the 125 sites are expected to be deployed in rural areas based on the project estimate that US$2.5 million in IDA funding will mobilize an equal US$2.5 million in private sector investment. This public-private contribution will increase the financial viability of such an intervention, rendering a higher IRR (14.9 percent without, and 23.5 percent with public investment) and positive NPV (US$-0.9 million without and US$1.1 million with public investment). The government can also expect an increase in VAT due to the growth of the subscriber base in rural areas, and the creation of jobs in operation and maintenance of the sites.

B. Fiduciary

(i) Financial Management

80. The FM arrangements planned for the project are acceptable to the World Bank, and they will be further strengthened when the FM section of the PIM is finalized. The World Bank conducted an FM assessment to determine the adequacy of the FM arrangements planned for implementation under the project. The FM staff, systems, and procedures will be hired, procured, and developed under the new PCU established to manage project implementation, and housed within MIC. The existing FM function within MIC was not considered to have sufficient capacity to implement the required FM arrangements. However, the FM assessment concluded that the new FM arrangements planned for the PCU will meet the World Bank's minimum requirements for the administration of project funds under the World Bank Policy and Procedure for Investment Project Financing (IPF) upon completion of the outstanding agreed actions summarized in Annex 1, within the time frames indicated.

[46] ID4D. 2018. Public Sector Savings and Revenue from Identification Systems: Opportunities and Constraints. Report. Washington, DC: WBG.

81. The core FM team, which will be responsible for all day-to-day FM functions of the project, will include a dedicated Financial Management Specialist (FMS) who will be contracted to the PCU and financed with project funds. The FMS will be hired competitively, and the World Bank will provide its no-objection to proceed with hiring after assessing the adequacy of the candidate's qualifications and experience. The FMS will use an accounting software system that is acceptable to the World Bank, to be procured by MIC under the project.

82. MIC will open a separate denominated designated account (DA) in U.S. dollars at a commercial Bank approved by the World Bank, into which advances will be paid. For day-to-day payments in local currency, a separate Sierra Leone Leones (SLL)-denominated project account may be opened at a commercial bank. The project will submit interim financial reports (IFRs) within 45 days after the end of each quarter; these will be prepared to monitor the implementation of the project, and document expenditures against the advances disbursed to the DA. A cash forecast of the approved budgeted expenditures to be paid until the submission of the initial IFR will form the basis for the initial withdrawal of funds; subsequent withdrawals will be based on biannual net cash required to implement the approved AWP.

83. The annual audited financial statements of the project shall be submitted to IDA within six months of the end of the Government's fiscal year (that is, by June 30 each year). The external auditors will conduct the audits on the project financial statements as agreed with the World Bank. MIC will also provide internal audit resources for the project sufficient to undertake an internal audit plan that is agreed to each year by the World Bank.

84. Based on the assessment conducted, the overall FM risks for this project were rated as High before mitigation. If the planned risk mitigation measures are properly implemented, it is anticipated that the residual FM risk will be rated as Substantial. A detailed description of the FM assessment, including the risks and mitigating measures, is included in Annex 1.

(ii) Procurement

85. **Procedures.** Procurement under the proposed project will be carried out in accordance with the World Bank's "Procurement Regulations for Investment Project Financing Borrowers" dated November 2020; the "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants" dated October 15, 2006, and revised in January 2011 and as of July 1, 2016; and the beneficiary disclosure requirements, as well as other provisions stipulated in the project's legal agreements. Furthermore, the Sierra Leone National Public Procurement Act of 2016 may be used for tenders approaching the national market, taking into consideration the requirements of Clauses 5.3, 5.4, 5.5, and 5.6 of the Procurement Regulations for IPF Borrowers.

86. **Project Procurement Strategy for Development (PPSD).** A PPSD that describes the overall project operational context, market situations, and implementing agencies' capacities; and that identifies the potential procurement risks and mitigation measures to achieve value for money, as well as the project development objectives, was prepared by the Government. The PPSD also set out the selection methods to be followed in the procurement of goods, works, and both non-consulting and consulting services financed under the project. The underlying procurement plan will be updated at least annually, or as required, in

order to reflect the actual project implementation needs and improvements in institutional capacity.

87. **Systematic Tracking of Exchanges in Procurement (STEP).** The project will use the World Bank's STEP, an online planning and tracking system that will provide data on procurement activities, establish benchmarks, monitor delays, and measure procurement performance. The use of STEP is mandatory for all procurement transactions subject to post and prior review under the project.

88. **Procurement risk.** The overall procurement risk associated with the project is High. This rating is due to: (i) the limited procurement capacity of the implementing agency; (ii) limited knowledge of the World Bank's procurement regulations and use of STEP; (iii) inefficiencies and delays in the procurement process; (iv) insufficient competition in procurement; and (v) a weak complaint redress system. To address these risks and weaknesses, mitigation measures and concrete action plans were discussed and agreed upon with the Government, including among other things (i) recruitment procurement staff; (ii) capacity building through regular procurement clinics and trainings; (iii) aggregation of small packages when feasible; (iv) sensitization of the private sector to bid for public tenders; and (v) biannual reporting on all complaints received and actions taken.

C. Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

D. Environmental and Social

89. The project will be implemented in accordance with the World Bank's Environmental and Social Framework (ESF) and the applicable Environmental and Social Standards (ESS). The environmental and social risks are currently assessed as **Moderate,** since project interventions are not anticipated to have adverse irreversible impacts.

90. **The key potential environmental risks and impacts associated with the proposed activities during both the construction and operational phases under the project** include (i) nuisance related to air and noise emissions; (ii) disposal and management of waste from soil excavation and operation of machinery; (iii) community health and safety risks; (iv) traffic management; and (v) occupational health and safety of workers. These risks and impacts are expected to range from minimal to moderate, due to the nature of small to medium-scale infrastructure works. The Government does not have proper E&S management systems in place; however, the site-specific nature of these impacts will make it relatively easy for contractors to mitigate risks using established, cost-effective, and technically feasible measures, under regular supervision.

91. **The acceleration of digital solutions comes with the risk of construction waste from last-mile connectivity; installation of digital infrastructure/network/system/installation, etc.; and e-waste.** The energy resources required to power IT equipment and telecommunication facilities are likely to be

substantial and will need to be sourced and used in line with Good International Industry Practices. The operation and maintenance of the telecommunications infrastructure, as well as increased access to digital devices and systems, could also lead to an increase in the generation of electronic waste, for which a generic E-Waste Management Plan (EWMP) will be prepared by the Government prior to the implementation of any project activity that will have the potential to generate e-waste.

92. **The social risks are rated Moderate.** The project is expected to have an overall positive social impact, since interventions will enhance the access to and adoption of digital technology for increased social services and economic opportunities. Notwithstanding, the risk of exclusion of vulnerable populations such as youth, women, PWDs, and hard-to-reach communities has been identified as a key social risk. Barriers such as (i) limited digital literacy and skills; (ii) high telecom tariffs; (iii) lack of affordable internet access and access to required devices; (iv) lack of electricity in rural areas to facilitate digital connectivity; and (v) lack of assistive devices such as the talking software/screen readers required for PWDs are likely to widen the digital gap and exclude these groups from project benefits and opportunities. The project has considered these risks and has included mitigation measures as part of the project design, including (i) undertaking an ICT skill survey, and rolling out targeted digital literacy skills training for youth, women, girls and PWDs, including informal digital training for those outside of the formal education system; (ii) purchase of AT digital equipment that can enable access to digital technologies and broadband internet for selected OPDs; (iii) last-mile internet connectivity at the local level, including community-based DAPs to facilitate access to basic government and private sector services; (iv) expanded access to smart devices through financing schemes targeted to low-income households; and (v) leveraging innovative business models and technologies to enable the private sector to deploy affordable broadband internet services in targeted rural areas.

93. Another potential social risk identified at this stage relates to interventions from last-mile connectivity and the installation of IT equipment at selected public institutions at the central and local levels, including government offices, local councils, hospitals, schools, and community-based DAPs. This approach aims to incentivize private-sector network providers through competitive contracts, in order to guarantee long-term supply agreement. The specific location and number of institutions to be connected is currently undetermined. It is expected that the risk of land acquisition or displacement resulting from these interventions will be minor. Contractual provisions with the private sector should ensure adequate requirements for detailed E&S risk assessment and mitigation measures. The engagement of consultants to carry out capacity-building trainings, and contractors to install IT equipment may lead to labor-related risks concerning the health and safety of workers and exposure to COVID-19. No armed or military force will be used in any aspects of the project; however, private and public security personnel may be used to guard project sites and assets. The Contractor's Environmental and Social Management Plan (ESMP) will assess the security personnel requirements and will implement measures to manage the security risk of the project in relation to hiring, the rules of conduct, and the training, equipping, and monitoring of such personnel before the involvement of any such personnel, as needed. The impacts associated with these risks will be localized and can be prevented and/or mitigated in a predictable manner.

94. **The risk of Sexual Exploitation and Abuse, and Sexual Harassment (SEA/SH) is assessed as Moderate, using the World Bank's SEA/SH assessment tool.** This takes into consideration potential minor construction/rehabilitation for last-mile connectivity and the installation of IT equipment at selected public

institutions at the central and local levels, including schools and community-based DAPs, as well as the registration and training of beneficiaries for digital skills training. Investment in innovative technology pilot will likely be implemented in poor communities in underserved areas, and with increased income from construction/rehabilitation work, coupled with employment and procurement opportunities, the risk of SEA/SH may be heightened. SEA/SH could also occur in the process of registering beneficiaries for digital training, where project actors with power over the registration process could exploit vulnerable beneficiaries. SEA/SH could also occur in situations where project actors and trainers engage directly with beneficiaries in conducting the training, with limited supervision. The SEA/SH mitigation requirements include the preparation of a project SEA/SH Action Plan. This will also be prepared proportionate to the risks of gender-based violence (GBV)-SEA/SH, and it is expected to be finalized by the client by the project effectiveness. The SEA/SH Action Plan will go beyond mitigating construction-related SEA/SH risk to include potential SEA/SH in training or education settings. Details of the plan will include the rollout of GBV-sensitive procedures for the GRM, codes of conduct, worker and community training, service provider mapping, and a referral pathway for service providers, as well as an accountability and response framework. Contractor ESMPs will assess the site-specific SEA/SH risks, and material measures for addressing such risks will be well-costed and included in the ESMPs for implementation.

95. **The Government prepared several ESF instruments.** Based on project scope, the Government prepared and publicly disclosed: (i) a Stakeholder Engagement Plan (SEP)[47]; (ii) an Environmental and Social Commitment Plan (ESCP)[48] that covers all of the measures and actions needed to ensure ESF compliance; (iii) an Environmental and Social Management Framework (ESMF)[49] that includes Chance Find Procedures, SEA/SH assessment, and a CERC component; and (iv) a Resettlement Policy Framework (RPF)[50]. A Labor Management Procedures (LMPs), and an SEA/SH Action Plan will be prepared by the Government and disclosed by the project effectiveness. An EWMP will also be prepared by the Government prior to the implementation of any project activity that will have the potential to generate e-waste. A gender and SEA/SH assessment will look at potential gender impacts and the underlying SEA/SH risk and the general social situation in the project areas. The recommendations from the assessment will be used to increase social and gender inclusion across project activities, which will be developed and disclosed during project implementation, and will complement the gender analysis already undertaken. An appraisal E&S Review Summary (ESRS) was prepared in line with the World Bank's ESF requirements and disclosed by the World Bank on May 5, 2022.

96. To support the management of E&S risks, the Government will recruit a qualified E&S specialist who will have to be trained on the requirements of the ESF in order to effectively manage E&S risks. The specialist

[47]The SEP was disclosed in-country on May 6, 2022 and on the World Bank website on May 5, 2022.
[48] The ESCP was disclosed in-country on May 6, 2022 and on the World Bank website on May 5, 2022. The negotiated final ESCP was disclosed in-country on June 25, 2022 and on the World Bank website on June 27, 2022.
[49] The ESMF provides an environmental and social baseline of the project; a review of relevant national policies, institutional and regulatory frameworks, and an analysis of environmental and social risks with mitigation measures; plans for capacity building and training; a description of the environmental and social screening process; an SEA/SH Action Plan oriented to addressing related risks of the project; ToRs for the preparation of a site-specific E&S Management Plan/Impact Assessment before commencement of any civil works; an EWMP; and relevant guidelines (such as EHS General Guidelines), among others. The ESMF was disclosed in-country on June 22 and on the World Bank website on June 22, 2022.
[50] The RPF was disclosed in-country on June 23, 2022 and on the World Bank website on June 24, 2022.

will manage risks during implementation, including E&S screening; ensuring the development of the requisite E&S assessments and relevant documents by external consultants/firms; overseeing stakeholder consultation; managing contractor performance; and conducting implementation monitoring and reporting.

V. GRIEVANCE REDRESS SERVICES

97. **Communities and individuals who believe they are being adversely affected by a World Bank-supported project may submit complaints to the existing project-level GRMs, or to the World Bank's Grievance Redress Service (GRS).** The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project-affected communities and individuals may also submit complaints to the World Bank's independent Inspection Panel, which determines whether harm has occurred, or could occur, as a result of World Bank noncompliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and World Bank management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate GRS, please visit http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

VI. KEY RISKS

98. **The project's overall risk is rated *Substantial*** considering a range of various risk factors, including substantial political and governance, macroeconomic, technical design, institutional capacity, fiduciary, and stakeholders risks.

99. **Political and Governance Risks are rated as Substantial.** A general election is currently scheduled for early 2023, when the project will be in the first year of its implementation. There could be unforeseen incidents during and following the election that could affect project activities temporarily or indirectly, such as a slowdown of the procurement process due to delays in obtaining internal clearance, or difficulty organizing timely PSC or TC meetings. These risks will be mitigated with close implementation support by the World Bank as well as in advance preparation of the annual work plan and time bounded action plans. To mitigate the potential risk of policy reversal or political interference, the project will apply a robust procurement approach as risk mitigation measures. The PPSD and Procurement Plan spell out clearly to defuse all potential monopoly issues by the processes that will ensure applying transparent international competitive bidding processes and articulate the consequences of non-conformance.

100. **Macroeconomic risks are rated Substantial.** The COVID-19 pandemic and the economic impact from the ongoing war in Ukraine, primarily driven by a surge in inflation, will continue to affect Sierra Leone's growth outlook. New COVID-19 strains have caused a resurgence of the pandemic, which could hinder recovery of external demand and prolong the disruptions in supply chains, increasing domestic food prices. The Ukraine crisis in Europe has exacerbated already rising prices even more: in February 2022, the annual

national consumer price inflation rate stood at 17.6 percent.[51] However, the real GDP growth is projected at 3.4 percent in 2022, a reverse in the negative growth in 2020, insinuating a sign of gradual recovery from the pandemic. The current account deficit is expected to remain large, declining slightly to 13.0 percent of GDP by 2023, as higher mineral exports are offset by increased demand for imports of capital goods and fuel. Restoring fiscal consolidation in 2021 could prove challenging with depressed revenues, but the fiscal deficit is expected to decline gradually to 2.4 percent of GDP by 2023 as COVID-19-related spending is reduced and revenue mobilization improves as the economic recovery gains momentum.[52] These factors would impact the project's operational costs, and potentially affect the allocated budget for each project activity. Risks are to a considerable extent mitigated by the Government's commitment to fiscal discipline and wider macroeconomic and structural reforms, as demonstrated by the implementation of wide-ranging reforms under the World Bank's Productivity and Transparency Support Development Policy Financing, and the IMF's Extended Credit Facility program.

101. **The Technical Design risk is rated as Substantial**. Given the cross-cutting nature of digital transformation, the project covers multiple new interventions targeting various demographic groups and cutting across a wide range of beneficiary institutions. There will be challenges associated with ensuring the suitability of the interventions and customizing them for the identified subgroups for each component. Given the limited experience of MIC in implementing a large-scale World Bank-funded project, there will be pressure to implement all these interventions within a five-year horizon. To mitigate these risks, the project will use a phased design, and will sequence the implementation of various components from the outset. The sequencing of the key activities was discussed with the Government during project preparation, and has been incorporated into the project activities.

102. **Institutional Capacity Risks for Implementation and Sustainability are rated as Substantial.** The Government will need to acquire new expertise and move toward more standardized and integrated digital infrastructure and platforms from the fragmented and siloed IT investment. Implementation will require several MDAs working in coordination with MIC. A comprehensive capacity-building program to upskill the government officials leading the country's digital transformation is fully embedded in the project. Component 1 supports the institutional capacity of NATCOM to shift to NCA with a wider regulatory mandate in digital-converging topics such as privacy, data protection, and cybersecurity. Component 3 supports MIC e-government unit's institutional capacity development for better planning and coordination in government digital infrastructure, network, and platforms, as well as change management. Component 4 supports the establishment of a robust PCU with strong implementation and coordination capacity. Finally, the World Bank will provide intensive implementation support, including hands-on training and workshops.

103. **Fiduciary Risks are rated as Substantial.** Fiduciary risk includes FM and procurement risks. Both risks are rated as Substantial. The main risks identified for both FM and Procurement include (i) the limited fiduciary capacity in MIC; (ii) potential long duration to complete the FM/ procurement staff recruitment, procurement and development of required systems and procedures to meet the World Bank's minimum

[51] https://www.statistics.sl/images/StatisticsSL/Documents/cpi/2022/February_2022_CPI_Press_Release.pdf
[52] All statistics in this paragraph are from World Bank. 2021. Sierra Leone: Macro Poverty Outlook. Available at: *https://pubdocs.worldbank.org/en/885471492188170236/mpo-sle.pdf*.

requirements for the project fund administration under the World Bank Policy and Procedure for IPF. In addition, the following risks were identified for procurement, including (i) limited knowledge in the World Bank's Procurement Regulations and use of the World Bank's STEP; (ii) inefficiencies and delays in procurement process; (iii) insufficient competition in procurement; and (iv) weak complaint redress system. To address these risks and weaknesses, mitigation measures and concrete action plans were agreed with the Government before the project effectiveness, including, (i) recruitment procurement FM staff and Procurement staff in PCU; (ii) regular capacity training; and (iii) World Bank hands-on support in procurement and financial management, training sessions for PCU, MIC, TLAs, and other beneficiary agencies on project implementation requirements in the policy framework, and ensuring that open competitive procurement is the default under the project. Details are found in Annex 1.

104. **Stakeholders Risks are rated as Substantial.** A wide range of stakeholders, and inter-ministerial coordination will be required in a few of the project activities due to the cross-cutting nature of the project, as well as to promote the shift toward a "whole-of-government" digital government foundation, which will add complexity to project design and implementation arrangements. The PCU housed in MIC will lead a close collaboration with the TLAs (DSTI, NATCOM, and UADF) and other key government beneficiary agencies and stakeholders. Also, a deep-rooted issue of trust between the Government and telecom operators has been observed. The PCU will maintain effective engagement with the private sector, academia, civil society, and development partners. Among the existing development partners that are actively engaged in the digital space, close collaboration with the UN Foundation's DIAL will be critical to maximize cooperation in supporting the Government's digital transformation, especially under Component 3. To mitigate risks, it is critical to implement the SEP effectively, and to maintain strong coordination and stakeholder management throughout the project implementation period. Establishment of a strong Project Steering Committee (PSC) with the key MDAs well represented, along with a functional Technical Committee (TC), will also contribute to mitigating this risk.

VII. RESULTS FRAMEWORK AND MONITORING

Results Framework
COUNTRY: Sierra Leone
Sierra Leone Digital Transformation Project

Project Development Objectives(s)

To expand access to broadband internet, enhance digital skills and improve government capacity to deliver public services digitally.

Project Development Objective Indicators

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Expand access to broadband internet							
People provided with new or enhanced access to broadband internet (CRI, Number)		0.00	0.00	0.00	300,000.00	600,000.00	1,000,000.00
of which rural (Number)		0.00	0.00	0.00	60,000.00	120,000.00	200,000.00
of which female (Number)		0.00	0.00	0.00	150,000.00	300,000.00	500,000.00
Enhance digital skills							
Youth with certified foundational to advanced digital skills (Number)		0.00	0.00	500.00	1,000.00	2,000.00	2,500.00
of which female (Percentage)		0.00	0.00	10.00	20.00	30.00	40.00
of which PWDs (Percentage)		0.00	0.00	2.50	5.00	10.00	15.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Improve Government Capacity to Deliver Public Services Digitally							
Government Ministries, Departments and Agencies (MDAs) and public institutions benefitting from improved govt infrastructure and networks (Number)		0.00	0.00	0.00	100.00	200.00	300.00
MDAs utilizing shared services operationalized by the project (Number)		0.00	0.00	0.00	2.00	15.00	30.00

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Component 1: Expanding Digital Access, and Increasing Resilience of the Digital Environment							
Spectrum Management and Monitoring System Established (Yes/No)		No	No	No	Yes	Yes	Yes
Public institutions connected to Broadband internet (Number)		0.00	0.00	0.00	50.00	200.00	300.00
Rural population covered by at least 3G mobile network (Percentage)		20.00	20.00	20.00	30.00	40.00	50.00
PWDs with Digital Access resulting from the provision of AT under the project (Number)		0.00	0.00	0.00	50.00	100.00	100.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
of which female (Percentage)		0.00	0.00	0.00	15.00	30.00	40.00
Sector/system specific CIIP Plans developed (Number)		0.00	0.00	1.00	2.00	4.00	5.00
National CIRT operational (Yes/No)		No	No	No	Yes	Yes	Yes
Channels through which weather information services are disseminated under the Government Service Platform (GSP) (Number)		0.00	0.00	0.00	1.00	2.00	3.00
Electronic waste (e-waste) management policy framework developed (Yes/No)		No	No	No	Yes	Yes	Yes
PCM Indicator: Value of private sector investment leveraged under the project (Amount(USD))		0.00	0.00	0.00	500,000.00	1,000,000.00	2,000,000.00
Component 2: Digital Skills Development and Innovation							
Youth trained under digital jobs pilot reporting new income opportunities (Number)		0.00	0.00	150.00	300.00	450.00	600.00
of which female (Percentage)		0.00	40.00	40.00	40.00	40.00	40.00
of which PWDs (Percentage)		0.00	15.00	15.00	15.00	15.00	15.00
People participating in the development challenge and hackathons events (Number)		0.00	0.00	150.00	300.00	450.00	500.00
of which female (Percentage)		0.00	40.00	40.00	40.00	40.00	40.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
of which PWDs (Percentage)		0.00					15.00
Demonstrations of drone usage for addressing climate risks (Number)		0.00	0.00	0.00	1.00	2.00	3.00
Component 3: Laying Key Foundations for Digital Government Services and Systems							
Digital Service Standards to guide the ideation, design, implementation, and operation of citizen-centric services Adopted (Yes/No)		No	No	Yes	Yes	Yes	Yes
MDAs applying EA and GIF (Number)		0.00	0.00	0.00	3.00	7.00	10.00
Civil servants and government employees participating in technical trainings related to digital government (Number)		0.00	0.00	500.00	1,000.00	1,500.00	2,000.00
of which female (Percentage)		0.00	50.00	50.00	50.00	50.00	50.00
G2C/G2B Digital Government Services developed (Number)		0.00	0.00	1.00	2.00	3.00	3.00
Electronic documents shared using the Document Management System (G2G) (Number)		0.00	0.00	0.00	500.00	1,000.00	1,500.00
Citizen feedback mechanism for e-government services operational (Yes/No)		No	No	Yes	Yes	Yes	Yes
Periodic citizen engagement feedback reports on e-services published (Number)		0.00	0.00	1.00	3.00	7.00	10.00
Component 4: Project Management and Implementation Support							

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Feedback addressed and responded within the stipulated service standards (Percentage)		0.00	90.00	90.00	90.00	90.00	90.00

Monitoring & Evaluation Plan: PDO Indicators					
Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
People provided with new or enhanced access to broadband internet		Annual	Reports from NATCOM	The data will be gathered by the PCU via NATCOM statistics reports. The indicator captures internet access attributable to project activities. NATCOM will submit the total number of new broadband connections (3G or higher) and the number of the population that upgraded to a higher internet service based on telecom operator data.	PCU/NATCOM

of which rural					
of which female					
Youth with certified foundational to advanced digital skills	Measurement of the "Increase Digital Skills" portion of the PDO. This indicator will measure the project's contribution to increasing digital skills through the number of youth (15-35 year-old) beneficiaries who successfully complete the project's Digital Literacy Training Scheme, passing an exam and receiving a certificate.	Annual	Reports from DSTI	PCU will collect this information from DSTI, which will submitt results from reports/surveys carried out by training provider(s)	PCU/ DSTI
of which female					
of which PWDs					
Government Ministries, Departments and Agencies (MDAs) and public institutions benefitting from improved govt infrastructure and networks	Measurement of the "Improve Government Capacity to Deliver Public Services Digitally" portion of the PDO. This indicator will measure the project's contribution to Improving Government Capacity to Deliver Public Services Digitally through providing	Annual	Reports from MIC	PCU will collect this information from MIC to feed the project progress report and results framework.	PCU/MIC

	or improving broadband access to MDAs as a result of project activities under component 3 (Laying Key Foundations for Digital Government Services and Systems), particularly subcomponents 3.1 and 3.2.				
MDAs utilizing shared services operationalized by the project	Measurement of the "Improve Government Capacity to Deliver Public Services Digitally" portion of the PDO. This indicator will measure the project's contribution to enabling MDAs to move towards the use and operation of digitalized shared services (G2C, G2B and G2G) as a result of project activities under component 3 (Laying Key Foundations for Digital Government Services and Systems), particularly subcomponents 3.2 and 3.3.	Annual	Reports from MIC	PCU will collect this information from MIC to feed the project progress report and results framework.	PCU/MIC

Monitoring & Evaluation Plan: Intermediate Results Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
Spectrum Management and Monitoring System Established	This indicator measures the recipient's achievement in establishing the Spectrum Management and Monitoring System under the NCA, which will highly contribute to addressing Sierra Leone's challenges related to competition and the high price of telecommunication services. The establishment will be attained through the development of regulatory capacity and purchasing of equipment.	Annual	Project implementation reports submitted by PCU	PCU will collect this information from NATCOM to feed the project progress report and results framework.	PCU/NATCOM
Public institutions connected to Broadband internet	This indicator measures the achievement in provide last-mile connectivity access to selected public institutions, including MDAs, local government offices, hospitals and health clinics, and schools, at the central and local levels in Freetown, and in secondary cities that currently do not have broadband access.	Annual	Project implementation reports submitted by PCU	PCU will collect this information from MIC to feed the project progress report and results framework.	PCU/MIC

Rural population covered by at least 3G mobile network	This indicator tracks the percentage of rural population benefiting from the implementation of the Rural Connectivity Access Pilot. The baseline was obtained from UADF's ICT Access Gap Survey Report from November of 2019. For the analysis, 20 chiefdoms in 10 districts from Sierra Leone were surveyed. The report shows that 80 percent of all locations surveyed are installed with 2G networks and so internet cannot be accessed in all those locations. Fifteen percent of all locations surveyed have 2G&3G and five percent has 2G&3G/&4G network. So only 20 percent of all locations surveyed have access to internet services. This number is used as a proxy for the baseline.	Annual	Project implementation reports submitted by PCU	PCU will collect this information from NATCOM and UADF to feed the project progress report and results framework.	PCU/NATCO/UADF
PWDs with Digital Access resulting from the provision of AT under the project	This indicator measures the number of PWDs that will benefit from the project's support for the provision of AT digital equipment to	Annual	Project implementation reports submitted by PCU	PCU will collect this information from NATCOM and UADF to feed the project progress report and	PCU/NATCOM/UADF

	selected organizations for persons with disabilities, to enable access to digital technologies and broadband internet.			results framework.	
of which female					
Sector/system specific CIIP Plans developed	This indicator tracks the progress in the development of sector/system-specific Critical Information infrastructure Protection (CIIP) plans for priority sectors, which my include financial services, government, telecommunications, energy, and/or aviation.	Annual	Project implementation reports submitted by PCU	PCU will collect this information from MIC to feed the project progress report and results framework.	PCU/MIC
National CIRT operational	This indicator tracks the progress in the operationalization of the National CIRT.	Annual	Project implementation reports submitted by PCU	PCU will collect this information from MIC to feed the project progress report and results framework.	PCU/MIC
Channels through which weather information services are disseminated under the Government Service Platform (GSP)	This indicator measures the number of channels through which weather information from the meteorological system, interfaced with the GSP, is disseminated. Channels may include:	Annual	Project implementation reports submitted by PCU	PCU will collect this information from MIC to feed the project progress report and results framework.	PCU/MIC

	Unstructured Supplementary Service Data (USSD)), voice-based services (such as Interactive Voice Response (IVR)), and mobile and Web-based interfaces like WhatsApp and Facebook Messenger.				
Electronic waste (e-waste) management policy framework developed	This indicator measures the progress in developing an e-waste management policy framework based on a circular economy approach. The project will finance a quantitative and qualitative baseline survey to assess the footprint of e-waste in Sierra Leone and support finalization of the e-waste management policy, which is currently in draft stage.	Annual	Project implementation reports submitted by PCU	PCU will collect this information from MIC to feed the project progress report and results framework.	PCU/MIC
PCM Indicator: Value of private sector investment leveraged under the project	This indicator measures the value, in US dollars, of additional (or incremental) private sector investment in Sierra Leone's ICT sector as a result of the project. It is anticipated that this will primarily be leveraged through sub-component 1.2 and 1.3.Other components of the project may also	Annual	Service contracts for the bandwidth purchase, reverse subsidy auctions, and innovative technology pilots.	Private sector reporting, and PCU monitoring. Target will be revised during implementation, once initial assessments are carried out.	PCU/ MIC

	leverage private sector investment, most notably through partnerships to deliver digital skills training that will be arranged.				
Youth trained under digital jobs pilot reporting new income opportunities	This indicator measures the project's contribution to increasing digital skills through the number of beneficiaries who complete the project's Digital Jobs Pilot. Income opportunities refers to full-time employment, part-time employment, or short-term freelancing or self-employment, internships, and/or apprenticeships through: (a) entrepreneurship (startup of a digital firm by a beneficiary); (b) work within digital firms; (c) work on digital technology in other than digital firms; or (d) work through digitally-enabled online platforms.	Annual	Project implementation reports submitted by PCU	DSTI will collect and analyze the data to be reported to the PCU. Data will be tracked by training providers who will conduct surveys during and after pilot implementation.	PCU/DSTI
of which female					
of which PWDs					

People participating in the development challenge and hackathons events	This indicator counts the number of people that benefit from participating in the development challenge and hackathons events.	Annual	Project implementation reports submitted by PCU	DSTI will collect and analyze the data to be reported to the PCU.	PCU/DSTI
of which female					
of which PWDs					
Demonstrations of drone usage for addressing climate risks	This indicator counts the type of demonstrations of drone usage carried out aiming at addressing climate risks, namely: meteorological, agricultural and cadastre mapping.	Annual	Project implementation reports submitted by PCU	DSTI in collaboration with the National Civil Aviation Authority will collect and analyze the data to be reported to the PCU	PCU/DSTI
Digital Service Standards to guide the ideation, design, implementation, and operation of citizen-centric services Adopted	This indicator tracks the progress in the adoption of Digital Service Standards. These standards will be considered adopted once they are both developed and applied to the e-services planned to be developed and demonstrated under the project. The standards will contain best practice principles, instruction guides, and templates to aid the public sector in	Annual	Project implementation reports submitted by PCU	PCU will collect this information from MIC to feed the project progress report and results framework.	PCU/MIC

	delivering quality services with consistency.				
MDAs applying EA and GIF	This indicator measures the progress in applying of Enterprise Architecture (EA) and government interoperability framework (GIF) by MDAs, as a result of the TA provided under the project to assess the existing EA and GIF efforts by the Government, develop transition architecture and governance mechanisms for their implementation and facilitate the desired state and roll-out of both EA and GIF.	Annual	Project implementation reports submitted by PCU	PCU will collect this information from MIC to feed the project progress report and results framework.	PCU/MIC
Civil servants and government employees participating in technical trainings related to digital government	This indicator measures the total number of civil servants and government employees that receive technical training in aspects related to digital government.	Annual	Project implementation reports submitted by PCU	PCU will collect this information from MIC to feed the project progress report and results framework.	PCU/MIC
of which female					
G2C/G2B Digital Government Services developed	This indicator counts the number of government to citizen (G2C) and/or government to business (G2B) selected prioritized	Annual	Project implementation reports submitted by PCU	PCU will collect this information from MIC to feed the project progress report and results framework.	PCU/MIC

	digital government services developed under the project, for which there is a high demand.				
Electronic documents shared using the Document Management System (G2G)	This indicator measures the attainment of operationalizing the electronic document and record management system developed under the project to improve the clarity and accuracy of Cabinet and Parliament records in line with the ongoing e-Cabinet initiative. System development will involve the digitization of processes and documents essential to the Parliament and Cabinet.	Annual	Project implementation reports submitted by PCU	PCU will collect this information from MIC to feed the project progress report and results framework.	PCU/MIC
Citizen feedback mechanism for e-government services operational	This indicator measures the progress in developing and operationalizing the project's Citizen feedback mechanism for e-services.	Annual	Project implementation reports submitted by PCU	The PCU will be responsible for developing and publishing these periodic reports in accordance with project established citizen feedback mechanism, as well as for recording them in the Results Framework.	PCU

Periodic citizen engagement feedback reports on e-services published	Published Reports in accordance with project established citizen feedback mechanism including detailed status of follow-up activities. The reports shall detail the feedback received from citizens, the response provided and/or action taken subsequent to the feedback received. The periodicity of the reports will be established in the citizen feedback methodology.	Bi-annual	Project implementation reports submitted by PCU	The PCU will be responsible for developing and publishing these periodic reports in accordance with project established citizen feedback mechanism, as well as for recording them in the Results Framework.	PCU
Feedback addressed and responded within the stipulated service standards	A grievance redress mechanism (GRM) for receiving feedback (complaints, queries, suggestions and compliments) will be established and centralized within the PCU to resolve complaints and queries and acknowledge suggestions and compliments, within service standards stipulated and communicated by the project. Since this is an indicator of transparency and citizen engagement, the PCU will commit to resolve	Bi-annual	GRM database system from PCU.	PCU will be responsible for assessing the complaints and preparing the appropriate responses to address the identified grievance. The number of received complaints will be the baseline/denominator to calculate the resolved %. Details on the mechanism will be detailed in the PIM.	PCU

	at least 90 percent of the feedback received.				

ANNEX 1: Implementation Arrangements and Support Plan

COUNTRY: Sierra Leone
Sierra Leone Digital Transformation Project

Summary of Procurement Assessment

1. **Procedures**. Procurement under the proposed project will be carried out in accordance with the World Bank Procurement Regulations for Investment Project Financing Borrowers dated November 2020; the Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants dated October 15, 2006, and revised in January 2011, and as of July 1, 2016; and beneficiary disclosure requirements, as well as other provisions stipulated in the project's legal agreements. Furthermore, the Sierra Leone National Public Procurement Act of 2016 may be used for tenders approaching the national market, taking into consideration the requirements of Clauses 5.3, 5.4, 5.5, and 5.6 of the Procurement Regulations for IPF Borrowers.

2. **Implementation Arrangements**. Procurement under this project shall be carried out by the PCU that will be established in the MIC. This unit shall have a procurement staff with the required qualifications and experience, as described in the Terms of Reference ToRs.

3. **Preparation of Project Procurement Strategy for Development (PPSD)**. As part of the preparation for the project, the Republic of Sierra Leone prepared a PPSD that describes how procurement activities will support project operations for the achievement of the PDOs, and how it will deliver value for money. The procurement strategy will be linked to the project implementation strategy in order to ensure proper sequencing of the activities. The PPSD analyzed and spelled out institutional arrangements for procurement; roles and responsibilities; thresholds, procurement methods, prior review, and the requirements for carrying out procurement. One of the key highlights of the PPSD was market analysis based on the project activities and availability of the local supply market. Given the nature of the first large-scale digital transformation project in Sierra Leone, most of the procurement packages which require competent and capable services in the digital/ICT sector would be suited for international competitive bidding. The MIC has limited experience handling large scale ICT procurements, however experience and lessons learnt accumulated in the Project Fiduciary Management Unit (PFMU) as well as similar digital/ ICT procurement experiences under previous and other World Bank-financed projects will supplement the MIC to manage selection process and engage with firms and venders with the technical and financial capability to respond appropriately and deliver satisfactory. The PPSD includes procurement strategies and recommended procurement approaches, and the procurement approaches are reflected in the Procurement Plan. The PPSD will be updated as new procurements emerge during implementation.

4. **Procurement Planning**. A procurement plan, which is aligned with the PPSD, and which outlines the procurement procedures to be used in planning and monitoring the implementation of investment activities, was prepared and agreed upon by the World Bank and the Government. The Procurement Plan for the project details the activities to be carried out during the first 18 months, and reflects the actual project implementation needs. The plan was submitted, reviewed, and approved by the World Bank on

June 7, 2022.

5. **Standard Procurement Documents (SPD)**: The project will use the latest versions of the SPDs. (December 2019 for Consulting Services; February 2020 for Non-consulting Services; August 2020 for Goods; and January 2021 for Works); or any other revised version that becomes available.

6. **Use of Country Systems**. For procurements involving national procurement procedures that fall below the defined thresholds, national procurement systems may be used as defined by the PPSD, taking into consideration the requirements of Clauses 5.3, 5.4, 5.5, and 5.6 of the Procurement Regulations for IPF Borrowers. The project activities will also require strong technical capability for preparing the proper technical specifications to avert lack of, or inadequate, market response. This capability, or a plan for how to enhance it, will be described in the procurement strategy. An open competitive approach to the market will be the World Bank's preferred approach, as it provides all eligible bidders/proposers with a timely and equal opportunity to the required goods or services.

7. **Procurement Management Risk Assessment**. Given the country's post-conflict and fragility context and capacity constraints, the procurement management risk assessment found that (i) The PCU is yet to be established, and the capacity of procurement staff in MIC is limited; (ii) There is a lack of knowledge in the use of the World Bank's Procurement Regulations and the World Bank's STEP; (iii) There is a need for the establishment of a record-keeping system; (iv) There are inefficiencies and delays in the procurement process; (v) There is insufficient competition in procurement; and (vi) The complaint redress system is weak.

8. **Procurement Risk**. The procurement management risk for this project is rated **High**. To address the risks and weaknesses identified, mitigation measures have been discussed and agreed upon with MIC, as shown in Table 1.1 and the recommendation of the PPSD that will be submitted by the government and approved by the World Bank.

9. **Procurement Post Reviews (PPRs) and Independent Post Reviews (IPRs) by the World Bank**. Based on the assessed agency implementation risk for procurement, which is **High,** the World Bank will carry out PPRs or IPRs for all contracts. The approved procurement plan was not subjected to prior review by the World Bank using a sample of at least 20 percent. Based on continuing assessment of the risk and the success of the risk mitigation measures implemented, the sample size will be reduced as risk mitigation measures are successfully implemented. Note that based on the risk rating, the sample sizes for the PPRs or IPRs are as follows: 5 percent for a Low-Risk rating, 10 percent for a Moderate Risk rating, 15 percent for a Substantial Risk rating, and 20 percent for a High-Risk rating.

Table 1.1. Project Procurement Risk Factors and Mitigation Measures

Risk Factor	Mitigation Measure
PCU	• Establishment of PCU, staffed with a qualified and experienced procurement staff.
Capacity building of procurement staff	• Attend training in World Bank procurement procedures • Conduct training on World Bank procurement procedures • Hand-holding • Regular supervision, support, and monitoring

Risk Factor	Mitigation Measure
Record management	• Establish a good record management system.
Limited knowledge of the World Bank's Procurement Regulations and use of STEP	• Conduct regular procurement clinics • Hand-holding for the team on the use of STEP
Inefficiencies and delays in the procurement process	• Regular monitoring throughout the procurement plan in STEP. • Conduct regular meeting to identify delays, their causes, and to provide solutions. • Technical and procurement teams to work together across different beneficiary agencies.
Insufficient competition in procurement	• Aggregation of smaller contract packages wherever feasible • Sensitization of the private sector to bid for public tenders.
Weak complaint redress system	• Disclosure of complaint redress procedure. • Biannual report of all complaints received, and actions taken.
Fraud and corruption risks (including collusion and outside interference) in the contracting process	• Disclosure of procurement plan, invitation for bids, and bidding documents • Monitor bidders and bids using Company Risk Profile Database, and check references of experience certificates; check authenticity of bank guarantees and insurance policies, etc. • Strengthen bid evaluation committees and define tasks related to resolving complaints during the selection phase and standstill period, and beyond • Disclosure of contract awards and stress on Beneficial Ownership disclosure • Create awareness of the effects of fraud and corruption on the government PCU and TLAs, and on the bidders community. • Regular reviews such as PPR, internal audit, external audit, and follow up on audit findings and recommendations.

Table 1.2 Procurement Action Plan

No.	Action	Date due by	Responsible
1	Competitive recruitment of procurement staff	Project effectiveness	MIC
2	Strengthen capacity on the use of STEP tools, which is being used to manage all procurement transactions and related documentation.	Immediately after the procurement staff is recruited.	World Bank
3	Finalize the PIM to include procurement procedures and implementation arrangements for the project along with the standard and sample documents to be used.	Project effectiveness	MIC
4	Develop procurement records and contract management systems to ensure efficient and effective contract management.	Three months after project effectiveness, followed by continuous monitoring	MIC

Summary of the Financial Management Assessment

10. An FM assessment of the planned FM arrangements to be implemented by a PCU created within MIC was conducted in accordance with the Financial Management Manual effective on March 1, 2010 and was last revised on February 10, 2017.

11. The objective of the assessment was to determine whether the planned FM arrangements are acceptable to the World Bank. The FM arrangements principally cover the FM staff, the FM accounting system and other FM-related technologies, and the FM cycle, which includes (i) planning and budgeting; (ii) accounting; (iii) internal controls; (iv) funds flow; (v) financial reporting; and (vi) auditing. The entity's arrangements are acceptable if they are considered capable of correctly recording all budgets, transactions, and balances; supporting the preparation of regular and reliable financial statements; safeguarding the entity's assets; and are subject to auditing arrangements acceptable to the World Bank.

12. MIC will competitively recruit a project-dedicated FMS to serve on the PCU. The ToRs will be agreed to by the World Bank, and MIC will submit the proposed candidate's CV along with the related recruitment report to the World Bank for it to issue a no-objection in order to proceed with the hiring and contracting of the selected candidate. The World Bank will assess the qualifications and experience of the proposed candidate and provide its no-objection if these are considered acceptable. The project will not use the Integrated Financial Management Information System (IFMIS) system to account for project funds, as it is not geared for accounting and reporting on expenditures consistently with separate activities and withdrawal categories. Therefore, the project will need to procure accounting software that is acceptable to the World Bank and will ensure that the FMS is adequately trained in its use. MIC's IT department will be expected to provide support to ensure that the system is within its network and accounting data, and those records are able to be backed up on a regular basis.

13. The overall FM risk for the project at preparation is assessed as **High**, but if the expected risk mitigation measures are adequately implemented, the residual FM risk will be rated as **Substantial**.

14. **Project Risk Assessment and Mitigation**. This section presents the results of the risk assessment, and identifies the key FM risks as well as the related risk-mitigating measures.

Table 1.3. FM Risk-Rating Summary Table

	Risk	Risk Rating	Risk Mitigating Measures	Residual Risk Rating
1	**Country Level** Weaknesses in legislative scrutiny, low level of human resource capacity, declining revenues, and energy challenges that are affecting timely and adequate intergovernmental fiscal transfers.	H	None	H
2	**Entity Level** The political arm of MIC and/or its management may unduly interfere with, and/or override, the project's financial management controls.	H	An independent PCU , with officers paid by the project, will manage the fiduciary aspects of the project to provide some independence. An independent external audit will be carried out annually under the project. Initially, regular FM reviews will be conducted by the World Bank to provide support.	S
3	**Project Level** Weak FM capacity could result in slow execution of the project, and delayed reporting could impact progress. MIC has not implemented World Bank- financed projects for a number of years. The Project Coordinator may unduly interfere with and/or override project financial management controls.	H	Financial management personnel will be hired competitively and will be adequately qualified and experienced. They will handle the day-to-day financial management for the Government. The performance of the staff hired in the PCU will be reviewed annually as a basis for renewal of their contracts. The Ministry of Finance (MoF)'s Internal Audit Department will work with the internal audit team at MIC to ensure that it develops an internal audit plan that is acceptable to the World Bank. The MIC Audit Committee will be required to meet and consider the issues raised by both internal and external audit. The MIC internal audit team will provide secretariat support to the audit committee, and the project will finance approved meeting costs.	S

	Risk	Risk Rating	Risk Mitigating Measures	Residual Risk Rating
4	**Budgeting** Budget and AWP preparations may be delayed and may not be comprehensive enough to guide implementation and allow for control. Budgeted costs may not be a fair reflection of market prices.	H	The PIM will outline clear budget formulation procedures. The AWP/budget will form the basis for eligible expenditures; it must be submitted to the World Bank after the required approvals before the commencement of the new fiscal year. The budget process will be led by the Project Coordinator, who will ensure that technical teams are working with the FM team in order to appropriately cost planned activities. Budget and Financial Reporting will need to be based on project components and subcomponents. The accounting system will use a Chart of Accounts structure that provides for this so that it can be properly tracked.	S
5	**Accounting** Recording of project transactions is not aligned with reporting requirements and is inaccurate or untimely. Excessive manual processing (using MS Excel) increases the chances of error. MIC does not currently have a suitable accounting system; one will need to be installed. New software installation may not be effective.	H	MIC PCU will install and use an accounting software system that is acceptable to the World Bank. FM staff will be required to be trained in the use of the system. The FM section of the PIM will be developed to ensure that procedures to support the effective use of the system--especially to move the system beyond data entry so that it can become a workflow tool and can be used to facilitate IFR and audited financial statements (AFS)--are documented. Accounting policies will be consistent with international standards on cash accounting.	S
6	**Internal Control** Project funds are not being used for their intended purposes because of inadequate internal control by management, and a lack of control measures pertaining to soft expenditures and the use of executive override.	H	The PIM will outline the internal controls that will operate on the project and will cover a minimum set of key controls agreed upon with the World Bank. Internal Control over the disbursement and accountability of funds for eligible expenditures will be further strengthened by having a dedicated internal auditor on the project. The internal	S

	Risk	Risk Rating	Risk Mitigating Measures	Residual Risk Rating
	This may give rise to noncompliance with internal control procedures.		auditors will be required to generate quarterly internal audit reports, which should be shared with relevant stakeholders including the World Bank. The MIC Audit Committee will convene each quarter to consider the report of the internal auditor and consider the proposed remediation plan prepared by the project to address the internal and external audit issues raised. The external audit ToR will also encompass reporting on any internal control deficiencies observed in the conduct of the external audit.	
7	**Fund Flow** Possible delays in processing withdrawal applications may lead to problems in honoring payments to third parties. Arrangements are not allowing for timely documentation of expenditures and are thus causing bottlenecks in disbursement. Funds are not being deposited in the DA in a timely way in order to provide for effective implementation of the AWP as planned.	S	The MIC PCU will be responsible for preparing and submitting withdrawal applications. It will establish client connection user profiles promptly. The FM team will document expenditures each quarter in order to keep the DA active in the system. The FM team will monitor the project's liquidity and undertake six-monthly cash forecasts each quarter to ensure that project funds are sufficient. IDA funds will be disbursed through the US-dollar-denominated segregated DA to be opened by the MIC PCU. Simplified flow of funds arrangements will be included in the PIM. Where funds are required to be provided to implementing partners from the accounts managed by the PCU at MIC, disbursement will be based on a procedure for project advances to be included in the PIM. Advances may only be made for approved expenditures in the AWP/budget, based on an advance request that identifies the expenditures that are expected to be paid with the advanced funds. Advances will be required to be	M

Risk		Risk Rating	Risk Mitigating Measures	Residual Risk Rating
			"liquidated" through the submission of supporting documentation to the PCU within a reasonable period of time, as outlined in the PIM.	
8	**Financial Reporting** Delays in the preparation and submission of unaudited IFRs and/or unreliable IFRs.	S	To permit timely and accurate reporting, the IFR and AFS preparation should be as automated as possible, using the functionality of the accounting system. FMS will receive training in the system by an approved trainer prior to the submission of the first IFR. The World Bank will provide a format for IFR reporting, and the FMS will be trained by the World Bank on its proper preparation.	M
9	**Auditing** Delays in the submission of audit reports, and timeliness of management follow-up on audit issues.	S	The audit ToR will be cleared by the World Bank first, and a qualified and acceptable auditor appointed, with relevant input of Audit Service Sierra-Leone. The audit must be done in accordance with International Standards on Auditing. MIC's audit committee must meet with the external auditors prior to the submission of the AFS to the World Bank, to ensure that the deficiencies noted in the management letter are understood, and that an adequate remediation plan has been prepared by the project.	M
OVERALL RISK RATING		**H**		**S**

H —High, S — Substantial, M — Moderate, and L — Low.

15. The key findings from the planned FM cycle assessment under the project will be fully reflected in the PIM.

16. **Financial Management Action Plan.** Table 1.4 shows the Financial Management Action Plan for developing and implementing the project's FM arrangements.

Table 1.4. Action Plan for Establishing the Project's FM Arrangements

	Action	Date to Complete Action	Related Clause in Financing Agreement
i.	Competitive recruitment of the FMS (appointment and contracting completed).	Project effectiveness	Effectiveness Condition
ii.	Procurement and installation of acceptable accounting software. Set-up to include accounts for payments as activities (component level) and withdrawal categories (included in the Financing Agreement); 2022 approved AWP/budget to be uploaded, housed within the MIC IT infrastructure/networks, and subject to MIC back-up protocols.	Within two months after the signing of the Finance Agreement.	None
iii.	Preparation and approval of the PIM by the World Bank, with an FM section incorporated.	Project effectiveness	Effectiveness Condition
iv.	Preparation and approval of an initial work plan and budget for 2022.	Prior to project effectiveness	None
v.	Opening a US dollar-denominated Designated Account at a commercial bank that is acceptable to the World Bank, and confirmation of authorized signatories.	Prior to project effectiveness	None
vi.	Set up user profiles in the World Bank Client Connection system to enable the processing of Withdrawal Applications (WAs) (i.e., for disbursements and documentation of expenditures against advances)	Prior to project effectiveness	None
vii.	Prepare an initial cash forecast, and submit a WA for an advance of funds to the DA	Prior to project effectiveness	**None**
viii.	Project FMS to complete training on accounting software, Client Connection, and World Bank IFRs.	Within two months of project effectiveness	**None**
ix.	Internal Auditor assigned to the project and submission of an approved internal audit plan for 2022.	Within two months of project effectiveness	**Dated Covenant**
x.	Audit Committee of MIC is constituted in conformity with the PFM Act 2016 and has	Within three months of project effectiveness	**Dated Covenant**

	Action	Date to Complete Action	Related Clause in Financing Agreement
	agreed to (i) meet with the internal auditor, project coordinator, and MIC Permanent Secretary on completion of quarterly internal audit quarterly reports; and (ii) meet with the external auditors, FMS, project coordinator and Permanent Secretary on completion of the annual audit.		
xi.	Appointment of external auditors acceptable to the World Bank on ToRs acceptable to the World Bank.	Within six months of project effectiveness, or two months before the end of the first financial year (whichever is soonest).	**None**

Funds Flow and Disbursement

17. To facilitate funds flow to the Government, a segregated DA will be opened in US dollars at a commercial bank that is acceptable to the World Bank, and will be managed by MIC's PCU. Payments from the SLL bank account will need to be translated into US dollars for reporting in IFRs and in the AFS For IFR reporting, expenditure will be reported in US dollars at the rate used in effecting the transfer from the DA to the local currency operating account (since currency differences are not documented in the World Bank Client Connection system). However, in the AFS, the expenditure is recorded at the mid-rate prevailing at the date of the transaction in order to conform to international standards for cash accounting, and related foreign exchange differences are reflected as a reconciling item in the statement of receipts and payments between the opening and closing cash. The project will submit IFRs within 45 days after the end of each quarter; these will be prepared to monitor the implementation of the project, and document expenditures against the advances disbursed to the DA.

18. Disbursement will be made in accordance with the disbursement guidelines for IPF dated February 2017. For the first advance to the DA, an initial payment forecast will be prepared and approved before the project becomes effective. If the initial (and subsequent) cash forecast(s) relate to expenditures not referred to in an approved annual work plan and budget (AWPB), a separate part-year budget will be prepared and approved for this period prior to project effectiveness so that the initial forecast is based on approved expenditures. The initial budget will identify the expenditures to be reimbursed that were incurred after the signing date of the Financing Agreement, but before the project became effective. The initial forecast should cover the period from project effectiveness until the submission of the first IFR and the related applications for withdrawals (that is, the latter will process follow-on replenishment of the DA).

19. In addition to the "advance method," the project provides for the use of "reimbursement, direct payment, and special commitments" as applicable disbursement methods; these will be specified in the Disbursement and Financial Information Letter.

20. Supporting documentation for all project expenditures, including those undertaken by

implementing partners through the use of advances, will be retained by the PCU for review by the World Bank and external auditors.

21. Where funds are required to be provided to implementing partners from the accounts managed by the PCU at MIC, disbursement will be based on a procedure for project advances included in the PIM. Advances may only be made for expenditures approved in the approved AWPB based on a request for advance that identifies the expenditures to be paid with the advanced funds. Advances will be required to be "liquidated" through the submission of supporting documentation to the PCU within a reasonable period of time, as outlined in the PIM.

22. The table below specifies categories of eligible expenditures.

Table 1.5. Eligible Expenditures

Category	Amount of the Financing Allocated (expressed in SDR)	Percentage of Expenditures to be Financed (inclusive of Taxes)
(1) Goods, works, non-consulting services, consulting services, Operating Costs and Training for the project (except Part A.3(a)(i) of the project)	34,948,200	100%
(2) Subsidy Payments for Rural Mobile Broadband Program under Part A.3(a)(i) of the project	1,558,200	100%
(3) Emergency Expenditures under Part E of the project	0	100%
(4) Refund of Preparation Advance	593,600	Amount payable pursuant to Section 2.07 (a) of the General Conditions
TOTAL AMOUNT	**37,100,000**	

23. **Conclusion.** The conclusion of the assessment is that the planned FM arrangement of the MIC's PCU will meet the World Bank's minimum requirements for the administration of project funds under World Bank Policy and Procedures for IPF. The overall FM risk is rated as **High** before mitigation. **If the planned risk mitigation measures are properly implemented**, the overall FM residual risk of the project will be **Substantial**.

Implementation Support Plan

24. The proposed implementation support strategy and approach aims to strengthen the capacity of MIC and TLAs. The World Bank and MIC will work closely for day-to-day administrative management and

implementation of the project. Formal implementation support missions and field visits will be conducted jointly with the Government every three to six months, initially focused on increasing project management and fiduciary capacity at MIC, developing key operational guidelines, preparing the first set of activities ToRs, and initiate procurement process . A mid-term review will be conducted 18 months after project effectiveness to take stock of progress and make any needed adjustments to project design. Missions in later stage of project implementation will focus on reviewing implementation progress, achievement of results, and sustainability. Targeted technical, financial management, and procurement-related review missions will be undertaken. Ongoing dialogue with the PCU, TLAs, and other key beneficiary agencies, including through virtual meetings and e-mail, will ensure continuous support and monitoring. The implementation support plan will be reviewed annually to ensure that it is aligned with support needs. The estimated level of annual support required from the World Bank is identified in Table 1.6.

Table 1.6. Implementation Support and Skill Required

Time	Focus	Skills Needed	Resource Estimate (US$)
First 12 months	• Supporting speedy signing of the financing agreement and project effectiveness • Technical assistance for the development of key legal and regulatory documents • Technical assistance for strategies, studies, and implementation roadmaps • Technical assistance for the development of terms of reference and bidding documents for major activities • Support for the establishment of strategic partnerships, donors, civil society, and technical organizations	• Task team leader • Technical specialists: digital infrastructure, digital skills, cybersecurity and data, digital government, etc. • Fiduciary specialists (financial management, procurement disbursement) and • Environment and Social Safeguards Specialists	120,000
Annually	• Ongoing technical support for Components 1–3 • Fiduciary, safeguards, and project management support • Continued policy dialogue and support for sector reforms	• Task team leader • Technical specialists: digital infrastructure, digital skills, cybersecurity & data, digital government, etc. • Fiduciary specialists (financial management, procurement disbursement, monitoring, and evaluation) and • Environment and Social Safeguards Specialists	120,000

Table 1.7. Skill Mix Required

Skills needed	Staff weeks	Trips
	Per year	
Task Team Leader	10	2-3
Digital Infrastructure Specialist	6	2

Digital Skills Specialist	6	2
Cybersecurity and Data Specialist	4	2
Digital Government Specialist	6	2
Procurement Specialist	3	2
Financial Management Specialist	3	2
Environment Safeguards Specialist	2	1
Social Safeguards Specialist	2	1
Gender Specialist	1	1
PWD Specialist	1	1
Administrative Support	1	0

ANNEX 2: Identified Gender Barriers and Proposed Actions

A preliminary gender analysis identifies key gender gaps that inform the project's actions on gender (Figure 2.1). Actions proposed for each of the gender gaps identified under each component are in line with existing national gender policies and gender-specific targets for digital development and reflect best practices regarding design choices that promote women's access to and use of digital technologies (Table 2.1). These activities align with two core pillars of the WBG Gender Strategy: (i) Improving Human Capital Endowments; and (ii) Removing Constraints for More and Better Jobs.

Figure 2.1: Project-Relevant Gender Gaps



Table 2.1: Project-Relevant Gender Gaps and Proposed Actions

ANALYSIS: Project-Relevant Gender Gaps & Underlying Causes	ACTIONS: Proposed actions taken to address gaps	INDICATORS: How bridging the gap will be measured
Gender Gap: Young Women Have Lower Rates of Digital Literacy than Young Men - Young women in Sierra Leone have lower levels of digital literacy than young men[53], due to systemic and social barriers that prioritize boys' education and use of ICT-related resources over girls. **Underlying Causes:**	**Under Component 2.1:** - Deliver digital skills training to equip youth aged 15-35 years old with beginner, intermediate, and advanced digital skills. - Launch outreach activities, including sensitization programs to gain community buy-in and support from male family members and heads of household.	**PDO Level:** Youth with certified foundational to advanced digital skills (Number) (Baseline: 0 |Target: 2,500) - Of which percentage female (Baseline: 0% | Target: 40%)

[53] A 2020 UNICEF study found that as few as 2 percent of male adolescents aged 15-18 years have ICT skills, compared to 1 percent of female adolescents. (Reference: Diogo Amaro, Lauren Pandolfelli, Ingrid Sanchez-Tapia, and Matt Brossard. 2020. "COVID-19 and education: The digital gender divide among adolescents in sub-Saharan Africa." UNICEF Evidence for Action Blog, https://blogs.unicef.org/evidence-for-action/covid-19-and-education-the-digital-gender-divide-among-adolescents-in-sub-saharan-africa/.)

ANALYSIS: Project-Relevant Gender Gaps & Underlying Causes	ACTIONS: Proposed actions taken to address gaps	INDICATORS: How bridging the gap will be measured
- High rates of school dropout among teenage girls due to early marriage and early pregnancy exacerbate digital literacy gaps.		- Of which percentage PWD (Baseline: 0% | Target: 15%)
Gender Gap: Young Women Have Less Access to Digital Skills Trainings Programs - Young women have less time to participate in digital skills training programs education nor training programs than young men. **Underlying Causes:** - Prevalent social norms prioritize women's unpaid household work, including childcare and elderly care. As a result, men are more likely than women to participate in vocational training.[54] - Young women in Sierra Leone face greater constraints to their physical mobility than young men, limiting their ability to attend in-person digital skills training programs. Additionally, some locations are considered inappropriate for women to visit. - Social norms in many areas of Sierra Leone restrict interaction between men and women, further limiting young women's participation in digital skills training programs that are co-ed or have predominantly male teachers and/or mentors.	**Under Component 2.1:** - The Digital Skills Training scheme will include flexible hours of operations that are conducive to female beneficiaries' schedules and consider women's higher rates of household care responsibilities. - Digital skills trainings will be held in locations that young women consider safe and easily accessible. - Digital skills trainings and digital jobs pilots will include women-only cohorts. - The Train the Trainers program will recruit women from local communities to deliver digital skills training.	**IRI Level:** People participating in the development challenge and hackathons events (Number) (Baseline: 0 | Target: 500) - Of which percentage female (Baseline: 0% | Target: 40%) - Of which percentage PWD (Baseline: 0%, Target: 15%)

[54] World Bank. 2018. *Sierra Leone Skills Development Project (P163723): Project Appraisal Document.* Washington, DC: WBG.

ANALYSIS: Project-Relevant Gender Gaps & Underlying Causes	ACTIONS: Proposed actions taken to address gaps	INDICATORS: How bridging the gap will be measured
Gender Gap: Young Women Have Lower Rates of Economic Participation than Young Men - Young women in Sierra Leone have more constrained employment opportunities[55], earn less, and often have less disposable income than young men. Men also earn more than women, with women accruing less than one-seventh of men's total income through their lifetimes.[56] **Underlying Causes:** - Lower incomes and lower levels of formal employment reflect the inability of many young women to go to school or participate in training due to restrictive social norms, and high rates of early marriage and early pregnancy. - Restrictive gender norms cause young women to be less likely to participate in paid work than young men. A 2018 survey revealed that most of the work done by women is unpaid. - Early marriage and early pregnancy reduce young women's opportunities for future employment and income. Working-age women who were teenage mothers have an average of one year less of education and earn 25 percent less than women who were not teenage mothers. - Young women are less likely to use the Internet for productive economic activities, due to several barriers including lack of digital skills, lack of awareness of the benefits of ICT use, and lack of relevant content. - The Government reports that improved Internet access has led to online violence against women. Lack of digital fluency and lack of awareness of cyber risks contribute to women's higher risk of experiencing online violence. Concerns about online violence can prevent women from	**Under Component 2.1:** - The digital skills trainings will be free of cost. The program will also offset participation costs by offering transportation and meal stipends. - Launch digital jobs pilot focused on connecting youth with gig work opportunities through digital job platforms. - Digital jobs pilots will provide continued support to young women after training completion, including linking with female mentors and hosting networking events. - Women participating in Train the Trainer will be hired to deliver digital skills training programs. - Digital jobs pilots will provide on-site child-care or offer subsidies / vouchers for childcare facilities, facilitating the participation of young women with children, and improving their access to training and employment opportunities. - Launch campaigns showcasing tangible ways that digital skills can improve women's livelihoods (e.g., mobile money for cash transfers; accessing government services; job opportunities). - Develop training curricula with localized, relevant content. - Awareness on cybersecurity, including online violence against women, will be incorporated as a training module. - Training curricula will teach respectful online behavior to young men and young women. - Digital jobs pilots will review the safety features of online gig platforms, including policies for experiencing and reporting harassment and harmful interactions with clients.	**IRI Level:** Youth trained under digital jobs pilot reporting new income opportunities (Number) (Baseline: 0 | Target: 600) - Of which percentage female (Baseline: 0% | Target: 40%) - Of which percentage PWD (Baseline: 0% | Target: 15%)

[55] The youth labour underutilization rate was 72.8 percent for young women compared to 59.9 per cent for young men. (Reference: ILO. 2017. Sierra Leone SWTS Country Brief. Geneva, Switzerland: International Labour Organization, https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_542024.pdf.)

[56] Government of Sierra Leone. 2018. *Sierra Leone Integrated Household Survey Report 2018.* Freetown, Sierra Leone: Government of Sierra Leone.

ANALYSIS: Project-Relevant Gender Gaps & Underlying Causes	ACTIONS: Proposed actions taken to address gaps	INDICATORS: How bridging the gap will be measured
being active online, in turn hampering their ability to launch digital businesses, build professional networks, utilize digital platforms for commerce and services, and otherwise engage in productive economic activities in the digital economy.		

ANNEX 3: Contribution to IDA20 Digital Commitments*

	IDA2020 Theme	Focus Area	Policy Commitments	Contribution of the Proposed Operation
PRIORITY COMMITMENTS				
1	**Jobs and Economic Transformation**	Expanding broadband access and usage for jobs of the future	To close the connectivity gap, IDA will support 17 IDA countries, including those which will benefit from International Finance Corporation (IFC)'s support under the IDA PSW to develop digital infrastructure, to increase inclusive, secure, and affordable access to and usage of broadband connectivity, among which are 6 landlocked countries, 4 Small States and 9 fragile and conflict-affected situations (FCS) countries. [Note: Strengthened focus on cybersecurity, data protection, and privacy.]	Component 1 will contribute to this objective by expanding access to high-speed and affordable broadband connectivity and strengthening policy, law, and regulatory framework (telecom/digital regulations, competition, leveraging private sector investment, cybersecurity, etc.) to leverage ICT use in Sierra Leone. Component 2 will boost basic digital literacy and digital skills to increasing youth population (including women and PWDs, which will contribute digital usage and digital adoption.
2		Positioning more firms for recovery, including through the adoption of digital technology	Support programs in 15 IDA countries, to strengthen private sector recovery and transformation that are well targeted, inclusive of SMEs, and support the adoption of digital technologies, with monitoring to capture distributional impacts and effectiveness. To support this, IFC will increase its digital infrastructure, with due consideration of cyber security and related issues, and its venture capital work in IDA and FCS countries.	Component 1 will support last-mile connectivity support for selected MDAs and public institutions, which will contribute to the digitalization of public services to firms which will be supported by Component 3. Digital service delivery to businesses will facilitate more efficient and accountable administration process to the firms, and create incentives for firms and businesses to adopt and use digital technologies. Component 2 will provide digital skills trainings for women, out-of-school youth, PWDs, and underserved populations. Certification program for digital skills training would motivate trained youth to use those skills at work, which contributes to micro or SME level digital adoption. Also, a series of innovation workshops and events to address local problem solving (financial inclusion, climate-smart agriculture, access to preventive healthcare information, etc.) stimulate local innovation ecosystems and strengthen digital entrepreneurship.
3	**Gender and Development** [IDA20 Special Theme]	Closing the gap in digital technology	At least 30 IDA20 operations in digital development, financial inclusion, and agriculture	Component 1 will provide connectivity in the priority rural areas where women have less access to the internet.

	IDA2020 Theme	Focus Area	Policy Commitments	Contribution of the Proposed Operation
			will increase women's access to and usage of digital technology to close gender gaps in access and usage.	Component 2 will address minimizing gender gap in digital technology by conducting basic digital literacy programs and strengthening intermediate to advanced digital skills among women and girls. In regard to digital literacy, training programs will consider flexibility, timing, and delivery platforms to ensure women and girls can participate equitably. Component 3: Creation of Digital Access Points in public locations (such as post office, community centers) will improve accessibility and inclusiveness for women to digital services. Awareness and communication programs will be tailored to women to increase their use of digital technologies their access to information and combat social norms and cultural barriers that prevent them from using digital tools and services. See Annex 2 for more detail gender analysis and additional information.
4	**Human Development** [IDA20 Special Theme]	Expanding adaptive social protection and building resilience to shocks	To ensure inclusive and effective response against shocks and crises, support at least 20 IDA countries' resilience by building adaptive social protection systems, including the use of digital technologies.	By promoting access to affordable and better internet service as well connecting government offices and public institutions (Component 1), and developing key foundational digital government building blocks such as (i) an enterprise architecture, (ii) and interoperability framework, or (iii) electronic document management and sharing system (Component 3), the project will lay the foundation for building digitalized adaptive social protection systems to increase the country's resilience to shock and crisis.
5		Expanding access to core services for persons with disabilities	To promote inclusive societies, support at least 18 IDA countries to meet the needs of persons with disabilities by implementing the principles of universal access through projects in education, health, social protection, water, urban, digital development, and/or transport. Ensure inclusive and effective response against shocks and crises, support at least 20 IDA countries'	This project will address digital inclusion and mainstreaming PWDs agenda throughout the project activities. Project design addressing PWDs is fully reflected from the multi round of stakeholder consultations and focused group interviews which were conducted during the project preparation. Component 1 will support mainstreaming inclusive digital transformation agenda in enabling environment (policy, law, and regulatory framework). Also the project will improve PWDs access to digital services by supporting ATs to the OPDs. Component 2 will provide digital literacy and skills development scheme to PWDs. Training contents, modality and locations will be carefully designed to

	IDA2020 Theme	Focus Area	Policy Commitments	Contribution of the Proposed Operation
			resilience by building adaptive social protection systems, including the use of digital technologies.	ensure PWDs' accessibility and participation. Component 3 will support universal access and interface design of digital services (websites, service portals, information services, etc.) which are compatible for AT usage.
6	**Governance and Institutions**	Enabling digital government services	Support at least 15-20 IDA countries to adopt universally accessible GovTech policies, regulations or solutions to enable digital government services.	Component 1 will support foundational digital accessibility and digital resilience by connecting selected government offices and public institutions and strengthening cybersecurity in key sectors. Component 3 will strengthen key entities' institutional capacity and establish the enabling policy, legal and regulatory, institutional, and technical frameworks for digital government. It will assist the government in building the technological foundations and digital capabilities for a "whole-of-government" approach to public sector digitalization. This component will also strengthen government service delivery infrastructure and networks, and implementation of selected prioritized (G2G, G2B, and G2C) digital services.

** As proposed in the October 7, 2021 Technical Annex prepared for the 3rd IDA20 Replenishment Meeting that took place on December 15, 2021. Final list and wording of commitments pending official WBG confirmation and disclosure.*