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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED LOAN

IN THE AMOUNT OF US$100 MILLION

TO THE

REPUBLIC OF CONGO

FOR A

CONGO DIGITAL ACCELERATION PROJECT

May 11, 2022

Digital Development Global Practice
Governance Global Practice

Western and Central Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective May 06, 2021)

Currency Unit = CFA Franc (XAF)
XAF 619 = US$1

FISCAL YEAR
January 1 - December 31

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ABBREVIATIONS AND ACRONYMS

3G	Third Generation Technology
4G	Fourth Generation Technology
ACSI	*Agence Congolaise des Systèmes d'Information* (Congolese Agency for Information Systems)
AFD	*Agence Française de Développement* (French Development Agency)
AfDB	African Development Bank
AI	Artificial Intelligence
ANSSI	*Agence Nationale pour la Sécurité des Systèmes d'Information* (National Agency for the Security of Information Systems)
ARPCE	*Agence de Régulation des Postes et des Communication Electroniques* (Regulation Agency for Post and Electronic Communication)
AU	African Union
CAB	Central African Backbone
CE	Citizen Engagement
CFI- CIRAS	*Centre de Formation Informatique du Centre Informatique de Recherche de l'Armée et de la Sécurité* (IT Training Center of the IT Research Center for the Army and Security)
CIRAS	*Centre Informatique de Recherche de l'Armée et de la Sécurité* (IT Research Center for Army and Security)
CPF	Country Partnership Framework
CR	Civil Registration
CSIRT	Computer Security Incident Response Team
CT	Congo Telecom
DA	Designated Account
DE4A	Digital Economy for Africa
DGDEN	*Direction Générale du Développement de l'Économie Numérique* (General Directorate for Digital Economy Development)
DPC	Data Protection Commission
DRC	Democratic Republic of Congo
E&S	Environmental and Social
EGDI	E-Government Development Index
EIB	European Investment Bank
EU	European Union
ESCP	Environmental and Social Commitment Plan
ESMF	Environmental and Social Management Framework
ESHS	Environmental, Social, Health and Safety
FASUCE	*Fonds pour l'Accès et le Service Universel des Communications Électroniques* (Universal Service Fund for Electronic Communications)
FIA	*Fibre Inter-Administration* (Inter-Administration Fiber)
FM	Financial Management
FTTH	Fiber to the Home

G2B	Government to Business
G2G	Government to Government
G2P	Government to People
GBV	Gender-Based Violence
GEMS	Geo-Enabling Initiative for Monitoring and Supervision
GDI	Gender Development Index
GHG	Greenhouse Gas
GII	Gender Inequality Index
GoC	Government of Congo
GRID	Green, Resilient, and Inclusive Development
GRM	Grievance Redress Mechanism
GDP	Gross Domestic Product
GSMA	Global System for Mobile Communications Association
GUOT	*Guichet Unique des Opérations Transfrontalières* (Single Window for Cross-border Operations)
HCI	Human Capital Index
HEIS	Hands-on Expanded Implementation Support
ICB	International Competitive Bidding
ICDL	International Computer Driving License
ICT	Information and Communication Technologies
ID	Identification
ID4D	Identification for Development
IFR	Interim Financial Reports
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IFC	International Finance Corporation
ISP	Internet Service Provider
IT	Information Technology
ITU	International Telecommunication Union
LMI	Lower Middle-Income
MDAs	Ministries, Departments, and Agencies
MEPSIR	*Ministère de l'Economie, du Plan, de la Statistique et de l'Intégration Régionale* (Ministry of Economy, Planning, Statistics, and Regional Integration)
MFD	Maximizing Finance for Development
MICS	Multiple Indicator Cluster Surveys
MNO	Mobile Network Operator
MoF	Ministry of Finance
MoJ	*Ministère de la Justice, des Droits humains et de la Promotion des peuples autochtones* (Ministry of Justice, Human Rights and Promotion of Indigenous people)
MoSMEs	*Ministère des Petites et Moyennes Entreprises, de l'Artisanat et du Secteur Informel* (Ministry of Small and Medium Enterprises, Handicrafts and the Informal Sector)
MoSPO	*Ministère de la Sécurité et de l'Ordre Public* (Ministry of Security and Public Order)

MoTA	*Ministère de l'Administration du Territoire, de la Décentralisation et de Développement* (Ministry of Territorial Administration, Decentralization and Local Development)
MPTEN	*Ministère des Postes, Télécommunications et de l'Économie Numérique (*Ministry of Posts, Telecommunications, and Digital Economy)
MSMEs	Micro, Small, and Medium Enterprises
M&E	Monitoring and Evaluation
NDC	Nationally Determined Contributions
NGO	Non-Governmental Organization
PCN	*Projet de Couverture Nationale* (National Coverage Project)
PDO	Project Development Objective
PIU	Project Implementation Unit
PIM	Project Implementation Manual
PND	*Plan National de Développement* (National Development Plan)
PPSD	Project Procurement Strategy for Development
SBD	Standard Bidding Documents
SEP	Stakeholder Engagement Plan
SMP	Significant Market Power
SOE	State Owned Enterprise
SOPECO	*Société des Postes et d'Épargne du Congo* (Posts and Savings Company of Congo)
STEM	Science, Technology, Engineering, and Mathematics
STEP	Systematic Tracking of Exchanges in Procurement
SSA	Sub-Saharan Africa
TA	Technical Assistance
ToR	Terms of Reference
TVET	Technical and Vocational Education and Training
UIN	*Numéro d'Identification Unique* (Unique Identity Number)
UN	United Nations
UNESCO	United Nations Education, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund
USSD	Unstructured Supplementary Service Data
WACS	West Africa Cable System
WBG	World Bank Group

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DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Congo, Republic of	Congo Digital Acceleration Project	
Project ID	**Financing Instrument**	**Environmental and Social Risk Classification**
P175592	Investment Project Financing	Substantial

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
02-Jun-2022	31-Dec-2027

Bank/IFC Collaboration

No

Proposed Development Objective(s)

The PDO is (i) to increase broadband internet access to underserved populations, and (ii) to improve public sector's capacity to deliver digitally enabled public services.

Components

Component Name	Cost (US$, millions)

Component 1. Strengthening the Enabling Environment for Digital Transformation Acceleration	17.50
Component 2. Expanding and Increasing Digital Broadband Connectivity and Digital Inclusion	42.50
Component 3. Improving Delivery of, and Access to People-centric Digitally Enabled Public Services	33.00
Component 4. Project Management, Monitoring, and Evaluation	7.00
Component 5. Contingent Emergency Response	0.00

Organizations

Borrower:	The Republic of Congo
Implementing Agency:	Ministry of Posts, Telecommunications and Digital Economy

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	100.00
Total Financing	100.00
of which IBRD/IDA	100.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	100.00

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2022	2023	2024	2025	2026	2027	2028
Annual	0.00	10.46	11.88	12.68	13.44	24.23	39.42
Cumulative	0.00	10.46	22.33	35.01	48.44	72.67	112.08

INSTITUTIONAL DATA

Practice Area (Lead)	Contributing Practice Areas
Digital Development	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	High
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Substantial
8. Stakeholders	Moderate
9. Other	Substantial
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	Not Currently Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	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.3. (d) No later than three (3) months after the Effective Date, the Borrower shall cause the PIU to

(i) Recruit and thereafter maintain: (a) an internal auditor; (b) an external auditor; (c) a monitoring and evaluation specialist; (d) a communications specialist; and (e) an administrative assistant; all with terms of reference, qualifications and experience satisfactory to the Bank; and

(ii) Acquire, and, thereafter, maintain at all times during the Project implementation period, a management accounting software, with specifications satisfactory to the Bank.

Sections and Description

Schedule 2, Section I, C.1. The Borrower shall, not later than November 30 of each year of Project implementation, prepare and furnish to the Bank for its approval, an annual work plan and budget ("Annual Work Plan and Budget") containing all activities proposed to be carried out under the Project and a proposed financing plan for

expenditures required for such activities, setting forth the proposed amounts and sources of financing.

Sections and Description

Schedule 2, Section I, D. Prior to awarding any CAPEX Subsidy under Part 2.1(b) of the Project, the Borrower shall enter into an operator's contract with each Private Telecom Operators in accordance with Section 5.13 of the General Conditions under terms and conditions approved by the Bank for such purpose ("CAPEX Subsidy Agreement").

Each CAPEX Subsidies Agreement shall include the following terms and conditions and other such conditions as may be specified in the PIM:

a. the CAPEX Subsidy shall be provided on a non-reimbursable grant basis;

b. the Borrower shall require the Private Telecom Operator to: (i) deliver the telecom infrastructure project under the CAPEX Subsidy Agreement with due diligence and efficiency and in accordance with sound technical, economic, financial, managerial, environmental and social standards and practices satisfactory to the Bank; (ii) provide, promptly as needed, the resources required for the purpose; (iii) procure the goods and services to be financed out of the CAPEX Subsidy in accordance with the provisions of this Agreement; (iv) maintain policies and procedures adequate to enable it to monitor and evaluate in accordance with indicators acceptable to the Association, the progress of the project thereunder and the achievement of its objectives; (v) maintain a financial management system and prepare financial statements in accordance with consistently applied accounting standards acceptable Bank, and promptly furnish the statements as so audited to the Borrower and the Bank; (vi) enable the Borrower and the Bank to inspect the Private Telecom Operator, its operation and any relevant records and documents; and (vii) prepare and furnish to the Borrower and the Bank all such information as the Borrower or the Bank shall reasonably request relating to the foregoing;

c. the Borrower shall exercise its rights under the CAPEX Subsidy Agreement in such manner as to protect the interests of the Borrower and the Bank and to accomplish the purposes of the Project;

d. the Private Telecom Operator shall have the right to further use of the proceeds of the CAPEX Subsidy suspended or terminated or have the obligation to refund all or any part of the amount of the CAPEX Subsidy then withdrawn, upon the Private Telecom Operator's failure to perform any of its obligations under the CAPEX Subsidies Agreement, in accordance with its terms; and

e. except as the Bank shall otherwise agree in writing, the Borrower shall not assign, amend, abrogate, or waive, or permit to be assigned, amended, abrogated, or waived, the CAPEX Subsidy Agreement or any of its provisions.

Sections and Description

Schedule 2, Section II. The Borrower shall furnish to the Bank each Project Report not later than forty-five (45) days after the end of each calendar semester, covering the calendar semester. Except as may otherwise be explicitly required or permitted under this Agreement or as may be explicitly requested by the Association, in sharing any information, report or document related to the activities described in Schedule 1 of this Agreement, the Recipient shall ensure that such information, report or document does not include Personal Data.

Sections and Description

Schedule 2, Section IV. The Borrower shall ensure that activities under Part 1.2(c)(ii) of the Project shall be financed and implemented in accordance with the relevant AWPB, pursuant to a program set forth in the PIM, exclusively for the benefit of the Borrower's civilian population and that the Loan proceeds shall not be used to finance any activities that relate to national security or defense or any other related purpose.

Sections and Description
ESCP: Agreement on processing and recycling center for electronic waste, including hazardous materials shall be established no later than three months after project effective date and thereafter implemented throughout project implementation.

Sections and Description
ESCP: Environmental and social specialists with GBV and gender skills shall be hired not later than two months after project effective date.

Sections and Description
ESCP: A draft ESMF was already prepared and consulted and will be disclosed before appraisal. The ESMF shall be updated as needed, finalized, and redisclosed no later than 1 month following the Effective Date.

Sections and Description
ESCP: A draft IPPF was already prepared and disclosed before appraisal, and shall be updated as needed, redisclosed no later than 1 month following the Effective Date. Thereafter, implement IPPF throughout Project implementation.

Sections and Description
ESCP: A draft RPF was prepared, consulted, disclosed, by appraisal. A final version shall be updated as needed, finalized, and redisclosed before disbursement of Component 2 of Project. Thereafter, implement the RPF throughout Project implementation.

Sections and Description
ESCP: A GBV Action Plan was already prepared and disclosed, and shall be updated as needed, finalized, and redisclosed no later than 1 month following the Effective Date.

Sections and Description
ESCP: A LMP was already prepared and disclosed before appraisal, and shall be updated as needed, finalized, and redisclosed no later than 1 month following the Effective Date. Thereafter, implement LMP throughout Project implementation.

Conditions

Type	Financing source	Description
Effectiveness	IBRD/IDA	The PIU has been established in form, manner and with terms of reference and resources all satisfactory to the Bank, including the Project Coordinator, technical specialists in charge of Project Parts (an organization and management expert, a digital government (eGov) expert, a telecom specialist), a procurement specialist, a financial management specialist, a social safeguard and gender specialist, and an environmental specialist.

Type	Financing source	Description
Effectiveness	IBRD/IDA	The PIM has been prepared and adopted in form and manner satisfactory to the Bank.
Type	Financing source	Description
Effectiveness	IBRD/IDA	The Project Grievance Mechanism under ESS 10, section 10.2 of the ESCP, has been adopted by the Borrower and is operational, all in form and manner acceptable to the Bank.
Type	Financing source	Description
Disbursement	IBRD/IDA	No withdrawal should be made under Category (2), unless and until the following conditions have been met: (i) The Borrower has hired in form and manner, and under terms of reference, all satisfactory to the Bank, an independent auditor or an independent auditing firm, for purposes of carrying out the audit of each project financed under a CAPEX Subsidy Agreement; and (ii) At least one CAPEX Subsidy Agreement has been executed with a Mobile Telecom Operator in form and substance satisfactory to the Bank

I. STRATEGIC CONTEXT

A. Country Context

1. **The Republic of Congo (Congo) is a lower middle-income (LMI) country located in the western coast of Central Africa, with a population of 5.69 million and poverty on the rise despite rich natural resources.** The economy remains undiversified, with the oil sector accounting for nearly 80 percent of exports in 2019-20. The Congolese economy is estimated to have contracted by 3.5 percent in 2021 driven by a decline in oil production. The oil sector contracted by an estimated 9.3 percent, while non-oil growth reached an estimated 3.4 percent in 2021, the first year of growth since 2014. In 2020, Congo's real Gross Domestic Product (GDP) growth was revised downwards from 4.38 percent to 0.77 percent - due to the sharp decline in oil prices[1] and the impact of the COVID-19 pandemic. In recent years, public debt in Congo has increased significantly due to the continued buildup of domestic and external arrears. The country is classified as "in debt distress" with public debt to GDP reaching 101 percent in 2020.[2] Poverty is on the rise, and more vulnerable households are at risk of falling into poverty**.** The prosperity that Congo enjoyed with the oil windfall did not trickle down to the entire population, and the urban and rural divide continues to grow, with the poverty headcount increasing from 64.8 to 69.4 percent in rural areas. The poverty rate in Congo is projected to increase to 53.4 percent in 2022, the largest increase during the last decade.

2. **The development of a strong and resilient digital economy is an integral part of Congo's strategy for economic diversification.** The new National Development Plan (PND[3] 2022-2026), approved in January 2022, commits to make the development of the digital economy a priority for laying out the country's development priorities, including governance, human capital, infrastructure development, and public service delivery. In 2021, the Information Communication Technology (ICT) sector contribution to GDP was estimated between 2.7 and 3.0 percent[4] annually, which shows the significant sector impact on overall productivity and economic growth. The COVID-19 pandemic has further highlighted the significance of fostering the emergence of a digital economy, particularly for access-to-information, public service delivery, and remote learning/work.

3. **Girls and women are at a disadvantage due to limited use of the internet, time to devote to income-generating activities, and access to services (see Annex 2 for more details on gender equality assessment).** The digital gap between men and women widens across the levels of education, while a noticeable gender disparity in education translates into similar employment outcomes disparities in the country. For instance, women aged 20-24 are more likely to use the internet if residing in urban areas and have at least a secondary education in Congo.[5] Moreover, ownership of digital devices and use of the internet is highly associated with socio-economic status, as women living in poor households

[1] World Bank, 2021. Republic of Congo 8th Economic Update. Living in times of Covid-19
[2] International Monetary Fund, 2020.
[3] *Plan National de Développement*
[4] Regulation Agency for Post and Electronic Communication (*Agence de Régulation des Postes et des Communication Electroniques,* ARPCE), 2020.
[5] Ministry of Economy, Planning, Statistics and Regional Integration & the United Nations International Children's Emergency Fund (UNICEF), 2015. Multiple Indicator Cluster Surveys (MICS) 5th round 2014-2015, Final Report, Brazzaville, Congo: National Institute of Statistics & UNICEF. *https://mics-surveys-prod.s3.amazonaws.com/MICS5/West%20and%20Central%20Africa/Congo/2014-2015/Final/Congo%202014-15%20MICS_French.pdf*

hardly ever used the internet (less than 2 percent).[6] The Digital Gender Gap[7] calculates a gender gap of slightly below 20 percent in internet use and about 13 percent in mobile use. The rate of cell phone ownership among women in Sub-Saharan Africa (SSA) is around 69 percent, which is 10 percentage points less than for men[8]. While primary data around the digital gender divide is unavailable, estimates suggest that women's use of digital services in Congo for income-generating activities and administrative procedures are much lower than men's use.

B. Sectoral and Institutional Context

4. **The Government of Congo (GoC) is committed to advancing digital transformation, adopting a five-year Digital Economy Strategy "Vision Congo Digital 2025", and putting in place the institutional arrangement for its coordination. Yet, the implementation must follow suit.** The Ministry of Posts, Telecommunication, and Digital Economy (MPTEN[9]) is mandated to implement the national digital transformation agenda, which revolves around three main pillars: (i) people-centric digital services (e-citizen); (ii) support to the private sector (e-business); and (iii) acceleration of digital government service uptake. After facing numerous uncoordinated digital projects across ministries and departments, the GoC set up an inter-ministerial digital sector strategic committee to provide strategic coordination to implement the Vision Congo Digital 2025 strategy. The Directorate General for Digital Economy Development (DGDEN[10]) within MPTEN is commissioned to operationalize the strategy across ministries and to foster a whole-of-government approach.[11] Nonetheless, successful implementation of the Vision Congo Digital 2025 strategy requires a clear and prioritized roadmap, as well as Monitoring and Evaluation (M&E) mechanisms. Capacity building is also needed to reinforce the skills of the GoC in project management and coordination of digital transformation.

5. **Despite recent progress on the enabling legal and regulatory framework, challenges remain in establishing a robust and secure environment for online transactions and clear data protection policies,** to align with the World Development Report 2021 on Data for Better Lives.[12] Under the leadership of MPTEN, Congo recently passed several laws[13] related to data protection and cybersecurity. However, effective enforcement and application have proven to be problematic. It is key to develop cybersecurity strategies and establish key policies, procedures, and guidelines to provide adequate safeguards for the processing of personal data. Further legislative improvements are needed to support ICT infrastructure investments, the development of digital public services and of digital government (particularly in cybersecurity, data governance, and electronic procedures such as identification). Principles of data use and protection, such as "once only", shared standards and interoperability, and adoption of a unique identification number, that could help reduce data

[6] Ibid.
[7] Digital Divide between men and women, which can be retrieved from: https://www.digitalgendergaps.org/
[8] Global System for Mobile Communications Association (GSMA) Intelligence, 2018.
[9] *Ministère des Postes, Télécommunications et de l'Économie Numérique*
[10] Direction Générale du Développement d'Economie Numérique
[11] The steering committee (*Comité de Pilotage*) established by the Ministry of Plan , by a November 3, 2021 *Note de service*, will (i) define and support the national strategy for the development of the digital economy as well as secondary national strategies related to digital transformation (i.e., e-Government, trust services, digital capability framework); (ii) guide and coordinate e-Government development activities and projects to be carried out at the sectoral level, while ensuring their overall coherence, aiming at the dual ambition of better service to users and greater performance of public administrations; and (iii) define standards for the digitalization of government systems and services.
[12] Chapter 6 on data policies, laws, and regulations: creating a trust environment. World Development Report 2021: Data for Better Lives. Available at https://www.worldbank.org/en/publication/wdr2021
[13] Such as Personal Data Protection (Law No.29/2019), Electronic Transactions (Law No.37/2019), which regulates e-commerce, e-certification, e-signature; Cybersecurity (Law No.26/2020), and Cybercrime (No.2720).

redundancies and leakages in national registers and sector databases, promote user-centricity, and enable better targeting and monitoring in delivering services, are still missing. Additionally, Congo lacks effective specialized agencies to enforce the legal and regulatory framework, guarantee personal data protection, and mitigate risks related to cyber threats. For instance, the operationalization of the National Agency for the Security of Information Systems (ANSSI)[14] and the Personal Data Protection Commission is overdue.

Boosting equitable and affordable access to quality broadband infrastructure

6. **The GoC launched several national and regional fiber optic infrastructure projects on the first and the middle mile of the broadband value chain[15] to position Congo as a traffic hub and improve access to broadband services.**

7. **International fiber optic connectivity.** Congo is currently connected to only one submarine cable (West Africa Cable System (WACS[16]), with a landing station in Pointe-Noire, exclusively managed by the state-owned incumbent operator Congo Telecom (CT). Due to the current instable international connectivity (several outages occurred in 2020 and amid the presidential election in March 2021) and increased demand, there is an urgent need for diversification. Redundancy via terrestrial fiber optic links (currently owned by the GoC) remains limited. CT has an interconnection with the Democratic Republic of Congo (DRC) since 2017 (10GB-capacity linking Brazzaville to Kinshasa through a sub-river cable) and Liquid Telecom, a leading private telecommunication operator in Africa, inaugurated a 20GB-capacity wireless link across the Congo River between Congo and DRC in September 2021. The interconnection with Gabon established under the World Bank-financed Central African Backbone (CAB) regional project[17] (P122398) is operated and commercialized by Mambs Services (a Congolese private sector company) under a seven-year contract. Under the CAB Project[18], financed by the African Development Bank (AfDB), Congo should also interconnect with Cameroon and the Central African Republic. Due to COVID-19, the project has faced delays and is now expected to be completed by the end of 2022. Additionally, Meta-backed (previously Facebook) submarine cable project, 2Africa, plans to install a submarine cable landing station in Pointe-Noire by the end of 2022. The arrival of the new landing station cable is expected to help reduce prices and contribute to strong growth in broadband subscription.

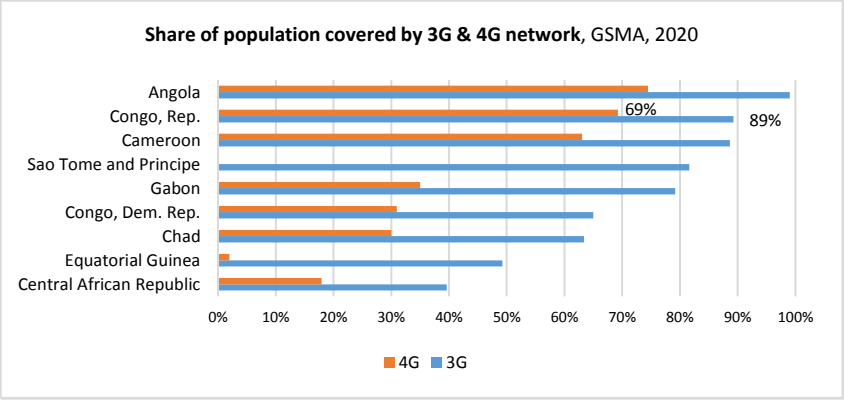
[14] *Agence Nationale de la Sécurité des Systèmes d'Information*
[15] The broadband network value chain to develop universal, affordable and good quality internet comprises of four broad segments. The first mile is where the internet enters the country. The middle mile is where the Internet passes through the country. The last mile is where the Internet reaches the end-users. (https://broadbandcommission.org/wp-content/uploads/2021/09/WGDigitalMoonshotforAfrica_Report2020-1.pdf)
[16] Stretching 14,530 km, the WACS was commissioned in 2012 and now connects 15 countries, including Congo. The initial design capacity was 5.12 Tbit/s running at 10Gbps per wavelength and later upgraded to 14.4Tbit/s with 100Gbps in 2015 by Huawei Marine Solution. In 2019, the same firm completed a second upgrade to support 32*100Gbps per wavelength. Source: Submarine Cable Networks.
[17] CAB3 (P122398) for the Republic of Gabon and CAB4 (P122776) for the Gabonese Republic. The project development objectives of the CAB3 and the CAB4 projects were to contribute to increase geographical reach and usage of regional broadband network services and reduce their prices in Congo and Gabon. Traffic is exchanged between operators across border as of December 2020 after infrastructural issues on the Congolese side were fixed.
[18] This EUR 66.55 million worth of project seeks to enhance regional integration and enable access to the neighboring countries through fiber optic cable links and increase tax revenue, reduce the cost of economic and social transactions, and create employment opportunities for youths. The project revolves around four main components: (i) ICT infrastructure; (ii) ICT applications and services; (iii) institutional support and capacity building; and (iv) project management. Source: African Development Bank, 2016. Central Africa Backbone (CAB) Project – Congo Component.

8. **National fiber optic connectivity**. The national coverage project (PCN[19]), funded by the GoC, is built around 3,000 km[20] of fiber optic backbone (connecting Pointe-Noire, Dolisie, Brazzaville, Oyo, and Ouesso) and several metropolitan optical loops in Brazzaville, Pointe-Noire, and Oyo[21] for a total of 700 km. PCN aims at improving broadband access nationally. PCN is managed by the Ministry of Territorial Development, Infrastructure and Road Maintenance[22] and is operated and commercialized by CT. The national electricity company (E2C, formerly SNE) has deployed 1,100 km of fiber optic cable in Congo since 2015 for its own usage. In September 2020, Silicone Connect was awarded a public service concession for 10 years to operate and commercialize the unused capacity of this E2C network. Even though only state-owned enterprises own fiber optic backbones in Congo (CT and E2C), the arrival of Silicone Connect on the broadband wholesale market may foster competition and lower prices**.**

9. **While the geographical reach of mobile broadband networks has significantly increased, uptake of broadband internet services remains hampered by high prices.** Mobile networks are operated by private telecoms operators (MTN and Airtel)[23] and cover 89 percent of the population for 3G and 69 percent for 4G.[24] The nominal subscription rate in Congo stands at 104 percent[25], while the "unique" mobile broadband subscription rate per 100 inhabitants stands at 25 percent in 2021 according to the Global System for Mobile Communications (GSMA) (see Figure 1). Even though broadband prices have significantly dropped as mobile operators keep lowering tariffs,[26] prices are still high. In 2020, the average price of a 1GB data plan was 3.86 percent of the average monthly income compared to the regional average of 8.42 percent. However, it is expensive compared to leading countries[27] in the SSA region and the "1 for 2" measures for affordable internet (where the price of 1GB mobile data is 2 percent of average monthly income). With respect to fixed broadband, the household penetration rate for broadband internet subscriptions is less than 1 percent (or 3,510 subscribers) compared to the 8 percent[28] regional average. CT dominates the fixed broadband market through fiber-to-home (FTTH) technology, with a few alternatives in the market but with low uptake.[29]

[19] *Projet de Couverture Nationale*
[20] Secrétariat Général du Gouvernement, 2019. *Journal officiel de la République du Congo du jeudi 4 juillet 2019*. https://www.sgg.cg/JO/2019/congo-jo-2019-27.pdf
[21] World Bank, 2020. The Digital Economy Assessment Republic of Congo.
[22] *Le Ministère du territoire, des infrastructures et de l'entretien routier.*
[23] It must be noted that Congo Telecom (CT) does not have a mobile license to date; however, the granting of a 4G license to CT was foreseen in Phase 3 of the PCN project.
[24] GSMA Intelligence, 2021. MTN has the most 3G coverage at 87.5 percent followed by Airtel (72.6 percent) and Congo Telecom (16.28 percent) as of last quarter of 2020.
[25] ARPCE, November 2020. Monthly report on mobile network.
[26] The weighted average tariff for mobile data per Megabyte dropped to 11.7 percent in October 2020 from the previous year. Source: ARPCE, October 2020. *The Monthly report on mobile internet network.*
[27] DE4A Scorecard, 2020. 1GB mobile internet costs less than 1 percent of the average monthly income in Gabon, Ghana, Rwanda, and Mauritius.
[28] World Bank, 2020. The Digital Economy for Africa (DE4A) assessment for the Republic of Congo.
[29] A Belgium-based Internet Service Provider GBS offers VSAT and WiMAX services in Brazzaville, while GVA (Vivendi Group subsidiary) offers FTTx services in Pointe-Noire. MTN and Airtel also provide WiMAX services, though they mainly target businesses rather than households.

Figure 1. Mobile broadband connectivity



Source: GSMA 2020

10. **There is a risk of a lasting digital divide if efforts undertaken by the Universal Service Fund to extend coverage of broadband networks in underserved and rural areas are not stepped up.** Aimed to finance projects that would improve coverage in rural and underserved areas, the Universal Service Fund (FASUCE)[30] was created in 2017 and made operational in 2019. The FASUCE is primarily financed by mobile network operators (MNOs), contributing up to 1 percent of their annual turnover. In 2021, the FASUCE seeks to connect at least 40 small villages[31] and educational facilities in rural areas.[32] Yet, many small cities and villages are still unconnected. Use of the internet is also significantly different when it comes to socioeconomic and gender aspects. Less than 1 percent of women (aged 15-24) living in the poor rural household use the internet once per year, while the number increases up to 53.1 percent for women in wealthy urban households. As for men, internet use is more frequent with 5.5 percent of men in the poorest households using the internet once per year, compared to 75.8 for men living in wealthy households.[33] On the other hand, with the advent of mobile broadband services and familiarity with mobile devices, the public is active on social network platforms (including in the rural areas), and the use of digital services is steadily increasing.

11. **The ability of the sector regulator, Regulation Agency for Post and Electronic Communication (ARPCE)[34], to implement regulations to level the playing field has been a frequent concern for private sector operators and service providers.** CT, despite its market share, is not appropriately regulated. While the ARPCE began a consultation into the designation of Significant Market Power (SMP) in telecom markets in 2017-2018 to impose appropriate obligations on operators with significant market power, it had not published an official decision as of January 2021.

Accelerating government-wide digital transformation

[30] *Fonds pour l'Accès et le Service Universel des Communications Électronique*
[31] Including (i) Tsoumbou in the Kouilou department; (ii) Loulomboand Vindza in the Pool; (iii) Minga in the Bouenza; (iv) Okouet in the Cuvette; (v) Ekouasende, Ossele, Okeke and Ngania in the Plateaux; (vi) Elogo in the Sangha; (vii) Binanga and Moungoundou in the Niari; and (viii) Edzouga and Vaga in the West Cuvette.
[32] As of November 2020, 30 locations are connected while 13 school multimedia rooms are being renovated, equipped, and connected to the internet and electricity using solar panels (two of which have been connected to the internet: General Leclerc Military Preparatory School and Technical College of Oyo).
[33] United Nations Education, Scientific and Cultural Organization (UNESCO) & National Institute of Statistics, 2015. MICS Survey Republic of Congo. https://mics-surveys-prod.s3.amazonaws.com/MICS5/West%20and%20Central%20Africa/Congo/2014-2015/Final/Congo%202014-15%20MICS_French.pdf
[34] *Agence de Régulation des Postes et des Communications Electroniques*

12. **The development of digital public services in Congo is timid, with only a few services digitalized, focusing mainly on improving core government functions**. The Digital Economy country diagnostic conducted in 2020[35] noted that access and uptake of digital public services remain limited. Congo is ranked in the lowest quartile of the 2020 E-Government Development Index (EGDI).[36]***Error! Reference source not found.*** Additionally, Congo ranks below the world and regional averages in providing online services and e-participation (ranked 166th out of 193 countries). The total number of digital public services currently offered is unknown, as Ministries, Departments, and Agencies (MDAs) lack a centralized monitoring system to track digital services and related usage. Public sector digitalization efforts have focused mainly on government core back-office systems (Government to Government [G2G]) and government online informational portals. Only a handful of transactional digitally enabled public services and digital platforms (Person-to-Government **Error! Reference source not found.**[P2G]) — primarily as part of the tax and customs administration reforms[37] — have been implemented.[38] A teleservice platform[39] has been established to allow all ministries to offer online services and carry out administrative formalities online, yet with limited availability of information and service adoption. The limited digital skills within the GoC and among the general population also limit the uptake of such services.

13. **Although the GoC has prioritized the modernization of public services through digitalization, past uncoordinated investments in digital public platforms have resulted in solutions with limited interoperability and scalability potential**. In the past years, MDAs have developed their own array of back-office systems to address their own functional needs (e.g., financial management, tax collection, people registration). Smarter investments are needed in shared data infrastructure and key safeguards and enablers.

(i) **Interoperability.** Secure interoperability between government applications and databases, coupled with adequate protection for personal data and privacy frameworks, would ensure user-friendly access to different public services, reduced fraud, improved efficiency of public expenditures, and quality of services. However, the intermediate layer of interoperability protocols and shared repositories are inexistent in Congo, although this is a key priority for the GoC. Hence, the development of common standards, norms, and frameworks for digitalization and an interoperability platform will be implemented by the Government with support from the European Investment Bank (EIB) and the European Union (EU).

(ii) **Cybersecurity.** Congo's cybersecurity preparedness level is at a nascent stage. According to the latest available data from the International Telecommunication Union (ITU) in 2018, the country's cybersecurity commitment index was rated 0.17 (compared to 1.0, equal to high

[35] World Bank Group, DE4A in Congo , 2020. Digital Economy for Africa (DE4A) Country Diagnostics provides a snapshot of the state of the digital economy in a given country for each of the five pillars of the DE4A initiative (digital infrastructure, digital public platforms, digital financial services, digital businesses, and digital skills).

[36] Ranked 160th out of 193 countries with a score of 0.37, below the Africa region's average of 0.39.***Error! Reference source not found.***

[37] The observation of trends related to the digitalization of tax revenues will allow, in the short and medium-term, to assess the impact of digital taxation in the Republic of Congo.

[38] This portal implements remote procedures for the declaration and payment of taxes. It also allows the consultation of taxpayers' files. The portal is interconnected to the integrated system of public finance management (SIGFIP). Officially launched on July 1, 2020, it currently covers 16 types of taxes and plans to increase the number in 2021 to eventually cover all of them. In addition, the Inter-Administration Fiber (*Fibre Inter-Administration,* FIA) network was launched in 2010 by MoF to connect and interconnect the financial authorities under the e-Tax Project and several other government sites. The second phase of the project is currently ongoing, to upgrade the existing network and connect 18 additional premises (12 sites will require interior work including IT room, wiring, and electrical security) for a total estimated cost of US$6.2 million.

[39] https://www.teleservices.gouv.cg/

commitment). The newly adopted legislation on Cybersecurity created ANSSI. However, the agency still needs to be operational and staffed, followed by (i) adopting a clear cybersecurity strategy and roadmap; (ii) setting up a National Computer Security Incident Response Team (that will be funded and supported by the EIB and the EU project); (iii) strengthening the management of Public Key Infrastructure; and (iv) setting up policies and standards according to its approved roadmap.[40]

(iii) **Data infrastructure and systems**. The GoC does not have access to adequate data hosting capacity to enable the full digitalization of public services. The data center market environment in Congo has available land and international connectivity infrastructure. However, power outages make the infrastructure dependent on generators, whose costs reduce competitiveness. An AfDB-funded project is building a national Tier 3 data center and its backup. As the country seeks to accelerate digital transformation, the GoC has also to define a national data hosting and management strategy and to make institutional arrangements for the management of data hosting infrastructures, data governance, financing model, and cloud computing usage (with choices of public, private or hybrid cloud models).

14. **Congo also needs to modernize the ID ecosystem to make it an enabler for the digital transformation.** Although the current rate of under-5 birth registration is close to universal (96 percent), the Civil Registration (CR) system — decentralized and operated by municipal officials but overseen by the Ministry of Territorial Administration, Decentralization and Local Development[41] (MoTA), along with other involved ministries notably the Ministry of Justice (MoJ)[42] and the Ministry in charge of Health and the Population — is outdated and still records on paper the ten (10) acts[43] related to a person's stage of life. In the urban areas of Brazzaville and Pointe-Noire, digitalization remains uneven across the different CR centers. This creates barriers for the population to access CR documentation required by law for accessing other services.[44] The 2018 Identification for Development's (ID4D) Findex survey estimated that 40.7 percent of the population above age 15 have no national identification (ID), with 44.1 percent of women having no ID compared to 37.2 percent of men.[45] The main reasons for non-registration include: (i) lack of familiarity with the CR process and its benefits; (ii) legal requirement to have a birth certificate to access ID services and essential administrative procedures (marriages, criminal records, etc.); (iii) cumbersome procedures requiring evidence that is difficult to obtain at times, in particular in case of late birth registration; and (iv) difficulties accessing the registration agencies (distance).[46] These barriers are exacerbated by CR offices' uneven access to broadband and by the fragmentation of Congo's identification system, constraining the population to multiple registration processes and generating duplication of identity information, data protection issues, and high costs for the GoC. Apart from the National ID card system operated by the National Police and overseen by the Ministry of Security and Public Order (MoSPO)[47], several functional ID systems

[40] In this regard, MPTEN has initiated a dialogue with the European Union as part of its Cyber for Development (CYBER4Dev) project to increase the country's resilience against cyberattacks and personal data breaches while identifying the priority activities of public institutions as well as necessary policies related to cybersecurity.

[41] *Ministère de l'Administration du Territoire, Décentralisation et Développement Local*

[42] *Ministère de la Justice, des Droits humains et de la Promotion des Peuples Autochtones*

[43] The Family Code refers to three major registries (birth, death, and marriage) and lists the following acts: Birth, Adoption, Disownment, Acknowledgment of filiation, Emancipation, Marriage, Separation, Divorce, Conservatorship, Death

[44] For example, a copy of one's criminal record is necessary for almost any transaction – from applying to jobs, schools, financial services, or travel.

[45] World Bank, 2018. *ID4D-Findex Survey Data*.

[46] World Bank, 2020. The Digital Economy Assessment Republic of Congo.

[47] *Ministère de la Sécurité et de l'Ordre Public*

currently collect biometrics for civil servants, taxpayers, and teachers, some funded through World Bank-financed projects.

15. **An inclusive digital ID ecosystem can facilitate the delivery of Government to People (G2P) services and enable the digital economy.** The GoC has shown strong interest in developing a robust and inclusive digital foundational ID system that addresses current shortcomings, and preliminary analysis has been conducted with the support of the AfDB.[48] Nonetheless, legal, regulatory, and institutional foundations are necessary prerequisites to implement inclusive and trusted ID systems and define a clear strategy and roadmap to ensure the system's sustainability in the long term. In parallel the simplification and digitalization of the CR should be examined and planned to enhance CR service delivery and facilitate data sharing between CR and ID systems, as well as with other data systems of the MoJ and municipalities for instance. Linkages between CR and ID databases, and other government databases, could be based on a randomly generated unique identity number (UIN) whose technical design and regulatory framework would be determined as part of the project to address both practical and privacy considerations.

Stepping up digital skills development to fuel adoption of digital services

16. **Public officials need to be trained in digital skills and certified to use and manage digital government services.** Many MDAs operate outdated and isolated digital applications and systems, and civil servants lack basic levels of digital literacy and cybersecurity awareness. The lack of specialized Information Technology (IT) profiles (i.e., data analysts, data integrators, information system or technical architects, IT security specialists) requires a revaluation of IT professions within the public service. Locally trained IT specialists/engineers (primarily men) are often hired below their grade (compared to the ones trained abroad) and often migrate from the public sector to the private sector for higher wages. Currently, there is no strategy to develop digital skills among public servants. Computer scientists have no special status in civil service and are recruited as teachers.

17. **The productive use of the internet and digital services by individuals is constrained by weak digital literacy and skills adoption, particularly among women – an important and persistent demand-side hurdle in Congo.** Digital literacy and skills remain the greatest collective barrier to mobile broadband adoption across the world for both men and women.[49] Congo has a dynamic young working-age population (accounting 38.1 percent of the population) which remains unskilled and uneducated. Between 2010 and 2020, the Human Capital Index (HCI) value for Congo increased only from 0.41 to 0.42, which is lower than average for LMI countries (with an HCI value of 0.48). Combined with the learning gap, this impedes acquisition of foundational digital skills essential for the labor market especially for young women.

18. **Despite progress in the field of primary and secondary education and some rankings that place Congo above the regional average, such as the Gender Development Index (GDI**),[50] major gender gaps are

[48] *Ministère des Postes, des Télécommunications, et de l'Économie numérique, 2021. Etude de faisabilité d'un système national d'identité digitale (SNID) en République du Congo.*
[49] GSMA, 2020. Connected Women – The Mobile Gender Gap Report 2020.
[50] Ratio of female to male HDI values (HDI is a composite index measuring average achievement in three basic dimensions of human development—a long and healthy life, knowledge, and a decent standard of living). Congo's GDI is 0.928, more than the regional average of 0.894, and placing Congo in Group 3 of countries having medium quality in Human Development.

still present in Congo. Congo's Gender Inequality Index (GII) score is 0.57, ranking the country 144th out of 162. This gender gap is largely explained by the lower education and literacy skill levels among women and their higher concentration in the informal sector. Early marriage, adolescent pregnancy, and lack of resources all lead to higher drop-out rates at secondary school and lower enrollment in Technical and Vocational Education and Training (TVET) and higher education. Gender disparity in tertiary education (where women's enrollment rate is 10.1 percent compared to 15.1 percent for men as of 2017)[51] is a challenge, especially in Science, Technology, Engineering, and Mathematics (STEM) related studies. There is a lack of awareness amongst women of digital technology and its potentials, resulting in moving to more informal sector rather than acquiring relevant skills that would help them to secure more formal and stable jobs. Additionally, there are social norms and gender stereotypes of not encouraging young girls to pursue ICT-related career. Only 7.5 percent of the graduates from STEM-related programs in tertiary education are women, compared to 20.5 percent of male graduates.[52]

19. **As the country aspires to accelerate its digital transformation in line with "Vision Congo Digital 2025", there is not enough supply of qualified teachers and trainers to develop the required digital skills.** Basic/Foundational digital skills training is non-existent at the primary and secondary level, on top of the unavailability of trained teachers, pedagogical materials, ICT equipment, and broadband connectivity. As for more intermediate, advanced, and specialized digital skills, formal higher education curriculums related to digital professions are limited due to lack of qualified teachers and programs in current Computer Sciences and Engineering programs, and in TVET. To address this issue, the GoC is devising a program called "Digital Schoolbags (*cartable numérique*)", which aims to provide connectivity and ICT tools to all schools, as well as a nationwide open-source digital platform, with interactive pedagogical content to promote the use of ICT tools digital skills. The GoC is also focusing on higher education level, such as by establishing the regional Artificial Intelligence research center at the Denis Sassou Nguesso University. Regardless, the formal education system (including TVET and / or specialized training programs for digital skills) does not equip youth with adequate technical skills to meet the local private sector industry's demands, based on the latest Digital Economy for Africa country diagnostic for Congo. There is an untapped opportunity to train/re-train unemployed youth on advanced or specialized digital skills sought after in local labor markets. Based on a demand study conducted under the Digital Skills for Digital Economy Africa in Uganda, Nigeria, Kenya, Mozambique, and Ivory Coast, these skills range from data entry and equipment maintenance to coding/software development, content and web services, database administration, and network management. The IT Research Center of the Army and Security [CFI-CIRAS][53] is one of the country's leading digital skills institutions. The center has an IT/computer science training school (CFI-CIRAS) - partnering with the University of Marien Ngouabi, the African Institute of Informatics and the University of Reims-Champagne-Ardenne (France) - delivering undergraduate degrees (in Computer Science and e-administration) for up to 200 students per year (general civilian population and civil servants). CFI-CIRAS also delivers ad hoc certifying trainings to government executives in computer science and administrative techniques. CFI-CIRAS is planning to set up a high-tech and innovation Center of excellence for the country (See Annex 4 for details on CIRAS and CFI-CIRAS).

[51] World Bank, 2022. School enrollment, tertiary, female and male (% gross) - Republic of Congo. https://data.worldbank.org/indicator/SE.TER.ENRR.FE?locations=CG

[52] United Nations Development Programme, 2022. Human Development Reports: Country profile, Republic of Congo. https://hdr.undp.org/en/countries/profiles/COG

[53] *Centre de Formation Informatique du Centre Informatique de Recherche de l'Armée et de la Sécurité*

20. **Due to the shortcomings of the formal education system, a handful of non-state actors' step in to provide a small number of digital training programs.** The supply of TVET, particularly for advanced digital skills training, is driven by the private sector concentrated in Brazzaville and Pointe-Noire[54]. Additionally, CT and other MNOs are also looking to contribute to digital skills development: CT is developing a training plan for fiber optic jobs, targeting one thousand young Congolese (or 300 per year), through a partnership with the Ministry of Technical and Professional Education. Non-Governmental Organizations (NGOs) also develop and use their own digital skills curriculum to train students or apprentices, adapted to the market needs and capabilities. Given the variability of these programs, there is still a need for a standardized certification of digital skills.

C. Relevance to Higher Level Objectives

21. **The proposed project is aligned with the World Bank Group (WBG) Republic of Congo Country Partnership Framework's (CPF) (FY20-25) (Report No. 126962-CG) strategic focus areas aiming to strengthen Economic Management to Create an Improved Investment Climate for Private Sector Led Growth and build Human Capital and Enhance Resilience for Social Inclusion and Sustainable Growth.** This focus area sets out to promote necessary reforms in the sector's policies and regulatory framework, enabling a nurturing environment for the private sector-led Digital Economy to increase access and use of digital services in Congo. The proposed project will support:

(i) CPF objective 1.1. Improved efficiency and accountability in Public Resources Management, through its series of interventions in strengthening institutional capacity and frameworks essential to roll out the digital public services.

(ii) CPF objective 2.2. Reducing fragility and building human capital for improved social inclusion, through several activities within the project's scope, such as people-centric digital services (e.g., "cartable numérique") and digital skills training and empowerment.

Finally, the proposed project and its objectives are aligned with and complement the WBG's twin goals of ending extreme poverty and boosting shared prosperity in a sustainable manner by tackling key barriers in digital inclusion.

22. **The project is aligned with the World Bank Western and Central Africa Region Priorities 2021-2025.**The project supports the World Bank Western & Central Africa Region Priorities 2021-2025's goals of increasing broadband connectivity is one of the six key measurable outcomes highlighted. This project will focus on Pillar 4 of the WBG COVID-19 Crisis Approach Paper of June 2020[55] by "strengthening policies, institutions, and investments for building back better". In the fight against COVID-19, digital technologies offer an opportunity for governments, individuals, and businesses to ensure business continuity, and prevent service interruptions through remote, online-based service delivery. The following activities included in the proposed project are designed to support efforts to build future resilience to similar emergencies causing interruptions of face-to-face services:

- **Supporting digital service delivery**. By equipping the GoC with a whole of Government integrated platforms providing G2P online services, the project will support digitalization of priority services, enabling remote delivery in education and CR acts.

[54] Including incubators and non-governmental organizations such as Yékolab, Kosala, Club Congo France Numérique, PRATIC, PUITS, CNEUF, Bantu hub, and OSIANE.

[55] World Bank, 2020. *World Bank Group COVID-19 Crisis Response Approach Paper: Saving Lives, Scaling-up Impact and Getting Back on Track. June 2020.*

- **Expanding connectivity.** Closing the digital divide is essential to ensure work continuity and online interactions and transactions.
- **Improve shared services.** By connecting government and public service provider facilities with a robust digital infrastructure, complying with a sound enterprise architecture, interoperability principles and shared services, the project will enable remote work at scale, support business continuity, and lay the foundations for sustainable digital service delivery.

23. **The project also supports the WBG Digital Economy for Africa (DE4A) initiative that contributes to the operationalization of the African Union (AU) Digital Transformation Strategy and is aligned with national digital strategic plan.** The AU strategy sets out a bold vision to ensure that every African individual, business, and government is digitally enabled by 2030. Furthermore, the proposed project is closely aligned with both national and sectoral strategic plans. More precisely, it will contribute to the national development plan (PND)[56] to (i) lower the cost of broadband internet and (ii) develop the broadband market by strengthening the digital infrastructure in underserved areas. It also supports the operationalization of the following main pillars of "Vision Congo Digital 2025": (i) citizen-centric digital services (e-citizen) and (ii) acceleration of digital government service uptake.

24. **The project is aligned with the Maximizing Finance for development (MFD) enabling approach.** Recognizing Congo's financial constraints, the project seeks to encourage greater private sector participation. The operation seeks to crowd in private sector financing, in particular for digital connectivity, by addressing market failures through policy and regulatory reform (Component 1), using catalytic public finance to incentivize private sector investment in digital service and infrastructure expansion in underserved areas (Component 2), and developing local-relevant digitally enabled services to stimulate reliable demand for broadband and creating local markets (Component 3). In its Strategy "Vision Congo Digital 2025", the Government is committed to mobilize private sector investment in developing infrastructure connectivity through the universal access fund FASUCE. The interventions of the project will contribute to strengthening fair competition in the telecommunication sector, while also creating an environment favorable for more private sector investment in infrastructures, supporting PDO achievement. Resources have been allocated under Component 2 of the project to support these interventions to be implemented from year one of the project, By including the private sector in the transformation - as service providers to the government, Congo would also strengthen national capacity and local tech ecosystems to build on current platforms, maintain systems, and support public sector innovations. Commercializing some government services may foster new revenue streams while improving the experience for end-users, businesses and investors, leading to job growth and opportunity. In doing so, the guiding principle is that public intervention should limit as much as possible the risk of crowding out or replacing private investments and distorting competition as well as innovation.

25. **The proposed project will contribute to two of the four pillars of the WBG Gender Strategy** (FY16-23) by strengthening digital skills, and the project will improve human endowment especially for girls and women. It will remove constraints to more and better jobs by ensuring equal access to digital skills training, therefore contributing to women's economic empowerment and placing an emphasis on women to actively participate in the digital economy. The proposed operation will reinforce women's access to public administrative services and ensure equal representation of female beneficiaries, and

[56] *Plan National de Développement*

their specific needs for access to information and services, throughout the project. See Section II-G for a summary of project alignment with corporate commitments. Additionally, Annex 2 provides details on relevant gender interventions and metrics.

26. **Underpinning WBG goals of boosting shared prosperity and reducing poverty, the project supports green, resilient, and inclusive development (GRID).** In support of the GRID agenda, the project will (i) enhance climate change mitigation and adaptation, addressing country-specific climate risks across various activities (as outlined in the Annex 3, Table 3.1); (ii) strengthen the country's resilience to emergencies through modern and climate-resilient infrastructure and digital public platforms; and (iii) accelerate inclusive development to ensure no-one is left behind and allow everyone equally participate in the digital economy. See Section II-G for a summary of project alignment with corporate commitments. Annex 3 provides additional details regarding project supports addressing climate change.

II. PROJECT DESCRIPTION

A. Project Development Objective (PDO)

27. **The Project Development Objective are:** *"(i) to increase broadband internet access to underserved populations, and (ii) to improve public sector's capacity to deliver digitally enabled public services."*

28. **The proposed results indicators to measure achievements of the PDO are the following***:*

To increase broadband internet access to underserved populations

- Unique broadband subscribers per 100 inhabitants (Number) (of which women) (percentage)

To improve the government's capacity to deliver digitally enabled public services.

- New facilitated and digitally enabled public services available online to people citizens and businesses (Number)
- Individuals (civil servants and government contractors) who earned certifications in foundational, intermediate, and advanced digital skills throughout the project's activities (Number) (of which women (percentage), of which reside in rural areas (percentage)).

B. Project Components

29. The proposed Congo Digital Acceleration project is designed to accelerate digital transformation through a series of interventions that increase broadband internet access to underserved populations and improves the Government's capacity to deliver digitally enabled public services. The project will increase inclusive access to broadband connectivity, strengthen the regulatory and institutional environment towards a competition-oriented broadband market, support national digital literacy and skills development and develop a series of digitally enabled services for people's "life journey" through a whole-of-government approach – thus increasing the uptake of government services.

Table 1. Components and Proposed Budget Allocation

Components	Amount (US$)
Component 1. Strengthening the Enabling Environment for Digital Transformation Acceleration	**17.50 million**
Sub-component 1.1. Strengthening the legal, regulatory, and institutional environment	6.34 million
Sub-component 1.2. Development of skills and capabilities for technology adoption	11.16 million
Component 2. Expanding and Increasing Digital Broadband Connectivity and Digital Inclusion	**42.50 million**
Sub-component 2.1. Support in improving digital inclusion for the population especially in underserved areas	20.00 million
Sub-component 2.2. Support in improving broadband connectivity	22.50 million
Component 3. Improving Delivery of, and Access to People-centric Digitally Enabled Services	**33.00 million**
Sub-component 3.1. Modernization of civil registration and implementation of pre-requisites for an inclusive digital ID framework and system	11.00 million
Sub-component 3.2. Development and implementation of selected digitally enabled public services focusing on people (G2P) and businesses (G2B)	15.50 million
Sub-component 3.3. Strengthening of data hosting governance and capacity	6.50 million
Component 4. Project Management, Monitoring and Evaluation	**7.00 million**
Component 5. CERC	0.00 million
Total	**100.00 million**

Component 1. Strengthening the Enabling Environment for Digital Transformation Acceleration (US$17.5 million)

30. This component aims at creating an environment to improve coverage of underserved populations for high quality, affordable internet services, and the creation of a climate-sensitive, safe ecosystem for the adoption of digital government services. This would be achieved by (i) strengthening the legal, regulatory and institutional environment for digital economy, and (ii) strengthening skills and capabilities for technology adoption.

Sub-component 1.1. Strengthening the legal, regulatory, and institutional environment (US$6.34 million)

31. **This sub-component focuses on strengthening the overall regulatory and policy framework** to promote a vibrant telecommunications sector, provide adequate safeguards for digital government as well as the foundations for cybersecurity and personal data protection. Proposed activities include:
    (i) **Technical Assistance and advisory services (TA) to support the GoC in conducting a mid-term assessment of the implementation, and update, of the Vision Congo Digital 2025 Strategy**. This will include the development of action plans across the strategic pillars, a framework for gender mainstreaming approaches and a Green ICT strategy. The latter will focus on minimizing energy consumption, carbon footprint, and e-waste from ICT adoption and usage as well as strategies

to use ICT as an enabler to reduce environmental impacts across the economy (greening by ICT).[57]

(ii) **TA to support a comprehensive review by the GoC of the existing and proposed legal and regulatory texts relevant to the digital economy**, including telecommunications, electronic transactions, personal data protection, data governance (e.g., meta-register, data management) and cybersecurity protections. More specifically, for strengthening the cybersecurity and personal data protection frameworks, the project will provide technical assistance for (i) the assessment of the cybersecurity framework; (ii) the development and implementation of a data governance framework (including assessment of the existing data management and hosting frameworks); and (iii) the implementation of applicable international and regional conventions/agreements on cybersecurity and cybercrime.

(iii) **TA to support MTPEN for the review of existing public private partnership arrangements as well as a diagnostic of the operating model of the existing incumbent operator Congo Telecom** (mandate, governance, tariff, and organizational structure).

(iv) **TA to support ARPCE on the following regulatory activities relevant to the broadband market:** (i) number portability; (ii) frequency spectrum (e.g., technology neutral licenses, preparation for 5G frequency actions including price, bands, coverage, private licensing); (iii) impact study of the introduction of a new 4G operator in the market; (iv) evaluation of infrastructure sharing conditions and proposals for improvements; (v) SMP regulation in the market; and (vi) regulatory standards on sitting, design, construction, and operation of ICT infrastructure in response to climate risks and promote climate resilience according to ITU recommendations.

(v) **TA to identify and support options to strengthen ARPCE and DGDEN functions in internet governance and management of the national ".cg" domain.** The project will support the development of an option analysis for the management of the national ".cg" domain. Subject to the outcome of the options analysis, specific activities may include: (i) supporting the development of an action plan to promote and develop usage of the .cg domain; (ii) supporting technical capacity-building of stakeholders in the field of domain name governance; and (iii) supporting the deployment of the Domain Name System Security Extensions technology.

32. **This sub-component will also strengthen the institutional capacity of key entities selected in accordance with the criteria set forth in the Project Implementation Manual (PIM) and responsible for the implementation of digital regulation and governance of digital services, through the provision of technical advisory services and TA**. The project will support the operationalization of entities mandated to implement the national Digital Strategy and newly adopted cyber legislation. Proposed activities include:

(i) **Supporting the operationalization of ANSSI.** TA will be provided for: (i) the definition of the roadmap, organizational chart, procedures, and the provision of staff training; (ii) the ownership of the national cybersecurity strategy and implementation roadmaps, while learning from best international/regional practices; (iii) the assessment of critical infrastructures for climate change risks, and targeted support to Computer Security Incident Response Team (CSIRT) - set up under the future EIB/EU funded project - to protect the critical ICT infrastructures and assets financed by and implemented through the project; and (iv) audit and compliance to international cybersecurity standards (ISO 27000). The project will also build technical and operational

[57] The strategy requires an assessment of existing telecom sector or ICT policies, strategies, and initiatives that will be reviewed against environmental concerns, including GHG emission reduction. It will also support an introduction of policy measures and financial incentive mechanisms to encourage investments in green ICT infrastructure, products, and services.

capacity for the enforcement of relevant laws and regulations related to data breaches or misuse, in particular monitoring in-country and cross-border data transfers, and also finance acquisition of selected equipment, tools and platforms needed to operationalize ANSSI.

(ii) **Supporting the operationalization of the Data Protection Commission (DPC).** TA will be provided to:[58] (i) build the framework for the collection, use and disclosure of personal data; (ii) introduce an enhanced practical guidance framework for DPC to provide organizations with regulatory certainty on their compliance with the Data Protection Provisions of the law; (iii) introduce a mandatory data breach notification framework; (iv) support the preparation of government datasets for usage, anonymization as needed, and maintenance of data catalogue of existing datasets, data inventory, and identifying key data sources (e.g. geospatial); and (v) develop a plan for regional coordination effort on data protection. The project will also finance acquisition of selected equipment, tools, platforms as needed to operationalize the DPC.

(iii) **Supporting the DGDEN's evolution towards becoming an agency in charge of national digital transformation programs.** TA will be provided for: (i) drafting of the detailed operating model, roles and responsibilities; and (ii) drafting of key legal documents required to back-up the new agency. The Project will also finance acquisition of selected equipment, tools, platforms for DGDEN.

Sub-component 1.2. Development of skills and capabilities for technology adoption (US$11.16 million)

33. **This sub-component aims to better equip government employees, citizens, and businesses to adopt digital skills and prepare for future jobs and digital economy, with private sector involvement.** The project will explore ways to disseminate information on the potential opportunities of certification and institutional accreditation for the ecosystem of training providers. The project will increase the supply of the digital skills training and create space for innovative approaches by collaborating with international and local partners recognized for their training quality and capacity to bring various actors together (i.e., local public and private universities, national employment and training agencies, ICT training centers and institutes, IT firms, and tech incubators). Finally, this component will aim for an inclusive approach – such as promoting girls' participation in all training programs supported by the project.

34. **This sub-component will support the enabling environment for a digitally skilled labor force.** Activities under this sub-component will include TA and advisory services required for the calibration of digital skills programs to Congo's context and local needs. Proposed activities include:

(i) **TA for the assessment and identification of digital skills needed in the labor market** and to ensure youth, women, and other marginalized groups can access stable employment in local labor markets, in partnership with existing programs provided by government entities (i.e., public universities, CFI-CIRAS, the Congolese Agency for Information Systems [ACSI][59], MPTEN), and private sector entities (e.g., tech hubs or digital incubators). To address the barriers faced by women to secure formal stable jobs, the project will ensure that curriculum and training are gender-inclusive and disability inclusive, with standardized certifications as part of their programs and courses. This will include an assessment review of existing learning material for potential gender-biased and gender stereotypes, as well as options of creating safe zones for learning, free

[58] Financed under the project preparation advance, a feasibility study will take stock of existing resources, refine design, and develop a detailed roadmap for the roll-out of the Commission.
[59] *Agence Congolaise des Systèmes d'Informations*

of sexual violence and harassment for female participants of all ages. The project will also support activities including provide tailored counselling services and peer-to-peer learning events to women and young girls who wish to continue building intermediate and advanced digital skills, and further develop a professional career development in the digital sector. Surveys will be conducted post-training for the purpose of monitoring and evaluation of outcomes, but also to collect feedbacks and satisfaction from beneficiaries and employers, which will then be used to adapt curriculums and trainings throughout the project.

(ii) **TA to MPTEN with private sector involvement (especially private professional associations e.g., the Employers' and Inter-Professional Union of Congo [UNICONGO][60], the National Union of Economic Operators in Congo [UNOC][61]) to establish and implement standardized certification in digital skills** to boost employability, at all skill levels (but with a focus on specialized/advanced such as cloud computing architecture, information management, or e-Government application development), in collaboration with the Ministry of Civil Service (*Ministère de la Fonction Publique*) and local training providers.[62]

(iii) **Coordination, and development of communications and awareness programs to facilitate dialogue on digital skills among stakeholders of the digital ecosystem.** This will be done through the reinforcement of the national digital skills steering group[63], which should have a mandate to (i) conduct demand and supply side assessments; (ii) establish national occupational standards in the ICT sector; (iii) qualify training service providers; (iv) select and contract training service providers; (v) create, accredit, and disseminate on-line training materials; (vi) conduct national awareness campaigns; (vii) engage in monitoring and evaluation, etc.

35. **This sub-component will develop basic, intermediate and advanced level digital skills training programs in both public and private sectors and for the general population, with private sector involvement.** The project will aim to address specific gender digital divide gaps by providing quality, free bootcamp training and certification for young women (unemployed or with low wage jobs) in intermediate, advanced, or specialized digital skills, and will monitor impact of such certification on job obtention or salary improvement. Proposed activities will include:

(i) **TA to develop educational content and delivery of series of digital skills training programs for the general population with high private sector involvement** tailored to the identified needs of the project and final target beneficiaries, including public sector employees (e.g., civil servants, teachers, and trainers), as well as citizens (including youth, women and vulnerable populations) to improve employability and productivity, and to encourage them to adopt the people-centric digitally enabled public services provided under Component 3. These trainings will address foundational and intermediate digital skills[64] in partnership with existing qualified training structures and institutes (including the University Denis Sassou Nguesso and the University Marien Ngouabi) and through adaptation of existing content and materials.

(ii) **Delivery of a "train-the-trainer" program targeted at civil servants and stakeholders of selected MDAs (MPTEN, Plan, Justice, Education, etc.)**, in collaboration with universities such as the *École Polytechnique* and Faculty of Science of the University Marien Ngouabi and University Denis

[60] *Union Patronale et Interprofessionnelle du Congo*
[61] *Union Nationale des Opérateurs Economiques au Congo*
[62] Such as TVET, learning institutes, incubators, tech hubs, and civil society associations, and tertiary institutions.
[63] Regrouping representatives of MPTEN, Ministry of Higher Education, Ministry of Technical and Vocational Education, Qualifying Training and Employment, and private sector representatives.
[64] For instance, intermediate digital skills refer to infrastructure maintenance and operations, database management and data analysis, web design, hardware and equipment operations, as defined by UNESCO and ITU.

Sassou Nguesso to ensure all civil servants of the MDAs supported under the project are trained at basic/intermediate digital skills. Adopting the "train-the-trainer" approach used in several countries by governments, academia, and specialized institutes (such as ICDL[65]) could enable in-service training and certification of large numbers of civil servants whose jobs are pivoting from face-to-face to online delivery.

(iii) **Support the promotion and selection of Digital Ambassadors to complement infrastructure investments carried out under Component 2, with lessons learned from the Digital Ambassadors' program piloted in the Republic of Rwanda.**[66] To ensure strong synergies/complementarities with the infrastructure investments envisaged in the project, the Digital Ambassadors will be selected, with a gender balance, amongst young graduates of universities in the same zones. They would all be trained as trainers and expected to become role models in their respective geographical area, aligned with the zones selected in Component 2. The project will ensure gender-balance among Digital Ambassadors to provide representation of female role models for young girls and women.

(iv) **Deployment and delivery of advanced digital skills training to youth, women, marginalized, and vulnerable groups, aspiring to specialize in computer science and emerging technologies.**[67] This activity will start by strengthening, through TA and technical advisory services, some of the existing public training providers such as ARPCE, and CFI-CIRAS to further deliver advanced digital skills trainings, especially to the youth and most underserved groups. Consequently, the activity will finance the deployment and delivery of advanced digital skills training programs by the reinforced public providers jointly with private training providers (to be chosen after a public bid invitation). The program delivery will be inspired by the World Bank experience in Bootcamp delivery (six-month trainings on coding, data analysis, web service development, hardware maintenance and repair), with lessons learned from pilot programs in the Nigeria and South Africa. It will also seek to raise awareness and build digital skills that have the potential to expand products and facilitate entrepreneurship related to financial inclusion, women economic empowerment, and climate in Congo (i.e., early warning systems related to expected increase in climate shocks and other extreme weather events in the country).

36. **This sub-component will design and implement capacity-building programs to provide advanced digital skills for the specialized entities listed in the PIM supporting digital transformation and digital public services** (including possibly inter alia MPTEN, ANSSI, DGDEN, CFI-CIRAS, ARPCE, ACSI, GUOT to be defined in the PIM)**.** This will include:

(i) **Certification/accreditation and change management programs for policymakers and managers across selected sectors for implementation and compliance with cybersecurity, data protection and data governance frameworks,** and especially for maximizing the cybersecurity-by-design for digital infrastructure and digital assets. Specific activities include: (i) support for the relevant

65 International Computer Driving License

66 In 2017, the Government of Rwanda launched a" Digital Ambassadors Program" to deliver basic digital skills training to five million Rwandans aged 15 years and above. The scheme is dispatching centrally trained young 'Digital Ambassadors' to impart digital literacy training at community level. Thus far, the scheme has been piloted in a few districts, but evaluations point to encouraging results in terms of readiness to use basic ICT tools, especially among women.

67 Several trends with great potential have been identified in areas of Smart Cities and Smart Communities, the Internet of Things, Artificial Intelligence, Big Data and Analytics, Drone Technology, Geospatial Systems, Robotics, 3D Printing, creative industries and cybersecurity, advanced software development techniques, etc.

Cybersecurity agency to provide capacity-building and awareness-raising on cyber threats[68] and data breaches; (ii) development of advanced skills in information and data management, web site design, people-centric digital service design; (iii) development of advanced skills program for CFI-CIRAS (targeting youth) in digital project management, digital platform, agile and people-centric digital transformation,[69] incorporating transparency and feedback mechanisms; (iv) design and adoption of climate mitigation and adaptation measures and standards in deploying ICT infrastructure (including those within the Government); and (v) integration of gender-informed inclusion measures into strategies, policies, information publishing and service development within the digital sector to capture the needs of women in online services, and relevant content for women and girls.

(ii) **Delivery of training programs in advanced digital skills for ICT professionals** at all grade levels within the MDAs (possibly including inter alia Ministry of Economy, Planning, Statistics, and Regional Integration (MEPSIR)[70], Ministry of Higher Education, Scientific Research and Technological Innovation[71], MoJ, Ministry of Small and Medium Enterprises, Handicrafts and the Informal Sector (MoSMEs)[72], ARPCE, GUOT, CIRAS, etc. selection is to be confirmed based on criteria set in the PIM) benefiting from this project to strengthen the pool of existing professionals or new hires in functions such as: data scientists, software developers and programmers, cloud specialists, ICT engineers, chief technology officers, IT security experts, network and information system specialists, as well as digital content developers. This activity will support existing activities provided by institutions such as ARPCE, CIRAS and private sector actors (to be chosen after a public bid invitation). The project will support, inter alia, the upgrading of CFI-CIRAS's digital pedagogical platform for online training in the public administration. Finally, the project will open some of the training programs to private sector professionals or civil society actors' participation for cross-learning purposes and potential cross-support collaboration.

(iii) **TA for the development and strengthening of incubation and innovation poles** with local stakeholders (University Denis Sassou Nguesso, University Marien Ngouabi, CFI-CIRAS, and others) to strengthen and expand the digital innovation ecosystem, based on best practices, as well as to complement the Government's existing efforts in deploying advanced level training (such as the establishment of the Artificial Intelligence (AI) research center at the University Denis Sassou Nguesso).

Component 2. Expanding and Increasing Digital Broadband Connectivity and Digital Inclusion (US$42.5 million)

37. **This component will support the GoC in reducing the geographic and societal digital divides through a comprehensive strategy that relies on MFD-enabling approach.** The initiative will be fostered by the measures under Component 1 to stimulate private sector led investment to expand the geographic coverage of broadband and better serve government institutions, under the MFD-enabling approach. The project will support (i) expanding broadband network coverage in selected underserved rural

[68] Including capacity building programs for the CSIRT on identification of recurrent online risks, threats, and mitigation and response strategies to secure digital platforms (including the prevention of gender sensitive online violence e.g., against women).
[69] E.g., Agile regulation for digital Transformation Initiative proposed through the capacity building partnership of the WBG, Atingi (GIZ) and the Smart Africa Digital Academy.
[70] *Ministère de l'Economie, du Plan, de la Statistique et de l'Intégration Régionale*
[71] *Ministère de l'Enseignement Supérieur de la recherche Scientifique et de l'Innovation Technologique*
[72] *Ministère des Petites et Moyennes Entreprises, de l'Artisanat et du Secteur Informel*

areas; (ii) facilitating internet access for deprived communities; and (iii) provision of last-mile connectivity to selected MDAs. Any digital infrastructure built with the support of this project will be subject to quality standards, including compliance with the requirements for disaster response and for climate change mitigation and will be conducted through a competitive selection process. It will also aim to follow energy-efficient civil works standards, improving energy efficiency and fuel consumption in the newly built infrastructure. The impact of climate change will be incorporated in the design of technical solutions to increase resilience to landslides, floods, and erosion; and to ensure the sustainability of these solutions by preventing environmental degradation and reducing Greenhouse gas (GHG) emissions (i.e., using solar power for mobile base towers with three days battery backup, multimedia centers, computer rooms, WiFi hotspots and active equipment compliant with 'Green ICT standards').[73] The financing of this component will complement FASUCE's own financing to develop digital adoption in underserved rural areas (FASUCE 2020 budget: US$2.6 million). The project will leverage the local private sector to carry out these activities.

38. **This component will also aim to support ongoing actions to deploy sites where deprived communities in rural areas can have access to the internet.** To enable the economically vulnerable population in rural areas to access to the internet, the component will: (i) support the deployment of multimedia rooms in schools for local students to be able to learn and practice digital skills (typically two printers, 15 PCs, one video projector, one interactive board and one Education Content Server); (ii) support the deployment of computer rooms in Post Offices to enable local population to have access to Internet and to the one-stop-shop portal that will be developed in sub-component 3.2; and (iii) support the deployment of free WiFi hotspots in public premises to enable the local population to have access to the Internet. A monitoring and content filtering solution will be deployed on all the sites to avoid inappropriate usage of the internet connection provided. The use of renewable energy and energy efficient infrastructure will be emphasized. For instance, clean energy sources such as solar systems for batteries and power supplies will be required.

Sub-component 2.1. Support in improving digital inclusion for the population especially in underserved areas (US$20 million)

39. **This sub-component aims to fill the broadband network coverage gaps, notably in selected underserved rural areas where operators are unwilling or unable to invest without public support, focusing on areas that maximize the social and economic impacts of the investments.** Under a MFD-centered approach, the project will focus on areas that meet the following criteria: (i) a lack of current infrastructure and absence of future expansion plans by the telecom operators; and (ii) a sizable demand for digital public services. One hundred and thirty-six unserved villages, with a combined population of 272,000 inhabitants will be covered in 3G. Additionally, 76 underserved villages (covered in 2G by the FASUCE in 2020 and 2021, with a combined population of 132,000 inhabitants) will be upgraded to 3G. Hence, this sub-component will bring broadband coverage to a total of 404,000 inhabitants, which represents over 7 percent of the total population of Congo. For villages with 500+ inhabitants (80 villages), the deployed digital infrastructure will include solar chargers to enable inhabitants to charge their phones free of charge. When one of the villages concerned has a school or a post office, the deployment of a multimedia room in the school and/or a computer room in the post office will be considered. Activities will include a package of TA and investments, to be carried out in

[73] ITU, 2020. Green ICT Standards and Supplements. *https://www.itu.int/net/ITU-T/lists/standards.aspx?Group=5&Domain=28*

close collaboration with FASUCE, and will contribute to the country's resilience to emergencies through modern and climate-resilient infrastructure. More specifically this sub-component will provide:

(i) **TA to support FASUCE to improve governance arrangements and targeting of connectivity activities supported by the fund**: Activities include (i) carrying out an assessment of FASUCE's activities in terms of use of funds, technical quality, and user experience performance; (ii) reviewing the legal and regulatory framework for the subsidy model (reverse auction arrangements) to maximize private sector investments in connectivity; (iii) refining priority areas where fixed and mobile coverage is weakest, while also considering the services to be offered (SMS, voice, broadband) in consultation with selected sectoral stakeholders, coverage cost of the priority areas and the modality of the subsidy model; (iv) identifying the potential geographical synergies to deploy multimedia rooms in schools and/or computer centers in Post offices; (v) preparing bidding documents and a detailed operational manual to govern the award process for technical solutions; (vi) launching and administering the bidding process and monitoring of subsequent implementation (monitoring and evaluation of the construction process to ensure compliance with technical and safeguards requirements); and (vii) designing and implementing governance arrangements for the GoC and FASUCE to adopt a sustainable and replicable bidding process.

(ii) **Awarding CAPEX subsidies provided to Private Telecom operators selected in accordance with criteria set forth in the PIM, that will be responsible for expanding their network in selected underserved areas at affordable cost.** A competitive "reversed auction" tender process will be used to award a "one-time" lower-cost public subsidy that will leverage investment from private telecom operators that would finance, design, build, own, and operate wireless network access infrastructure on an open access basis, connecting rural communities. During a reverse auction tender, private telecom operators must present a detailed business plan explaining how much the deployment of the targeted area would cost them, how much revenues they forecast over a period of time (typically 10 to 15 years) and how much subsidy is needed to cover the gap between revenues and costs. The winning bidder will be the one requesting the lowest one-time subsidy to deploy its network in the targeted area. The winner commits to respect the deployment deadlines it has proposed in its bid and, if legislation allows, commits to enter into national roaming agreements with the other national private telecom operators in targeted areas. The project will finance the recruitment of an independent firm to conduct an external audit of the infrastructure built.

(iii) **Deploying multimedia rooms**: when applicable, the project will finance the acquisition of all necessary equipment (PCs, printers, WiFi hotspot, etc.) and connectivity for the deployment of multimedia rooms in schools and computer rooms in Post offices. The project will identify the most appropriate Education Content Server to be deployed in schools, based on technical specifications, content quality and availability, cost, and ease of use. In particular, the free Learning Passport system developed jointly by the United Nations International Children's Emergency Fund (UNICEF) and Microsoft will be considered in the implementation.

Sub-component 2.2. Support in improving broadband connectivity (US$22.5 million)

40. **This su-bcomponent will support the GoC's effort to enhance the level of broadband connectivity in the MDAs covered by the project, selected public universities and training centers, as well as**

prefectures, courthouses, schools, and post offices deemed suitable for the implementation of community digital access centers, all selected in accordance with criteria set forth in the PIM. The project will provide fiber connectivity as well as indoor coverage (cabling and/or WiFi) through one (or more) single responsibility end-to-end service contracts to connect and deploy 22 MDAs located in Pointe-Noire and Brazzaville. These are entirely open and competitive processes, including multiple lots of IT Supply and Installation procurement packages (turnkey contracts), with specific, set standards and specifications, to ensure quality, consistency of service and scale, and the involvement of competent, experienced general contractors, involving, if possible, young technologists at the local level.

41. **If project interventions are successful, the same approach can be used for scaling-up initiatives to expand connectivity to other MDAs.** Exact locations to be served will be defined in line with activities under Components 1 and 3. The main beneficiary MDAs could include MoTA, MoJ, and local governments (CR, digitally enabled public services under Component 3), the Ministry of Education (as part of the implementation of the "*Cartable Numérique*" program), University Denis Sassou Nguesso, University Marien Ngouabi, CFI-CIRAS (particularly its technology and incubation hall) and the Micro, Small and Medium Enterprises (MSMEs) (online service for MSMEs under Component 3). The solution deployed will allow e-Government services to be accessible remotely. The infrastructure investment will factor in climate mitigation measures to strengthen resilience to region-specific climate change and natural disasters, such as flooding and landslides. This sub-component approach optimizes investments and crowd-in the maximum of complementary investment. It will strengthen the involvement of the private sector and the level of competition in the sector for broadband. The project will not fund government owned broadband networks, as several telecom operators operate metro fiber loops in the targeted regions (Pointe-Noire and Brazzaville). The logic of intervention is to apply the MFD-centered approach incentivizing and catalyzing private sector involvement through subsidies. Whenever possible, if a school and/or a post office is located near a connected MDA, the possibility to deploy a multimedia room in the school and /or a computer room in the post office will be studied. Proposed activities include:

(i) **TA for preparatory studies to develop a fiber connectivity development strategy** including (i) identification of priority MDAs and digital skills training providers to be covered, based on the services to be supported under Component 1 and 3; (ii) definition of user requirements for bandwidth, in consultation with relevant sectoral ministries; (iii) identification of the potential geographical synergies to deploy multimedia rooms in schools and/or computer centers in Post offices and/or free WiFi hotspots; (iv) identification of the appropriate bidding mechanism to provide connectivity to selected MDAs under a MFD-centered approach; and (v) preparation of bidding documents for the technical solutions, and support for the government in administering the bidding process and monitoring subsequent implementation. The implementation feasibility study will help inform the best possible options for deployment.

(ii) **Acquisition and financing of relevant access to internet and equipment in identified locations**, including selected public sites (courthouses, CR offices, University Denis Sassou-Nguesso, University Marien Ngouabi, public schools, post offices, and community access centers).

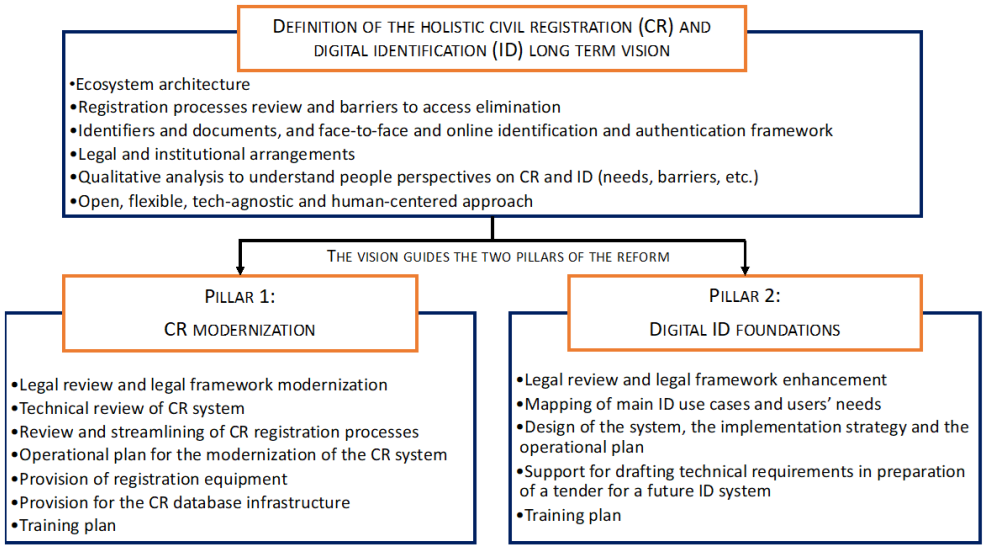
Component 3. Improving Delivery of, and Access to People-centric Digitally Enabled Public Services (US$33 million)

42. **This component aims to strengthen government capacity to manage digitally enabled public services and to deliver online services to people and businesses.** The project will assist the GoC to streamline and modernize specific G2P services, based on life events and people-centric delivery. Services supported under this component will be designed based on embedded user-research and design workshop. The user-research process will aim at collecting user needs and feedback, and continuously adapting the quality and accessibility of systems and services based on feedback received. This will be achieved by (i) reinforcing the GoC's ID ecosystem by implementing the institutional, regulatory and technical foundations for a reliable and inclusive digital, foundational national ID system, and by streamlining, modernizing and creating reliable CR services that leverage digital technologies; (ii) developing safe and robust people-centric digital public services for priority G2P transactions and content; and (iii) strengthening the data hosting ecosystem and governance to ensure secure digital transactions and data conservation. These activities will provide significant opportunity for local private sector participation such as development of digital services, provision of service infrastructure, hardware and software, and technical support, as well as maintenance of the integrated systems.

Sub-component 3.1. Modernization of Civil Registration and implementation of pre-requisites for an inclusive digital ID framework and system (*US$11 million)*

43. **Reforming the ID ecosystem, including the CR and ID components, is necessary to support the delivery of citizen-centric digital government reforms and to maximize their impact**. However, such reforms also imply significant institutional, technical, and logistical complexity and risks. Thus, careful planning and sequencing of investments is essential. As a first step, it will be important for the GoC to develop a shared long-term vision and holistic strategy for the ecosystem that guides the respective reforms of CR and ID systems, while facilitating synergies that enable the needs of multiple stakeholders to be met more efficiently. Core building blocks, such as the adoption of appropriate legal and regulatory frameworks and the establishment of sound institutional arrangements will also be necessary to enable the creation of a new digital ID system. In parallel, modernizing the CR system, including the move from paper-based to digital record keeping, will help pave the way for making identity documents and records more accessible and more easily verifiable for all, thus facilitating access to public services.

Figure 2. Overview of the sub-component's relation with Digital ID system to be deployed in a future project by the Government



44. **This sub-component thus aims to support the reform of the ID ecosystem.** In line with a holistic approach and the government vision to be reinforced throughout the project, parallel work will be conducted to (i) modernize CR services with a fully digitalized CR system to better manage registration and archiving of vital records and (ii) deploy the enabling environment for the implementation and operationalization of a secure and trusted digital ID system that would mutually facilitate access to online services and include the provision of ID services for public and private stakeholders. The project will leverage global best practices and lessons learned from successful CR and ID system projects, aligned with the Principles of *Identification for Sustainable Development*. Considering the practical constraints that stem from limited connectivity for MDAs, the project will support the following activities:

(i) **TA for the design of a long-term and holistic vision of the identity ecosystem** that guides the respective reforms of CR and ID systems while facilitating synergies. The holistic vision will inform the Government's policy related to the identity ecosystem over the long-term and should thus support an open, adaptable, user-centric and technology-agnostic approach to accommodate unforeseeable technical changes, notably regarding the fast-changing digital identification and authentication, and credentials solutions environment. This TA will include (i) determining the ecosystem's elements design (e.g., identity government databases architecture and workflows); (ii) reviewing registration processes from an integrated perspective to assess potential for removing mandatory CR registration to access ID; (iii) the design and deployment of privacy-aware, inclusive and functional ID credentials, including a UIN, physical ID document and any virtual credential; (iv) defining the institutional arrangements and the governance framework (including applicable legal framework) of the identity ecosystem; and (v) a qualitative research to understand people's needs, constraints, and perspective on CR and ID services.

(ii) **TA to define and implement the foundations for ID reforms**, including (i) reviewing the main legislation supporting a digital ID system and proposing solutions to fill legislative gaps; (ii)

mapping of key use cases and user needs; (iii) developing the design and implementation strategy and operational plan for the system's technical architecture, registration and credential issuance that minimizes barriers for vulnerable populations, including women, and for digital identity verification and authentication mechanisms in both offline and online contexts (all to be informed by the prior mapping and research activities); (iv) drafting the functional requirements and technical specifications of the new ID system to inform future procurement; (v) defining a pluriannual training plan for staff; and (vi) drafting a comprehensive communications strategy to increase the acceptance and adoption of the systems by all residents.

(iii) **TA and provision of equipment for the modernization of CR services**, including (i) conducting a technical assessment of the CR system and proposing improvements and procurement needs; (ii) reviewing and streamlining CR registration processes to eliminate barriers to access, notably for the most vulnerable populations including women; (iii) drafting an operational plan for modern CR registration, database, and registration of births, deaths, and marriages; (iv) reviewing CR legislation and proposing a legal framework update to take account of digitalization; (v) drafting and executing a training plan to standardize operational processes throughout the country and enhance efficiency; (vi) providing equipment for the digitalization of CR registration posts; and (vii) providing equipment and implementation of a secure CR database to facilitate record retrieval and data exchange; as well as access to G2P services to be developed. Certain CR services will be accessible to citizens through the government portal to be developed in Sub-component 3.2.

Sub-component 3.2. Development and implementation of selected digitally enabled public services focusing on people (G2P) and businesses (G2B) (US$15.5 million)

45. **This sub-component will support improvements of delivery and access to selected G2P and G2B digital public services and selected sectoral use cases using digital solutions** through (i) implementation of an online one-stop-shop eGov portal and the catalogue of G2P/G2B services to digitalize[74] along with support to postal services for community access to public services, and (ii) design and implementation of selected use case , including the development of content for the digital platform for students and teachers, as well as the implementation of an integrated system for managing statistics and open data. The project will take the opportunity to promote and foster the simplification and digitalization of administrative procedures & transactions, and capacity building of the entities involved in the management of these services under sub-component 1.2. The development of digital public services will systematically include service co-creation, user research and design workshops, and user acceptance testing as systematic feedback mechanisms to improve system and service design. Drawing lessons from successful digital government reforms, the achievement of these objectives will be informed by principles that favor agile, modular and incremental technological development and acquisitions. Activities to be supported by the project include:

(i) **TA and equipment supporting the development and management of an online one-stop-shop eGov portal and a unified government interface for services to people (G2P) and businesses (G2B) with a focus on MSMEs.** The portal will be developed using standardized information architecture and visual design and will first be developed to be informational and include the catalogue of online services, along with detailed information on accessing the services. It will

[74] The catalogue will include existing public services and be prioritized according to the "Vision Congo Digital 2025".

progressively integrate priority transactional digital services organized through a life-event approach on the digitalisation started by the reform of the CR system. The portal will be designed to be accessible through alternative channels (such as kiosks in service access points, call centre or mobile services using USSD or apps), which can also be used to send push messages to residents, in the event of disaster or harmful weather conditions. This activity will include TA for process mapping and reengineering, and acquisition of equipment will be provided to the relevant entities developing the services included in the portal. As an outcome, people of Congo will be able to digitally (i) gradually obtain services digitally inter alia requesting CR records and other certificates such as extract from criminal record or for citizenship records, which are essential documents for accessing job opportunities, financial services, business registration, ID and travel documents. The project will support the simplification, redesign and modernization of these two services so that they can be made available digitally through the eGov portal and (ii) access the national handicraft portal promoting SMEs and national craft products. The project will facilitate the accessibility to the repository of artisans along with a catalogue and online platform for craft products. In addition to user research and design workshops, the portal will also include a citizen feedback mechanism that will allow for the collection of feedback and satisfaction on digital government services.

(ii) **TA and equipment for the development and implementation of an integrated national statistical data platform and portal for Open Data.** The project will lay the foundation for a Congo Open Data Initiative with the inventory and release of key datasets and data collection in health and vital statistics, agriculture, water, connectivity, digital and education sectors, national census, and other relevant statistical data. The project will finance a TA and investments to improve data quality and collection and ensure identified content is released online following open data principle and norms and based on civil society and potential users' demand for public data. The project will also support the institutional arrangement and processes for the management of national and sectoral data to be made available in the open data platform through an automated system.

(iii) **TA and services to support the implementation of in-person service access points for the use of digitally enabled public services using the postal service network of the Congolese Posts and Savings Company (SOPECO).**[75] The TA will specifically define: (i) the business model, organization and solution design for the community service access points to digitally enabled public services, integrating feedback from citizens including vulnerable groups (such as the elderly, persons with disability, ethnic minorities, rural population) and women; (ii) implementation of in-person service access points in urban, peri-urban and rural areas (excluding equipment, connectivity investments and assets included in sub-component 2.2); and (iii) training, communication, and change management.

(iv) **TA for the implementation of a national digital learning tool and platform for students and teachers at secondary schools as part of the national education program ("*Cartable Numérique*").** This activity will support the implementation of a nationwide digital learning platform for students and teachers in secondary education for online digital skills learning. It will finance: (i) a feasibility study including costing, geographical selection for pilot, identification of the technical and operational requirements, and modalities of operational and content management; (ii) evaluation and adaptation of current national curricula toward fit-for-purpose content and design of an interactive digital curriculum, adapted to the targeted class and age

[75] *Société des Postes et d'Épargne du Congo.*

groups (this will be based on integrated user experience research methods and consultation); and (iii) institutional capacity building, change management, and training activities for teachers, students, and their parents.

Sub-component 3.3. Strengthening of data hosting governance and capacity (US$6.5 million)

46. **This sub-component will strengthen national data storage ecosystem.** Four operational data centers have been identified by ARPCE in 2021,[76] and several other data center projects are also in progress.[77] This sub-component will support the GoC to ensure secure, cost-effective and sustainable data hosting and management to ensure that data centers are developed to support a whole-of-government approach and are suitable for the implementation of an overall digital transformation based on existing and future needs for public and private sector. Proposed activities include:
    (i) **TA to assess the current state and needs of the existing public and private data centers in Congo to** (i) identify the potential needs for reinforcement/equipment of the existing public data centers, considering climate change mitigation and adaptation measures; (ii) provide recommendations for a program of data center consolidation to progressively bring scattered assets under central hosting; and (iii) develop a forward-looking view of the expansion of the government cloud.
    (ii) **TA and capacity building to reinforce assessed public data centers and their safe and secure operation and resilience**, based on the recommendations of the above-mentioned TA.

Component 4. Project Management, Monitoring and Evaluation (US$7 million)

47. **This component will finance project management functions by strengthening the GoC's project coordination and management capacity, including supporting the enhancement of**: (i) operation management; (ii) procurement management, contract management, and financial management (FM); (iii) implementation and management of safeguards instruments; (iv) M&E including putting in place mechanisms for citizen engagement and to follow-up on project beneficiaries outcomes as per result framework, including geolocation system through the use of Geo-Enabling Initiative for Monitoring and Supervision (GEMS) of project intervention sites; (iv) reporting and coordination of project activities across beneficiaries; and (v) support of training and advisory services needed.

48. **Cross-cutting Citizen Engagement (CE) support will be financed under this sub-component and include inter alia:** (i) the development and implementation of a comprehensive Grievance Redress Mechanism (GRM) to collect and address complaints submitted by beneficiaries, system users, 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; and (ii) the implementation of national consultation plan to ensure that all relevant stakeholders, including vulnerable and marginalized groups, are consulted about the project interventions on an annual basis and the feedback from those consultations is fed back into the implementation of project-financed systems (in line also with the project Stakeholder Engagement Plan). Nonetheless, CE interventions are streamlined across

[76] ARPCE opened its own data center in Brazzaville in 2021 (financed by AfDB) and a second one will soon be completed in Pointe-Noire; MoF has one in Brazzaville (financed by the World Bank); MTN Congo has its data center in Brazzaville; and OFIS, a private system integrator, has one in Pointe-Noire.
[77] Including the creation of a data center together with the landing station of 2Africa's submarine cable, construction of a e-Gov data center in Brazzaville with a backup in Oyo (financed by AfDB).

components as the project will systematically include consultations and user research, as well as feedback gathering on all systems and services. (See also Section II-G below)

Component 5. Contingency Emergency Response Component (CERC) (US$0 million)

49. **Following an eligible crisis or emergency, the Borrower may request that the World Bank re-allocate project funds to address emergency cases that disrupt public sector business and services.** A CERC has an initial zero value but may be financed during the project to allow for agile response to emerging emergency events. Adding the component during project preparation, albeit with zero funding, provides for the flexibility to respond to crises as they arise. If the CERC were to be triggered, at the request of the Borrower, simplified procurement procedures shall apply during the emergency for civil works and goods purchases related to emergency response and recovery. This component would draw from the uncommitted loan resources from other project components to cover the emergency response. The current project management structure will remain the same for implementation of the CERC activities.

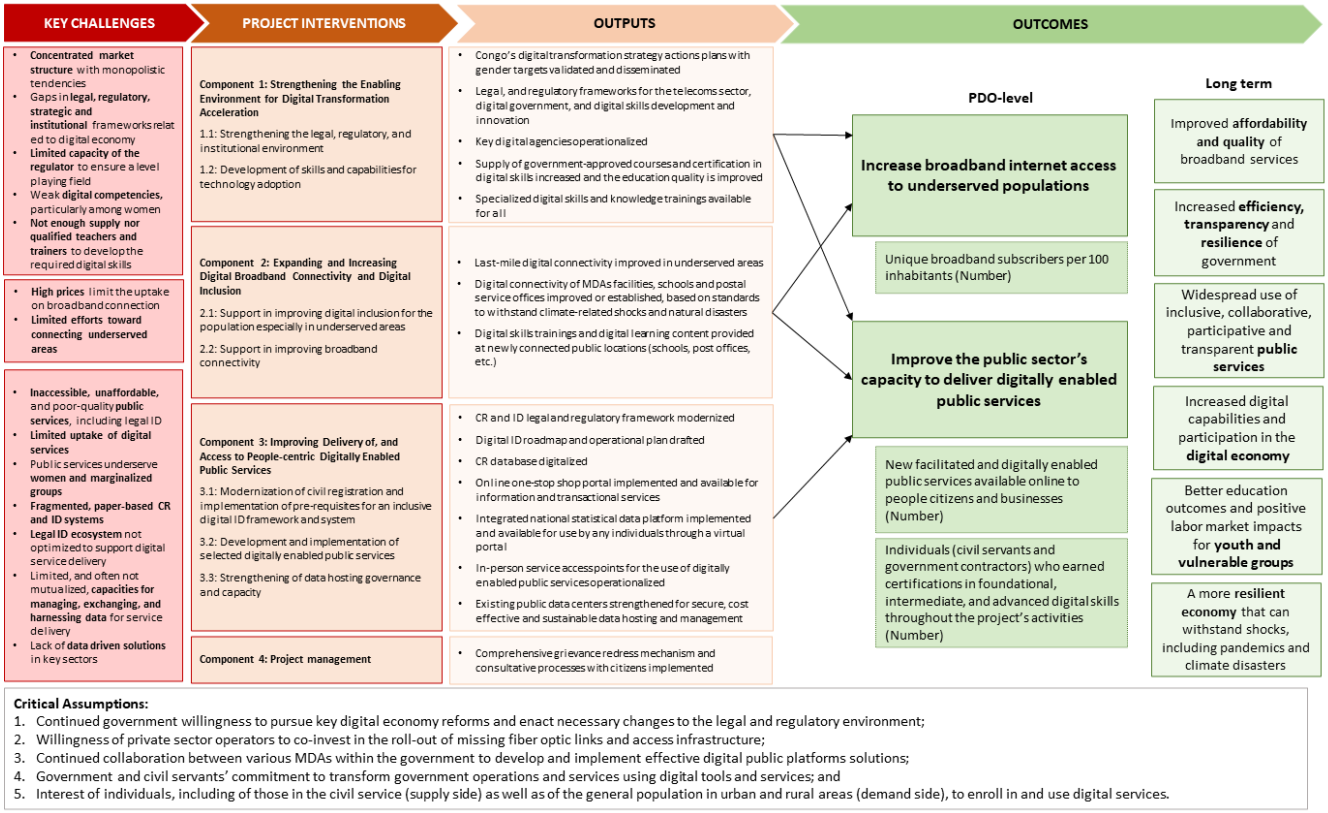
C. Project Beneficiaries

50. **As the proposed project is designed to be people-centric, each component is focused on offering a series of interventions that will bring significant results for a wide range of beneficiaries.** At a macro level, the project will support the country's digital transformation with a focus on the productive use of broadband in digital public service delivery. At the project level, people will benefit from access to lower cost, higher availability and quality broadband internet services, improved access to digitally enabled public services, and digital skills development. Components 1 and 2 will have an impact on nearly every broadband end-user, and business will benefit from the stronger overall market regulation and a policy framework to promote a competition-oriented market. This will enable the envisioned digital economy and enhance the quality, accessibility, and affordability of broadband services. Importantly, public agencies will significantly benefit from this component by applying strategic and operational coordination across MDAs. Component 2 covers a sizable group of individuals and institutions in lagging areas that will directly benefit from improved connectivity. Component 3 focuses on individuals and businesses who will be able to take advantage of a selection of people-centric digitally enabled public services, through the online and physical one-stop-shop interface. Components 1, 2 and 3 will provide significant opportunity for private sector participation such as digital skills development activities, development of digital services, provision of service infrastructure, hardware and software, and technical support and maintenance of the integrated systems. Finally, a significant number of individuals, in particular women, youth, disabled persons, and public employees (civil servants, teachers, and trainers), formal and informal training institutes, local incubators, and associations will be direct beneficiaries of the digital skills training rolled out under Component 1, which will contribute toward closing the "digital divide".

D. Results Chain

51. **The project activities will support the achievement of the PDO through various channels, as detailed in Figure 3.**

Figure 3. Theory of Change



E. Rationale for World Bank Involvement and Role of Partners

52. **The World Bank is well-positioned through its expertise in implementing similar operations, as well as its long-term engagement to support the building of the digital economy in Congo.** 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 levels. Particular areas of technical strength include a dedicated Global Solutions Group of the Digital Development Global Practice, the "Broadband for All" group, which gathers experts in ICT policy reforms that lead lending operations and Advisory Services and Analytics, including support from partners such as GSMA, Facebook, and Microsoft; the Digital Development Communities of Practice dedicated to digital infrastructure, data, and cybersecurity; as well as the ID4D group, a cross-Global Practice initiative to aggregate and mainstream good practice for ID systems, and the Global Financing Facility, a multi-stakeholder global partnership housed at the World Bank that supports good practices in CR. Moreover, in 2019 the WBG launched GovTech Global Initiative, led by the Governance Global Practice, that leverages global partnerships with governments, technology companies, IT experts, and civil society to promote the use of foundational and frontier digital technologies to help transform the delivery of public services. The operation builds on the RoC's 2020 Digital Economy Country Assessment recommendations that reflect the country's most pressing development challenges in the digital economy sector. Importantly, the World Bank has a widely recognized track record of designing and delivering similar projects around the world, by supporting this agenda across six global regions for the past several decades (universal communications agenda

since the 1980s, and digital government agenda since the 2000s). Some lessons learned from recent projects in Cabo Verde, Georgia, Ghana, Haiti, Morocco, and Rwanda[78] can provide valuable opportunities for peer-to-peer learning. The project also builds on previous (such as the CAB project) and current World Bank engagements in Congo (Congo Integrated Public Sector Reform Project [P160801], Congo Education Sector Support Project [P152910][79], Congo Skills Development for Employability Project [P128628][80]). Finally, the GoC views the World Bank a strategic partner in its digital transformation and is eager to establish an effective working relationship for the years to come.

53. **The project will seek to collaborate with IFC to ensure the project fully leverages the MFD-enabling approach**. Notably, the private sector (private telecom operators) has started exploring opportunities to construct a fiber optic backbone with the IFC and potential activities in accelerating mobile money services on the financial service front. The benefits of an early collaboration between the World Bank and the IFC include the facilitation of early private-sector input into policy aspects and investment, IFC's mobilization of strategic partners, and the assessment of funding options under the MFD-enabling principle. A clear assignment of roles between the World Bank and the IFC, whenever possible and relevant, will be established during project implementation.

54. **The project complements work done by other partners that support digital development in Congo, thereby capitalizing on synergies and lessons learned**. In addition to the national fiber backbone links and data centers funded by the AfDB, several other activities have been initiated in parallel by other development partners in Congo in support of the digital government agenda and will complement this project. The EIB and the European Union are currently coordinating with the World Bank to prepare their own complementary interventions in the digital government agenda through parallel financing (of about US$45 million) aimed at improving digital governance in the public sector, building shared platforms for interoperability and data exchange, strengthening cybersecurity, extending the inter-administration fiber optic network, and delivering new digital platforms to modernize the management of information systems in the higher education and health sectors for instance. The French Development Agency (AFD[81]) is supporting the Ministry of Technical and Vocational Education to build its architecture of information systems to collect information on employment, businesses, and incubators.

F. Lessons Learned and Reflected in Project Design

55. **A comprehensive, long-term commitment is needed to support digital transformation.** The project will assist the GoC over the long term to build its 'digital foundations', and to accelerate development of the digital economy and digital public service delivery. The ICT sector is rapidly changing, creating the need for ongoing innovation, upgrading of skills and infrastructure, and constant vigilance and proactivity to prevent regulatory and competition backsliding. Countries with a long-term,

[78] Digital Cabo Verde Project (P171099); Log-in Georgia Project (P169698); eTransform Ghana (P144140); Haiti Digital Acceleration Project (P171976); Morocco Public Sector Performance Program (P169330); Program for Acceleration of Digital Transformation in Cameroon (P173240), and Rwanda Digital Acceleration Project (P173373).
[79] The Congo Education Sector Support Project (P152910) aims to improve education outcomes of primary and lower secondary school children and to increase the effectiveness of selected management systems. The project was approved in 2016 with a total cost of US$30 million, and will be closed in June 2022.
[80] The Congo Skills Development for Employability Project (P128628) aims to improve job and entrepreneurship skills for vulnerable youth to improve their labor market and earnings. The project was approved in 2013 with a total of US$25 million and will be closed in June 2023.
[81] *Agence Française de Développement*

comprehensive vision and support from the World Bank such as Uganda and Rwanda demonstrate the potential to achieve digital transformation, while others have experienced significant backsliding after the World Bank-financed projects and engagements concluded. Although Rwanda and Uganda are least developed and/or landlocked developing countries with poorly developed infrastructure, their online services provision is well developed in comparison with most other countries in Africa (2020 UN E-Government Index Survey Report).[81] Their success derives in part from the fact that they have comprehensive digital government strategies, supported by forward-looking digital government plans aligned with their national policies and the Sustainable Development Goals.

56. **The project's design is also strengthened by the addition of new activities based on international best practices and successful experience in similar World Bank-financed projects in other countries.** The integrated digital government approach and its activities (digital infrastructure, data protection, cybersecurity, digital platforms for people-centric service delivery, digital skills development, open data initiative, etc.) are based on proven international best practices by more advanced countries in this area and were adapted to the needs of Congo. As digital adoption grows, there will be a need for greater user confidence through enhanced data protection measures, designed to enable more sophisticated digital transactions and greater resilience. A digitally competent workforce, comprised of both a population with basic digital skills and ICT technicians and engineers at the service delivery level, is necessary to support the installation of digital infrastructure; but more importantly to drive the adoption of digital services across multiple sectors. Without broad competencies within the workforce and the population as a whole, the adoption of digital technologies will not have the full transformative impact. The Governments of Rwanda, Mauritius and Bangladesh (with the support from the World Bank-financed project, Enhancing Digital Government and Digital Economy [P161086]) have each established a Digital Academy to provide training for government employees at all levels, to increase the maturity and quality of digitalized government services and internal processes. Other operations have focused on digital skills for youth, for instance in e-Burkina (P155645) and e-Gabon (P132824). For youth who have dropped out of education, well-designed digital skills programs offer a second chance to acquire relevant skills for integration and re-integration. A case example of training youth and vulnerable women in partnership with a local NGO is exemplified in Kaduna State (Nigeria), where a digital skills pilot program (Innovation Development and Effectiveness in the Acquisition of Skills Project, P166239) was implemented to improve the digital skills and employment opportunities of youth and vulnerable women between ages of 18 and 40. The project will address the challenges that have emerged in the course of implementing such programs, including: (i) the provision of adequate internet infrastructure, devices and digital tools for digital skills programs; (ii) a reinforced local technology ecosystem to prepare/adapt and deliver training content; (iii) incorporation of local language and knowledge into programs; and (iv) sensitivity to socio-cultural and religious norms that restrict certain population segments from accessing digital skills programs.

57. **For digital initiatives to succeed, and as a prerequisite to unlocking subsequent downstream engagements, a favorable legal and regulatory environment needs to be established as an important "analog complement"**. The World Development Report 2016 highlights the importance of analog complements needed for digital transformation programs to succeed, including appropriate policies and regulatory frameworks, competition, accommodating bureaucratic processes for start-ups, and strong and inclusive education programs. The project thus includes support to legal and regulatory environments as a key activity. Additionally, all services to be digitalized will first be reviewed based on user journey mapping and user experience, to ensure that both analog and digitized processes are

simplified, ensuring that digital services are easily accessible. Success of public sector digital transformation requires a whole-of-government approach, supported by political commitment and coordination, and aimed at integrating government services to improve efficiency. Such an approach requires that government services are not developed in silos, but rather in a coordinated way, based on shared standards, information systems, and infrastructure. Inefficient coordination within and between main implementing agencies may impede a successful digital transformation. The project will thus help the government establish a governance structure to ensure that government agencies and ministries are adhering to the overall vision and standards and have a coordinated pipeline of digital investments. The project's design incorporates the experiences of other similar World Bank-financed digital government development projects in Albania (Citizen-Centric Service Delivery Project (P151972), eTransform Ghana Project (P144140), Modernization of Government Services in Republic of Moldova Project (P148537), Regional Communications Infrastructure Program Phase 5 for Uganda (P130871) and Center of Government – e-Government Reforms Project for Vietnam (P167349) in terms of innovative technical approaches.

58. **Foundational ID system:** This project is based on foundational elements underlying successful ID systems and draws on the wealth of analytical and global convening work on identification by the World Bank's ID4D Initiative, the Principles on Identification for Sustainable Development, and best practices. Foundational ID should be accessible to all persons in a country, regardless of nationality or legal status, and be based on a minimal set of attributes (for example, name, gender, and date of birth) and minimal requirements (documentation or prior registration). In the same vein, birth registration should be simplified, and direct and indirect costs removed, to ensure universal registration of vital events. All ID and CR systems should be designed using a technology- and vendor-neutral approach, to ensure the sustainability of investments. Global best practices for ICT system design (e.g., modular architecture, open standards, and open source), procurement (e.g., technology neutrality) and contracting (intellectual property of key aspects, including user data) are essential.

G. Corporate Commitments

59. **Gender (See Annex 2 for details).** The proposed operation has identified strategic opportunities to narrow gender gaps of low use of the internet and digital services in Congo. This will be undertaken through activities that contribute to improve women's access to digital services; and foster economic empowerment and equal access to training and employment opportunities in digitally enabled professions, which will constitute the primary gender focus of the project. The project includes targeted activities that are expected to reduce the digital gender gap by (i) developing legal and policy frameworks for integrating gender-informed inclusion measures into strategies, policies, and initiatives within the digital sector (sub-components 1.1); (ii) ensuring increased participation of young women in digital literacy and digital skills programs, enabling them to become active users of digital tools and active participants in the digital economy (sub-component 1.2); (iii) strengthening the enabling environment with disaggregated data monitoring through digital sector observatory (sub-component 1.2) and capacity-building programs for decision-makers focused on measuring and bridging the digital gender gap (sub-component 1.1, 1.2, 3.2 and Component 4 under M&E); and (iv) providing Multimedia rooms (sub-component 2.2) where women can freely and safely access the internet. The project will ensure that legislation and strategy aiming at more inclusive access to ID and eliminates barriers that affect women and girls.

59. **Climate Change (See also Annex 3 for details).** The project supports activities that support climate change adaptation and mitigation and lessen its impact on vulnerable populations, in line with the WBG's Climate Action Plan 2020-2025. Activities supported are informed by the climate and disaster risk screening conducted for the project:

    (i) **Climate adaptation**: (i) TA to support ICT-enabled adaptation of the economy and build resilience and emergency response capacity for digital infrastructure; (ii) TA to support industry climate standards in respect to digital infrastructure planning and deployment, combined with climate-proofing actions for activities focused on expanding broadband, such as protocols to ensure infrastructure robustness and emergency response coordination; and (iii) investments to support digitalization of paper-based service delivery in the CR, education, and justice sectors that help enhance response capacity to climate events.

    (ii) **Climate mitigation**: (i) TA to increase policy development, strategic planning, and capacity building to minimize the environmental impact of ICT and support the "greening of the economy" through ICT; (ii) TA to develop regulatory guidelines for climate-smart and energy-efficient infrastructure and to encourage the use of energy-efficient alternative technologies when expanding network infrastructure or procuring equipment, combined with a TA to develop a capacity to monitor the sector's carbon footprint; (iii) energy-efficient standards followed in all ICT procurements and digital infrastructure investments. In particular, Component 2 will provide renewable energy (solar power) for the cellular base stations and the generation of additional power for the communities; (iv) investments to support increasing end-to-end digitalization of government services that do not require physical presence, reducing the need for transport and use of paper, which is expected to reduce fuel consumption, thus minimizing CO2 emissions;[84] (v) TA and investments in better data management and exchange platforms that will support energy-efficiency gains; (vi) TA to develop incentives for infrastructure sharing that will help avoid the duplication of civil works leading to GHG emissions; and (vii) e-waste collection to reduce emissions through better waste management.

60. **Citizen engagement.** CE will be incorporated throughout the project design**.** Although specific CE activities applicable to relevant project activities are fully streamlined at the component level, general outreach activities are planned under Component 4 to cut across all project components. In addition to a GRM, the project will support interactive communication and constant dialogue with the general population, through periodic consultation, to increase understanding of the project and use of digital public services. The project will finance specific activities linked to the inclusion of marginalized population, such as: (i) studies to identify drivers of digital exclusion and barriers to access to digital services; (ii) built-in user research and consultations, including with stakeholders and marginalized groups to collect feedback on the design and implementation of project interventions and inform the deployment of people-centric digitally enabled services under the project; (iii) as part of the development of a strategic roadmap, in-depth qualitative research to understand the people's perspective about the CR and ID ecosystem, the registration process, and the barriers they face, with particular focus on women and vulnerable groups, and (iv) implementation of the project Stakeholder Engagement Plan (SEP).

61. **The project is expected to reinforce CE by ensuring that related mechanisms in place are inclusive**: (i) the project has CE indicators, which will track user satisfaction and citizens' feedback on services

supported by the project; (ii) that grievances are addressed and responded to in a timely fashion; and (iii) the project will reinforce and implement the GRM to strengthen project governance by improving accountability and allowing course correction during implementation based on feedback from citizens.

62. **The project will support regular communications and consultation with the general public to increase understanding of the project and the use of public services.** Meaningful consultations can improve the implementation, and sustainability of the project. They provide an avenue for receiving and acting on input relevant to project implementation, give the marginalized groups the voice to express their priority needs, improve project risk management, and increase transparency and public ownership. Public consultations will be organized throughout project implementation, as well as participatory planning and monitoring.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

63. **Given the project's cross-cutting nature, with several MDAs expected to support implementation, a project Steering Committee (which has been established) will ensure coordination and strategic planning across stakeholders and relevant entities.** The GoC set up the Project Steering Committee, through *note de service* 126-21/MEPSIR/CAB dated November 2021. The committee will be presided by MEPSIR, with MPTEN acting as Vice President, and the project coordinator as permanent secretary and spokesperson. The committee will include key stakeholders representing the Prime Minister's office, ARPCE, CIRAS, ANSSI, DGDEN and other relevant key ministries.

64. **The Steering Committee will include representatives of the following MDAs (to be nominated by their respective Ministers):** office of the Prime Minister, MoF, MEPSIR, MPTEN, Ministries of Education, MoTA, ARPCE, ANSSI, CIRAS, National Center for Economic Information and Management Advisory (CNIECG)[82], and the Single Window for Transborder Operations (GUOT).[83][84] The Steering Committee is to be supported by technical focal points of key stakeholders (including private sector and civil society representatives- that will form subcommittees for relevant components and sub-components, coordinated by the project coordinator. It will hold two ordinary meetings each year, and additional meetings can be scheduled as needed.

65. **The project Steering Committee will oversee project implementation and advise the Project Implementation Unit (PIU).** Its mandate will include (i) reviewing project progress; (ii) provision of strategic guidance and recommendations on project implementation; and (iii) coordination of the relevant MDAs. The Steering Committee's Terms of Reference (ToR), as well as sectorial priorities, roles, and responsibilities were finalized. See Figure 3 below for the proposed coordination structure and implementation layers.

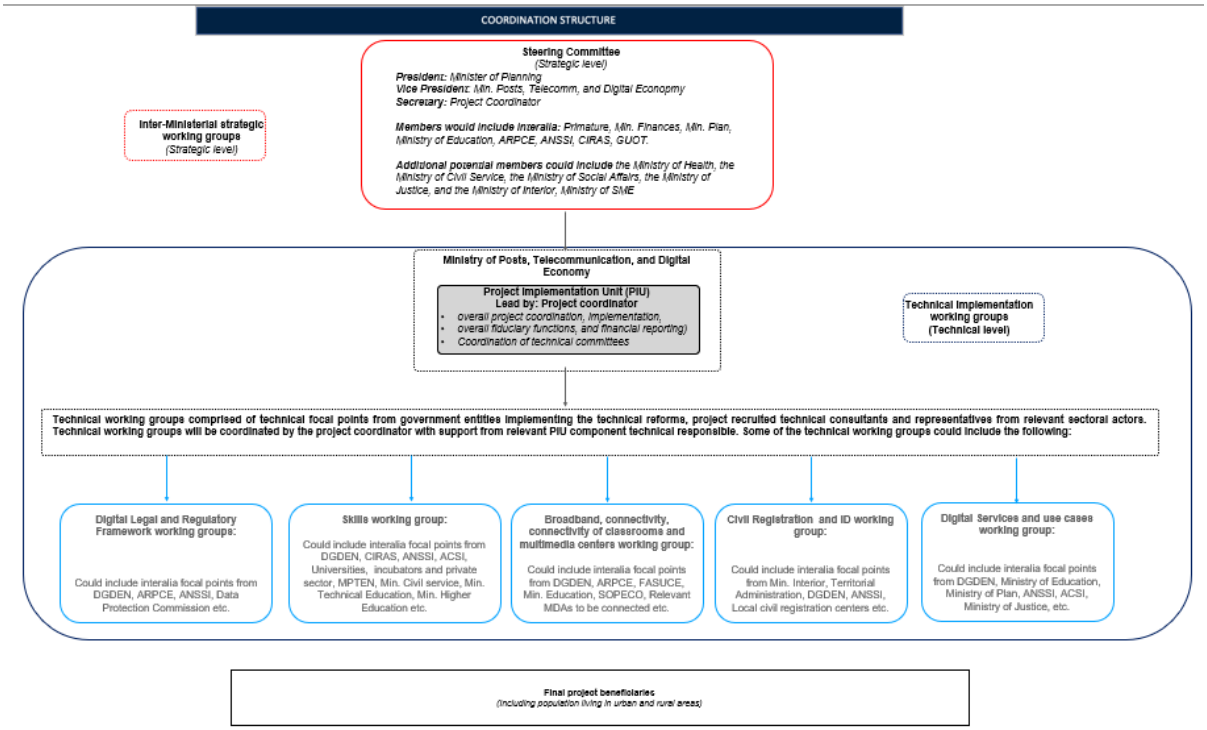
[82] *Centre National d'informations économiques et de conseils en gestion*

[83] *Guichet Unique des Opérations Transfrontalières*

[84] Additional potential members could include the Ministry of Health, the Ministry of Civil Service, the Ministry of Social Affairs, the Ministry of Justice, the Ministry of Security and Public Order, Ministry of SMEs etc.

66. **The project will be implemented by a PIU, led and supervised by MPTEN.** The PIU will be responsible for overall project management and coordination, procurement, financial management, E&S , M&E, and strategic communications. Emphasis will be put on strong financial management and procurement. Key PIU staff will include inter alia and as a minimum, a project coordinator, three (3) component technical specialists (an organization and management expert, a digital government (eGov) expert, a telecom specialist), a Procurement Specialist, a financial management specialist, a social safeguard and gender specialist, and an environmental specialist. The PIU will also coordinate the different stakeholders in the technical working groups. Those technical working groups are ad hoc committees that will be formed during implementation depending on the needs and for each project activity to be implemented.

Figure 4. Coordination Structure



B. Results Monitoring and Evaluation Arrangements

67. **The PIU will be responsible for project monitoring and evaluation activities and will establish a strong performance management system**. Working closely with Ministry focal points and the World Bank, the PIU will report regularly to the steering committee and the World Bank. It will actively organize and participate in implementation support missions and prepare steering committee meetings, including presentations and reporting requirements. The results framework summarizes the M&E sources and arrangements for data collection. The M&E system, as described in the Project Implementation Manual, will incorporate mechanisms to monitor project implementation, compliance with the established procurement and FM procedures, and achievement of project performance indicators. Monitoring instruments include bi-annual progress reports on project implementation, output, and performance indicators. Innovative technologies such as GEMS will also be leveraged to support the Borrower's project supervision capacity.

C. Sustainability

68. **The need for capacity purchase schemes on national networks to support targeted users as defined in sub-component 2.2 will continue long after project closing.** In this regard, the use of long-term pre-purchase agreements (typically for 5-10 years)[67] will ensure program benefits will continue after completion. Furthermore, MPTEN is encouraged to implement a progressive cost-recovery scheme among MDA clients it will provide with bandwidth, to ensure its capacity to maintain and operate the government network. Upon competition, capacity prices should also fall over time, and additional prepurchase agreements will be scheduled, and existing ones renegotiated, to take advantage of this. Regarding the coverage of rural areas as defined in sub-component 2.1, a reverse auction will be implemented, providing telecoms operators with a one-time subsidy to help them expand their network in targeted underserved areas. This subsidy scheme contributes to making deployment cost affordable for telecoms operators and ensures sustainability of the operation, since telecoms operators will be able to maintain the new sites at relatively low cost.

69. **The development of digital services will be based on their long-term viability**. The sustainability of the outcomes of the proposed project will be enhanced by the prominent role of the private sector in the delivery of outcomes, and through government ownership. Sustainability will be a key criterion for the selection of services and platforms targeted by the project. Over the past decade, many digital services pilots and initiatives have been launched, with limited impact and very low viability. This is due to several factors: (i) there is often lack of ownership with off-the shelf solutions pushed to users, or replicated from other countries or contexts; (ii) pilots provide technical solutions for free or without a cost-recovery plan, but users are not ready to pay once the pilot is over; and (iii) technology adoption and digital literacy have been obstacles to scale-up, and the pilots rarely reached a critical mass of users, thus ensuring the financial viability of the service. The project will address these three issues in parallel by providing customized training to users, building the viability of the service in the initial design, and ensuring ownership by involving the end user in the design of the service.

70. **Training will be developed in partnership with local training institutions and integrated within their existing curricula.** "Train-the-trainer" programs will help build long term capacity and continuity of training after the project. In addition, creating strong in-house capacity within the executing agencies for e-Government programs will ensure that the Government has sufficient capacity for maintenance and upgrades.

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic, and Financial Analysis

Technical Analysis

71. **The project will result in improved broadband penetration and service uptake, thanks to increased access and more affordable prices for retail internet services, as well as improved digital services know-how of public officials.** By financing the extension of quality broadband access to rural areas, the project will increase access to reliable internet, reduce the digital divide nationwide, and improve the country's

and ability to respond to different shocks (health outbreaks, political outbreaks, resilience to climate change, and so on). The project will also remove significant policy and regulatory hurdles faced by the private sector and improve the digital culture in academia and in public and private organizations, leading to a rise in private investments and a boost in the internet penetration rate.

72. **The project will generate savings for the GoC by virtue of the shared IT infrastructure and services, and it will also improve the oversight and coordination of IT projects and activities.** The improvements in the policy and regulatory environment in the telecom sector and the development of cross-sectoral strategies and frameworks between governmental agencies will foster collaboration on digital projects led by the government. Furthermore, the supply of (shared) connectivity to universities, governmental agencies, decentralized local authorities, and other public institutions will lead to cost savings in access, maintenance, operations, and upgrades. These gains will be realized as a result of aggregated demand for broadband, which will drive lower and competitive connection costs shared connectivity among governmental agencies, which will lead to a mutualization of costs and enhanced efficiency of government action and coordination and shared connectivity, which will foster a paperless administration and reduce related expenditures.

73. **The digitalization of public services and the training of public staff on digital skills will develop local capacity to transition Congo toward a digital government.** The combination of connectivity investments, technical assistances and capacity building will rapidly enhance the ability of civil servants to implement and use e-government services. This will foster improved service delivery for G2P and G2B. In addition, interconnecting government agencies will pave the way for proper interoperability leading to improved efficiency, transparency, accountability. These actions are expected to have a positive direct and indirect impact on the digital government capabilities of the country.

Economic analysis

Strengthening the enabling environment for digital acceleration

74. **Benefits of the investments in certified digital skills development are expected to be substantial.** Benefits come through lifetime increases in earnings of people, including females, who obtain digital skills. The project aims to provide 3,000 people with opportunities to acquire certified foundational to advanced digital skills, 40 percent of whom will be women. Academic research shows that people in work who acquire digital skills achieve an increase in annual earnings of between 3–10 percent.[85]

75. **A summary of the assumptions used, and findings is below.**
    - **Start-up and training costs**. The costs of assessing the skills needed in the labor market, establishing and implementing standardized certification in digital skills, and developing the digital skills training programs is estimated to be US$10.6 million. The cost of delivering the training program is estimated to be US$200 per person.
    - **Discount rate**. A discount rate of 5 percent was used, in line with World Bank guidance.
    - **The main assumptions underlying the analysis are**: (i) start-up activities take one year; (ii) training starts in year two; (iii) benefits start to flow from year two and continue for 10 years; (iv) the average income of office workers is US$150 per month; and (v) persons benefiting

[85] Centre for Economics and Business Research. 2015. The economic impact of Basic Digital Skills and inclusion in the UK. November.

from the training earn 6.5 percent more than they otherwise would.

Table 2. Economic analysis of the benefits of investments in digital skills

	Base case	**Scenario 1** (costs up by 10%)	**Scenario 2** (benefits down by 10%)	**Scenario 3** (costs up by 10% and benefits down by 10%)
Net present value	US$26.9 million	US$25.8 million	US$23.2 million	US$3.5 million
Internal rate of return	29.5 percent	27.2 percent	27.0 percent	24.8 percent

76. **These estimate of the net present value and internal rate of return are likely to be underestimated for several reasons**. First, the project aims to deploy a "train-the-trainer" program that is likely to lead to training and certification of much larger numbers of civil servants than those directly trained under the project. Second, the project will support Digital Ambassadors who will train members of their largely rural communities in basic digital skills and in how to use e-services, such as use e-gov and e-business services. Third, the project will train people in advanced digital skills, including for ICT professionals, which is likely to lead to much higher increases in lifetime income for the beneficiaries than the 6.5 percent used in the calculations above. Finally, the project will help to strengthen 20 institutes and education facilities through development of educational content and establishment of certification processes, which will extend the reach of the project's training activities to a greater number of people in the future.

77. **The investment in improving digital skills provides significant benefits for the wider society that cannot be quantified, due to lack data.** These include (i) enhanced productivity of people in work; (ii) improved employability; (iii) time savings of accessing government services digitally; and (iv) reduced costs of staying connected to family and friends.

Expanding and increasing Digital Broadband Connectivity and Digital Inclusion

78. **Benefits of the investments to expand access to and uptake of broadband services in underserved rural areas are expected to be substantial.** According to a study carried out by the ITU, a 10 percent increase in mobile broadband penetration in lower-middle income countries yields an increase of 1.9 percent of GDP.[86] Improvements in the regulatory environment and provision of subsidies to commercial operators to expand broadband infrastructure under the project is expected to increase 3G mobile broadband availability in the Republic of Congo by 7 percentage points (reaching 404,000 people). If one half of the people newly gaining access subscribe to the service, this would increase GDP by about 0.665 percent during 2023–2027. This is equivalent to about US$67.7 million, far in excess of

[86] ITU. 2019. *Economic contribution off broadband, digitization and ICT regulation: Econometric modelling for Africa*. Regional Initiatives Africa.

the investment costs. A number of other studies show the contribution of expanding broadband connectivity by 10 percentage to GDP growth, as shown in Table 3.

Table 3. Estimates of contribution to GDP of expanding connectivity to broadband services by 10 percentage points

GDP growth (percent)	Countries covered	Sources / Authors
0.9–1.5	OECD, 1996–2007	Czernich, et al. 2011[87]
0.82–1.4	OECD, 2002–2016	Koutroumpis, 2018[88]
1.1	European Union countries, 1980–2009	OECD, 2011
1.4	Low-income countries, 1980–2006	Qiang et al., 2009[89]
1.35	Low-income countries, 1980–2011	Scott 2012[90]
0.6–2.8	Global, 2000–2015	Endquist et al., 2018[91]
1.5	Global	ITU 2019[92]
2.46	Africa	ITU 2019[93]

Increasing the proportion of people connected to broadband services contributes to economic growth through multiple channels.[94] It reduces the time and costs of finding information and learning skills, leading to increased productivity of workers. For farmers, it allows for real-time information on weather, prices, and management practices, increasing their productivity and incomes. Having access to broadband is linked to the creation of new firms and expansion of existing firms, especially in rural areas, because it allows firms to link to suppliers and markets at lower cost than would otherwise be possible. New and expanding firms create jobs contributing to GDP growth. Having access to broadband also helps link people to potential employers, reducing the cost of job search.

79. **Benefits of establishing and operationalizing multimedia centers in schools and post offices, which will expand access to broadband to people who do not have a subscription, are expected to be substantial.** Quantifiable benefits come through time and travel cost savings of users. Some 57 multimedia centers will be established in schools. Each of these are expected to serve 1,200 students per month for 10 months a year, totaling 684,000 users per year. Having access to these multimedia centers in their schools is expected to save each user US$4 in travel costs per year that would be incurred to access a digital access point at a different location. In addition, 75 newly established digitization access points to be established at post offices and other locations are expected to serve about 1.5 million people per year starting in 2024. Each user is expected to save an average of four hours (equivalent to US$3.56) and one trip (equivalent to US$8.00 in travel costs per year) in accessing services, including time required to gather information, learn new skills, apply for services, and the like.[95]

[87] Czernic, Nina, Oliver Falck, Tobias Kretschmer, Ludger Woessmann. 2011. “Broadband Infrastructure and Economic Growth,” *The Economic Journal*, Vol. 121, Issue 552, pages 505–532. May.
[88] Koutroumpis, Pantelis. 2018. “The Economic Impact of Broadband: Evidence from OECD Countries.” Ofcom.
[89] Qiang, Christine, and Carlo M. Rossotto with Kaoru Kimura. 2009. “Economic Impacts of Broadband,” *Extending Reach and Increasing Impact*, *Information and Telecommunications for Development*, World Bank, Washington, DC.
[90] Scott, Colin. 2012. “Does Broadband Internet Access Actually Spur Economic Growth?” December.
[91] Edquist, Harald, Peter Goodridge, Jonathan Haskel, Xuan Li, and Edward Lindquist. 2018. “How important are mobile broadband networks for global economic development?” Information Economics and Policy, 2018, vol. 45, issue C, pages 16–29.
[92] ITU. 2019. *The State of Broadband: Broadband as a Foundation for Sustainable Development.* ITU/UNESCO Broadband Commission for Sustainable Development. Geneva.
[93] ITU. 2019. *Economic contribution off broadband, digitization and ICT regulation: Econometric modelling for Africa.* Regional Initiatives Africa.
[94] University of Missouri. 2021. “Economic Benefits of Expanding Broadband in Select Missouri Counties.” June.
[95] Time and travel costs savings are relatively high, because the multimedia centers are primarily located in rural areas.

80. **A summary of the assumptions used, and findings is below.**
    - **Capital and maintenance costs**. The capital cost of each new digitized access point is estimated to be US$106,061 (including structures and equipment). The annual cost for maintenance is estimated to be 10 percent of the capital cost over a period of 20 years.
    - **Discount rate**. A discount rate of 5 percent was used, in line with World Bank guidance.

81. **The main data underlying the analysis for connectivity are**: (i) construction period of one year; (ii) benefits start to flow from year two and continue for 20 years; (iii) students save an average of US$4 in travel costs; (iv) users of the facilities in post offices and other locations save an average of US$11.56 per year, considering both time and travel cost savings.

Table 4. Economic analysis of the time and travel cost savings of investments in multimedia centers

	Base case	**Scenario 1** (Costs up by 10%)	**Scenario 2** (benefits down by 10%)	**Scenario 3** (costs up by 10% and benefits down by 10%)
Net Present Value	US$214.0 million	US$211.0 million	US$191.3 million	US$188.4 million
Internal Rate of Return	137 percent	123 percent	123 percent	

82. **The establishment of the multimedia centers will provide significant benefits that cannot be quantified**. Citizens who would otherwise not receive the opportunity to gather information, access a service, or learn new skills because the time and travel costs were previously prohibitive will now be able to perform these tasks through the internet. This is likely to lead to improved health and well-being, higher productivity, and the like.
83. **Benefits of connecting MDAs and public digital skills training providers to broadband are expected to be substantial.** The project aims to connect 22 MDAs to broadband covering both national and local government service providers. This will reduce the administrative costs incurred by the MDAs by reducing the time required to handle paper-based requests for information and to process applications and transactions. In addition to time and labor, these manual processes can require non-trivial outlays for expenses such as printing and photocopying, postage, and the rental or purchase of buildings large enough to store millions of records.

84. **Connecting the MDAs to broadband will also reduce time and travel costs of people and businesses seeking government services.** When people are able to access services remotely, they no longer have to spend time and money traveling to government offices.

Improving delivery of, and access to user-centric digital government services

85. **Benefits of investments to modernize the CR systems are expected to be substantial**. Digitalizing CR registration posts, implementing a secure CR database, and providing G2P service through the CR registration posts will reduce administrative costs by decreasing the need to create, manage, and use documents that are the basis of the current paper-based system. The significant staff time required to

process paper-based applications and to validate and update paper-based records can be redeployed for higher-value activities. Modernizing CR systems will also save citizens time and travel costs of registering a life event. Finally, modernizing CR systems will enable some of the 41 percent of Congolese over the age of 15 to acquire a national ID and therefore to access essential government services.

86. **Benefits of improving delivery and access to select citizen-centric services are expected to be substantial.** Benefits come through three main channels: (i) time and travel cost savings of people seeking services; (ii) reduced administrative costs; (iii) reduced costs related to disasters or weather emergencies; (iv) reduced costs of accessing national statistical data; (v) improved access to on-site digital skills learning opportunities in secondary schools; and (vi) more secure, cost effective, and sustainable data management. Currently existing data exists only for calculation of benefits of the time and travel cost savings of applicants to the programs. Details are below.

87. **Reduced time and travel costs for applicants**. About 75,000 people a day by the end of the project are expected to access the digital services supported under the project. Each person is expected to save one hour a day (equivalent to US$0.89) by connecting to the one-stop shop and one trip (equivalent to US$1.00), compared with having to travel to a government office to collect information and apply for services.[96]

88. **A summary of the assumptions used, and findings is below.**
    - **Capital and maintenance costs**. The capital costs of establishing a one-stop-shop portal and unified government interface for people and businesses is estimated to be US$15.5 million. The annual cost for maintenance is estimated to be 20 percent of the capital cost over a period of 10 years.
    - **Discount rate**. A discount rate of 5 percent was used, in line with World Bank guidance.

89. **The main assumptions underlying the analysis are**: (i) installation period of one year; (ii) benefits start to flow from year two and continue for 10 years; and (iii) applicants save an average of US$1.89, considering both time and travel cost savings, as described above.

Table 5. Economic analysis of the time and travel cost savings of investments in the digitally enabled public services

	Base case	**Scenario 1** (costs up by 10%)	**Scenario 2** (benefits down by 10%)	**Scenario 3** (costs up by 10% and benefits down by 20%)
Net Present Value	US $127.4 million	US$123.7 million	US$113.2 million	US$109.7 million
Internal Rate of Return	50 percent	47 percent	47 percent	44 percent

[96] These assumptions are likely to be underestimates.

Reduced administrative costs. The project aims to support the simplification and digitalization of administrative procedures and transactions, including process mapping and reengineering. This is expected to eliminate unnecessary steps in processing applications and transactions, increasing overall efficiency.

90. **Reduced costs arising from disasters and other emergencies**. The project's support for the development of services accessible through alternative channels, such as USSD can be used for push-messages to the citizens in the event of a disaster or harmful weather conditions. Timely warnings of an impending storm will enable people to move to safe areas.

Reduced costs of accessing national statistical data. The project's support for development and management of an integrated national statistical data platform and portal to make available all sectoral, census, and survey data in Congo will significantly reduce the costs to users of accessing such data. This in turn will provide significant spillover effects in the form of studies based on the data.

91. **Improved access to on-site digital skills learning opportunities in secondary schools**. This will enable more people to improve their digital skills, which will in turn, lead to higher lifetime incomes, as noted above.

92. **More secure, cost effective, and sustainable data management**. The project's support to bring scattered data centers into one centrally hosted data center is expected to provide significant benefits. Specifically, the government is expected to save on annual operations and maintenance costs by relying on a centralized data center, rather than having data centers in individual ministries and agencies.

B. Fiduciary

Financial Management

93. **An assessment of the MPTEN PIU was conducted to determine its capacity to carry out the project's FM activities.** The MPTEN PIU was found to have adequate FM arrangements in place to ensure that project funds are used for the purposes for which they are provided, with due attention to considerations of economy and efficiency. The following is a summary of the FM assessment (see Annex 1 for more details).

94. **The assessment revealed that there are adequate FM arrangements in the MPTEN PIU to implement fiduciary aspects of the project.** The MPTEN PIU will be responsible for the overall financial management of the grant. However, being a newly created PIU, it has no direct experience in World Bank FM procedures. Reliance on the MPTEN PIU to implement the project is subject to the completion of its FM system, on a basis acceptable to the World Bank. Minimal FM arrangements would require that the implementing entity: (i) use project funds only for the intended purposes in an efficient and economical way; (ii) prepares accurate and reliable accounts as well as timely periodic financial reports; (iii) safeguards project assets; and (iv) has acceptable auditing arrangements.

95. **The following actions will need to be implemented:** (i) opening the Designated Account (DA) in a financial institution acceptable to the World Bank; (ii) the drafting of a manual of procedures for the new project and grant specificities; (iii) the acquisition of adequate management accounting software to record project transactions and prepare Quarterly Interim Unaudited Financial Reports, whose format was agreed on, and not longer than three months after effectiveness; (iv) ToR for the recruitment of an external professional practice firm to implement the internal audit function, and subsequent recruitment, with the World Bank's agreement; (v) ToR to recruit an independent external auditor, acceptable to the World Bank, based on acceptable ToR; and (vi) completing the recruitment of an experienced FM specialist officer and an accountant.

96. **For disbursement purposes, a DA denominated in XAF has been opened at a financial institution acceptable to the World Bank.** The DA will later be transferred to the MPTEN PIU as soon as the client issues a request changing and naming new signatories to the DA, following the recruitment of the MPTEN core team. In the interim, the DA signatories are with the PIU of the Integrated Public Sector Reform Project (P160801). Funds will flow from the credit account to the DA to be used for the payment of suppliers or service providers. Disbursements will be based on statements of expenditures and customized statements of expenditures for transaction related to hazard pay. The frequency of reporting on the use of the DA will be monthly. Other disbursement methods such as reimbursement, special commitment, and Direct Payment will apply as well. The minimum value of application for such payments will be stated in the disbursement letter.

97. **The PIU will submit quarterly interim financial reports to the World Bank, using the existing formats in place.** An External Audit firm will be recruited to conduct an annual audit of the project's financial statements. The audit report will be submitted to the World Bank no later than six months following the end of the calendar year.

98. **The overall project FM risk is assessed as Substantial.** The implementation of the mitigation measures will be reviewed, and the FM risk will be reassessed as part of the continuous implementation support for the project. FM implementation support by the World Bank will be implemented on a quarterly basis. The proposed financial management arrangements for this project are considered adequate to meet the World Bank's minimum fiduciary requirements under Bank Directive: Financial Management Manual for World Bank Investment Project Financing Operations, and Bank Guidance: Reference material - Financial Management in World Bank Investment Project Financing Operations.

Procurement

99. **The project will follow the World Bank Procurement Regulations for Investment Project Financing Borrowers for Goods, Works, Non-Consulting and Consulting Services dated November 2020.** The project will be subject to the World Bank's Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by International Bank for Reconstruction and Development (IBRD) Loans and International Development Association (IDA) Credits and Grants, dated October 15, 2006, and revised in January 2011 and as of July 1, 2016. The project will use the Systematic Tracking of Exchanges in Procurement (STEP) to plan, record and track procurement transactions. All procurement will be carried out using the World Bank's Standard Bidding Documents (SBD) or Standard Request for Proposals respectively for all International Competitive Bidding (ICB) for goods and all recruitment of international consultants. For National Competitive Bidding (NCB), the Borrower will use the World

Bank's SBD for ICB for goods and the World Bank's Standard Request for Proposals for the recruitment of consultants. Annual procurement audits will be carried out throughout the duration of the project.

100. **The Borrower prepared the Project Procurement Strategy for Development (PPSD) and the Procurement Plan.** The World Bank has reviewed the PPSD and agreed to the Procurement Plan prior to the completion of loan negotiations on May 3, 2022. An initial procurement plan for the first 18 months has been agreed with the Borrower and will be updated during implementation. The PPSD provides the basis and justification for procurement decisions, including the approach to market and selection methods. The PPSD concluded that the operational context should allow for the proper execution of project procurement. The project implementation team is experienced with the procurement regulations for investment projects financed by the World Bank. The governance of the project integrates both the technical supervision, the steering committee and the beneficiary committee which should interact permanently with the project management unit. The market analysis concluded that there is a sufficient number of qualified companies in Congo and the sub-region to carry out services related to IT and digitalization, etc. The size of some project procurement and the existence of local expertise will lead the project to favor national tenders for these procurements. Firms will be selected through competition using open national tenders for the performance of contracts. Nonetheless, a technological watch should be undertaken to ensure that the project aligns with latest evolution.

101. **All goods, works, and non-consulting services will be procured in accordance with the requirements set forth or referred to in Section VI.** Approved Selection Methods: Goods, Works, and Non-Consulting Services of the Procurement Regulations, and the consulting services will be procured in accordance with the requirements set forth or referred to in Section VII. Approved Selection Methods: Consulting Services of the Procurement Regulations, the PPSD, and the Procurement Plan approved by the World Bank. Regarding the implementation of sub-component 2.1 related to the improvement of digital inclusion to ensure coverage of targeted underserved areas, private telecom operators will be selected following a reverse auction bidding process. Interested private telecom operators will submit their bids in the form of business plans highlighting the total amount to cover the targeted area, the potential revenues to be realized over a period of time and the amount of the one-time CAPEX subsidies needed. The private operator to be recruited will be the one applying for the lowest one-time CAPEX subsidies to deploy, operate and maintain network access infrastructure in the targeted area. The contract to be signed with the private operator for the deployment of the infrastructure will include two main headings, namely (i) the amount of funds to be mobilized by the private operator, and (ii) the amount of the one-time CAPEX subsidies. Project funds will only finance the amount of the one-time CAPEX Subsidies. PIM, describing the reverse auction tendering process, the selection criteria for private operators, the terms of financing and the execution of contracts, the rights and obligations of the Borrower and the private operator, will be elaborated to guide the implementation of the component on improving the digital inclusion of underserved areas.

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

102. **The Environmental Risk rating is substantial**. The current environmental assessment (specifically the development of the Environmental and Social Management Framework [ESMF]) indicates that the project will bring more E&S benefits than negative impacts. These negative E&S impacts are generic and the measures to control them are already known from the experiences of similar projects. Among these negative impacts are dust, loss of plant species, waste production, risks of soil, surface water and air pollution, noise pollution and destruction of crops resulting from project activities.

103. **The project has already launched the recruitment of environment and social safeguards specialists** whose responsibility will mostly focus on (i) implementation of the Environmental and Social Commitment Plan (ESCP)[97]; (ii) incorporating the requirements of the relevant Environmental, Social, Health and Safety (ESHS) standard in ToR of TA, in a manner acceptable to the World Bank, and monitoring their implementation; (iii) preparing the ESHS requirements for all subproject documents, including bidding; and (iv) prepare the ESHS quarterly report. Considering the above and the fact that some activities with a high potential for environmental impacts (notably the construction of a new marine cable landing point) have been removed from the project, the level of environmental risk is now assessed as moderate.

104. **The project Social Risk is rated Substantial.** Overall, the expected social impact stemming from the project is expected to be positive, as it will enhance access to digital tools and services, as well as facilitate improved public service delivery by leveraging digital solutions and stimulate growth. The potential social risks identified mainly relate to medium scale (size, budget, duration) of infrastructure works and the downstream social impacts that could emerge from the execution of some of the foreseen technical assistance. The infrastructure works will be implemented in small to medium-sized populations, including rural areas, with mostly direct social impact temporary, predictable, or reversible. The poor track record of the Borrower's managing social risks, including stakeholders' engagement, raised the social risk rating to substantial. The potential social risks are related to:

(i) Exclusion of most "disadvantaged or vulnerable" peoples, including indigenous peoples, in accessing project benefits. Girls and women are at a disadvantage due to limited use of the internet, time to devote to income-generating activities, and access to services. While increasing broadband internet access to underserved populations and improving the government's capacity to deliver digitally enabled public services hold promises for poverty reduction and shared prosperity digital divide of most vulnerable peoples, including women, can drive to more social and economic exclusion. As the access to social and economic opportunities will increasingly rely on digital access, it will be paramount to address the present (and any future) digital divide, by encouraging universal access to broadband. Supporting universal digital adoption and participation in the digital economy will require all Congolese to be equipped with the means to get online, including those who may be more disposed to digital exclusion –i.e., low income and rural households, women, the elderly and disabled. The project will address this risk under Component 2 (Expanding Digital Broadband

[97] Disclosed in-country on April 20, 2022, and on the World Bank website on April 14, 2022

Connectivity and Digital Inclusion) and Component 3 (Improve Delivery of, and Access to People-centric Digitally Enabled Public Services) by adopting a tailored approach to marginalized populations and groups, including addressing digital literacy barriers, promoting access to affordable smart devices through new programs, and extending connectivity to underserved areas within the country. At the level of Component 1, the project will support the development and reform of the broadband market for better access, quality of service and affordability. The project will also adopt an inclusive and user-centered approach at the earliest opportunity.

(ii) Gender-Based Violence (GBV), sexual exploitation and transmission of communicable diseases such as HIV/AIDS on affected communities may also occur due to the project activities, including labor influx. The potential risks and mitigation measures for impacts on beneficiaries, including compliance with the community health and safety requirements as stipulated in the Environmental, Health, and Safety Guidelines for Telecommunications is foreseen in the ESMF and detailed in work specific Environmental and Social Management Plans (ESMPs). A GBV action plan was developed, approved and disclosed.

(iii) Temporary disruption to economic activity or physical and/or economic displacement due to certain activities related to the construction, maintenance, and operation of digital infrastructure (optic cable installation) could imply physical and/or economic displacement.

(iv) Lack of citizen engagement in the implementation of the project. Most of the population in Congo is excluded from participating in the political and economic spheres, weakening the citizen-state compact due to the highly centralized nature of the Congolese government. Improving transparency of the project through adequate and timely disclosure of information will help citizens play a larger role in it. Congo ranks low (114th out of 180 countries in 2018) on the Reporters Without Borders World Press Freedom Index. Efforts to involve civil society organizations in monitoring projects have not yielded expected results. NGOs are not well coordinated and not closely involved in public debate.[98] To address these challenges, the project has been designed to support mechanisms for CE. A unified system for citizen feedback on public services and a call center are expected to significantly strengthen CE and accountability of service providers. Additionally, an advisory group consisting of representatives from civil society organizations that work with women, youth, elderly, and rural communities will meet periodically to provide feedback to the project to ensure high degree of social inclusion. The project will also finance periodic annual satisfaction surveys to facilitate independent feedback from a wide range of citizens from all demographic segments on their experience with services, specifically including vulnerable groups.

105. **Also, whilst the TA activities do not have direct adverse E&S impacts themselves; however, the main impact will be the downstream of these TA activities.** The TA activities to be financed under Component 1, 2 and 3 will (to some extent) induce the future construction of physical infrastructure or the implementation of activities with potentially significant physical impacts on the environment. The potential key adverse risks that may be associated with TA/policy/frameworks stated in these activities could include: (i) risk of recording labor and working conditions that do not comply with the Environmental and Social Framework (ESF) provisions; (ii) risks related to community health and safety (HIV/AIDS, COVID-19, SEA/SH) with the interaction of local populations, sometimes external consultants;

[98] World Bank, 2020. The Republic of Congo Country Partnership Framework's (CPF) (FY20-25)

and (iii) road safety risks related to traffic accidents particularly for studies, training activities, activities of consultants and PIU.

106. **The project has developed an ESMF and made public at country level and on the World Bank's external website.** This ESMF indicates that the project will bring more environmental and social benefits than negative impacts. These negative environmental and social impacts are generic and the measures to control them are already known from the experiences of similar projects. The ESMF will be redisclosed by effectiveness. The project also prepared, consulted on and disclosed the following E&S management instruments: A stakeholder engagement plan (SEP) to address the challenge of ensuring the full involvement/participation of the stakeholders, including a GRM for all stakeholders; An Indigenous Peoples Planning Framework (IPPF) to ensure indigenous peoples culturally adequate participation of project's benefits to be redisclosed no later than one month after effectiveness; A Labor Management Procedures (LMP) including a GRM for project's workers to be redisclosed no later than one month after effectiveness; A Gender Based Violence (GBV) action plan to be redisclosed no later than one month after effectiveness;. The Resettlement Policy Framework (RPF) has been prepared and disclosed and an updated version shall be updated as needed, finalized, and redisclosed before disbursement of Component 2.[99]

V. GRIEVANCE REDRESS SERVICES

107. **Communities and individuals who believe that they are adversely affected by a World Bank supported project may submit complaints to existing project-level GRMs (Grievance Redress Mechanism) or the World Bank's Grievance Redress Service (GRS).** The GRS ensures that complaints received are promptly reviewed to address project-related concerns. Project-affected communities and individuals may submit their complaint to the World Bank's independent Inspection Panel which determines whether harm occurred, or could occur, because of World Bank non-compliance 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, 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*.

108. **Citizen engagement:** The project has been designed to support mechanisms for CE. Feedback from citizens will inform project activities through a citizen feedback platform, providing people an efficient and comfortable channel for communication. A unified system for citizen feedback on public services is expected to significantly strengthen citizen engagement and accountability of service providers. Additionally, an advisory group consisting of representatives from civil society organizations that work with women, youth, elderly, and rural communities will meet periodically to provide feedback to the project to ensure high degree of social inclusion. The project will also finance periodic annual satisfaction

[99] E&S documents were prepared and disclosed: The ESCP was disclosed on the World Bank website on April 14, 2022, the IPPF was disclosed on the World Bank website on April 13, 2022, the SEP and LMP were disclosed on the World Bank website on April 14, 2022. These four documents have been disclosed in-country on April 20, 2022. The RPF was disclosed on the World Bank website on April 19, 2022 and in-country on April 20, 2022. The GBV action plan was disclosed on the World Bank website on May 9, 2022, and in-country on May 10, 2022.

surveys to facilitate independent feedback from a wide range of citizens from all demographic segments on their experience with services, specifically including vulnerable groups (e.g., persons with disabilities and the elderly). The surveys will gauge the satisfaction level of citizens, the quality of interaction, challenges faced by businesses and citizens (disaggregated by gender), and suggestions of how to improve services. The respective interventions financed by the project will be revised or fine-tuned accordingly.

VI. KEY RISKS

109. **Overall Project Risk is rated Substantial.** The main risks and mitigation measures are identified below. The rating corresponds to residual risks after mitigation.

110. **Political and Governance risk is rated Substantial.** The country is performing poorly on the World Bank's overall Country Policy and Institutional Assessment with a score of 2.7 (compared to the regional average of 3.1) since 2017 and is classified as a country with high institutional and social fragility in 2021. A 2019 Risk and Resilience Assessment stressed the Government's highly centralized nature, undermining the emergence of transparent, effective, and inclusive institutions. It further highlighted the lack of institutional accountability and weak capacity to deliver basic public services, which poses a substantial risk of hindering effective policy reforms in improving the broadband market competition and rollout of online public services. These risks will be mitigated through continuous TA activities proposed under Components 1 and 3, with close consultation with key sectoral MDAs and a to-be-established inter-ministerial coordination committee. Even though high political and governance risk can be mitigated, the residual risk remains substantial, considering the potential structural inertia due to the country's political turnover and governance priorities. Additionally, there are also risks stemming from the market position of the State-Owned Enterprise (SOE) telecom incumbent CT, which controls a sizable share of the fiber market. The SOE has been inefficient in delivering services and affected by deficient governance. Numerous past efforts to reform the SOE have been unsuccessful as well as regulation. Measures have been introduced in the design of the project to ensure transparent and competitive tenders in the connectivity component: reverse auctions will be used to extend mobile coverage in remote areas (sub-component 2.1); and competitive tenders will be used for the deployment of multimedia rooms (sub-component 2.2). MDAs connectivity (sub-component 2.3) is focused on Pointe-Noire and Brazzaville, where at least two other operators have already deployed metro fiber loops, thus providing assurance of competitive tendering, for the project's infrastructure finance activities.

111. **Macroeconomic risk is rated High.** Congo remains highly exposed to external and domestic macroeconomic factors affecting revenue, investment, and growth. These stem from several sources, including the limitation of economic activity, which has been amplified by the effects of the COVID-19, and vulnerability due to its dependency on a single commodity. This could lead to increased expenditures and a change of priority beyond the project scope to mitigate the consequences of the COVID-19 (in the context of economic recession). To mitigate these risks, the World Bank will closely monitor macroeconomic performance and its impact on the project, in close dialogue with the GoC, and remain proactive to potential circumstances that may require restructuring.

112. **Institutional Capacity for Implementation and Sustainability is rated Substantial.** Even though the implementing ministry (MPTEN) has some previous experience in implementing a World Bank-financed project (CAB regional project (P122398)), the project size is large and involves multiple line ministries. Therefore, it requires MPTEN and the PIU to ensure operational and strategic coordination between different MDAs and stakeholders, who may not be familiar with the management of World Bank-financed projects. Part of the mitigation measures include the establishment of a strong PIU with close coordination with MPTEN, the Office of the Prime Minister, and relevant line ministries, supported under Component 1. Given the cross-cutting nature of the reforms advocated by the project, stronger sectoral coordination is required. Hence, the project will support the GoC in establishing a strategic approach to digitalization in the public sector and will provide TA supporting strategic and operational coordination. The project will train government employees in conceptualizing, planning, managing, and monitoring digital government services to help build technical sustainability.

113. **Fiduciary risk is rated Substantial**. A detailed FM and procurement capacity risk assessment has been conducted for the implementing agency during project preparation. The assessment concluded that FM arrangements were adequate whereas procurement functions will require strengthening. Fiduciary risks include insufficient FM information, procurement systems, compliance with budgetary rules and processes, planning and execution of capital expenditures. Another significant risk is the potential overreach/interference of line ministries in project activities, to influence the financing of expenditures that are either ineligible or unrelated to the PDO, i.e., the risk that project funds would be treated by the Government counterpart as indirect budget support to supplement line ministry government spending. Line ministries in Congo tend to revert to discretionary measures or national directives that are not compliant with financial agreement strictures. To mitigate this risk, the project seeks to communicate to applicable procedures and directives surrounding the use of World Bank funds and to reduce any knowledge gaps, through workshops with line ministry staff, and to closely monitor non-objection requests to the World Bank to prevent inadequate expenditure items on an “ex-ante” basis. On procurement, the capacity of the PIU needs to be strengthened through the competitive hiring of a procurement specialist. Additional trainings and support will also be provided throughout implementation. Relevant mitigation measures are further detailed in Annex 1. Finally, World Bank’s FM and Procurement Specialists will be supporting the project through its implementation.

114. **E&S risks are rated Substantial.** Direct E&S risks and impacts are likely to be significant but deemed to be predictable, reversible, and location specific. The risks and impacts will primarily result due to deployment of terrestrial infrastructure to connect priority schools and MDAs and construction of a submarine landing station (if concluded to build one), which may entail an impact on the environment and temporary population displacement. The anticipated environmental risks and impacts may include (which will be actively addressed): (i) solid and e-waste generation (mostly old computers and ICT devices) from institutions that will be connected to the internet and digital platforms; (ii) energy consumption as well as noise pollution from back generators; (iii) installation of IT equipment resulting in small-scale land acquisition; (iv) habitat alteration from the civil work activities of trenching to lay fiber optic cables construction-related equipment and operation noise; and (v) safety hazards for civil workers and local communities where construction is occurring. Regarding the social risks and impacts, the project will actively address and mitigate the digital divide throughout the project preparation and implementation, limiting the risk of social and economic exclusion, with a particular focus on women, youth, and marginalized populations. The project will also address the following social risks: (i) GBV; (ii) sexual exploitation and transmission of communicable diseases such as HIV/AIDS on affected

communities may also occur because of project activities, including labor influx; and (iii) the temporary disruption to economic activity and economic displacement due to certain activities related to the construction, maintenance, and operation of digital infrastructure (optic cable installation) could imply physical and/or economic displacement. The project has prepared the following safeguard instruments: ESMF, IPPF, LMP, SEP including a GRM for all stakeholders, and GBV. The RPF has been finalized and disclosed. E&S documents shall be updated as needed, finalized, and redisclosed before disbursement of Component 2 of the project.

115. **'Other' risks associated with COVID-19 are rated Substantial**. The on-going COVID-19 emergency and aftermath are expected to have a cross-cutting impact on the project's risk rating, particularly macroeconomic and institutional capacity. Lingering COVID-19 restrictions on movement could potentially limit the scope for leveraging international experts, stretch existing government institutional capacity, and limit the scope for any large-scale operational activities such as the delivery of large-scale in-person training programs. To mitigate this risk, the project will leverage the future online shared platforms developed or supported by the project, and the service access centers to provide remote training as needed for all type of social groups.

VII. RESULTS FRAMEWORK AND MONITORING

Results Framework
COUNTRY: Congo, Republic of
Congo Digital Acceleration Project

Project Development Objectives(s)

The PDO is (i) to increase broadband internet access to underserved populations, and (ii) to improve public sector's capacity to deliver digitally enabled public services.

Project Development Objective Indicators

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Increased broadband internet access to underserved populations							
Unique broadband subscribers per 100 inhabitants (Number)		25.00	25.00	30.00	35.00	40.00	45.00
Of which female (Percentage)		0.00	20.00	30.00	40.00	40.00	40.00
Improve public sector's capacity to deliver digitally enabled public services							
New facilitated and digitally enabled public services available online to people citizens and businesses (Number)		0.00	1.00	2.00	4.00	5.00	10.00
Individuals (Civil servants and government contractors) who earned certifications in foundational, intermediate,		0.00	250.00	750.00	1,500.00	2,250.00	3,000.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
and advanced digital skills throughout the project's activities (Number)							
of which reside in rural areas (percentage) (Percentage)		0.00	20.00	30.00	40.00	40.00	40.00
of which women (Percentage)		0.00	20.00	30.00	40.00	40.00	40.00

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Component 1 - Strengthening the Enabling Environment for Digital Transformation Acceleration							
(Gender informed) Congo's digital transformation strategy action plans validated and disseminated (Yes/No)		No	No	Yes	Yes	Yes	Yes
(Gender informed) Policy framework and regulation to enforce data protection legislation are established (Yes/No)		No	No	No	Yes	Yes	Yes
ANSSI is operational (Yes/No)		No	Yes	Yes	Yes	Yes	Yes
Institutes and education facilities providing government-approved courses and certification (Number)		0.00	2.00	5.00	10.00	15.00	20.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
of which in rural areas (Percentage)		0.00	0.00	0.00	10.00	30.00	50.00
Trained teachers and trainers in the education system throughout the project (Number)		0.00	50.00	100.00	150.00	200.00	250.00
of which women (Percentage)		0.00	20.00	30.00	35.00	40.00	40.00
Graduates from specialized digital skills training programs reporting labor market impacts and/or better education outcomes within 12 months after the completion (Number)		0.00	0.00	30.00	75.00	200.00	450.00
of which women (Percentage)		0.00	20.00	30.00	40.00	40.00	40.00
Component 2 - Expanding and Increasing Digital Broadband Connectivity and Digital Inclusion							
Localities covered in 3G by the project (Number)		0.00	25.00	50.00	100.00	150.00	212.00
Multimedia centers deployed in schools/post offices, according to standards to withstand climate-related shocks and natural disasters (Number)		0.00	20.00	40.00	75.00	100.00	132.00
MDAs connected to fiber by the project (Number)		0.00	0.00	5.00	10.00	15.00	22.00
People provided with new or enhanced access to broadband internet (CRI, Number)		0.00	100,000.00	300,000.00	700,000.00	1,200,000.00	1,500,000.00
People provided with new or enhanced access to		0.00	40,000.00	120,000.00	280,000.00	480,000.00	600,000.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
broadband internet – Female (CRI, Number)							
Private sector investment mobilized through the project (Amount(USD))		0.00	3,000,000.00	5,000,000.00	8,000,000.00	10,000,000.00	12,000,000.00
Component 3 - Improving Delivery of, and Access to People-centric Digitally Enabled Public Services							
CR and ID legal and regulatory framework modernized (Yes/No)		No	No	No	Yes	Yes	Yes
Digital ID roadmap and operational plan drafted (Yes/No)		No	No	No	Yes	Yes	Yes
Operationalization of digitalized CR database (Yes/No)		No	No	No	Yes	Yes	Yes
Average unique daily access to digital services developed under the project (Number)		0.00	1,500.00	5,000.00	25,000.00	50,000.00	75,000.00
Share of users satisfied with the eGov one-stop-shop portal (Percentage)		0.00	50.00	60.00	70.00	70.00	70.00
People consulted or involved in the design and delivery of digitally enabled public services (Number)		0.00	0.00	50.00	200.00	500.00	1,000.00
of which percentage of women (Percentage)		50.00	50.00	50.00	50.00	50.00	50.00
Number of Public Data Centers upgraded (Number)		0.00	0.00	1.00	1.00	2.00	2.00
Component 4 - Project Management, Monitoring and Evaluation							
Grievances addressed within		0.00	70.00	75.00	80.00	85.00	90.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
the stipulated service standards for response times (Percentage)							

Monitoring & Evaluation Plan: PDO Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
Unique broadband subscribers per 100 inhabitants	This indicator measures the number of unique mobile broadband subscribers per 100 inhabitants. Mobile broadband subscriptions include 3G, 4G and above (if/when launched) broadband services.	Annual	ARPCE/GSMA	Data will be collected through the statistics report submitted by ARPCE, collected from the internet service providers and GSMA statistics.	PIU/ARPCE
Of which female	% of women who have access to broadband internet	Annual	ARPCE/GSMA	Data will be collected through the statistics report submitted by ARPCE, collected from the internet service providers and GSMA statistics.	PIU/ARPCE

New facilitated and digitally enabled public services available online to people citizens and businesses	Cumulative count of the total number of new transactional e-government services available to citizens and businesses supported by the project (criminal record, extract of birth certificate, online catalog of artisan's products, etc.). The services would need to meet the standards for level 3 or level 4, as defined by the UN four-stage model of e-service maturity. See https://publicadministration.un.org/publications/content/PDFs/UN%20E-Government%20Survey%202014.pdf	Annual	Citizen gateway ("e-gov one-stop-shop portal")	Review and testing of the effectiveness of the service on the e-gov portal	PIU/DGDEN
Individuals (Civil servants and government contractors) who earned certifications in foundational, intermediate, and advanced digital skills throughout the project's activities	Total cumulative number of individuals, (Civil servants and government contractors) trained in digital skills or usage of digital government services who received certification at least at one training through the project (in person or virtually) — covering foundational through to highly-specialized digital skills — based on the	Annual	MPTEN/ACSI /CIRAS/ Partnering local training providers	Data is collected from the participating government entities and local training providers with gender aggregation by the PIU and submitted through the Project implementation reports by PIU.	PIU/MPTEN/CIRAS/Partnering training providers

	UNESCO's DigiComp digital skills methodology.				
of which reside in rural areas (percentage)	The indicator is a percentage numerator: the number of government officials and contractors located in rural areas who gained certification through the project on digital skills denominator: total number of government officials and contractors who gained certification through the project on digital skills	Annual	MPTEN/ACSI /CIRAS/ Partnering local training providers	Data is collected from the participating government entities and local training providers with gender aggregation by the PIU and submitted through the Project implementation reports by PIU.	PIU/MPTEN/CIRAS/Partnering training providers
of which women	The numerator is the total number of women government officials and contractors trained and certified through the project The denominator is the individuals government officials and contractors trained under the project	Annual	MPTEN/PIU	Training reports	PIU

Monitoring & Evaluation Plan: Intermediate Results Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
(Gender informed) Congo's digital transformation strategy action plans	Congo's digital transformation vision 2025	Annual	Relevant official	Review of relevant official publications in	PIU/MPTEN

validated and disseminated	strategy action plans with gender targets are validated by the National Digital Transformation Steering Committee and publicly disseminated.		publications, including government websites	project implementation reports submitted by PIU	
(Gender informed) Policy framework and regulation to enforce data protection legislation are established	Policies, procedures, and guidelines needed to fully implement and enforce data protection legislation are published and in force, with a dedicated agency ensuring a good course of implementation. Gender-informed refers to a framework that incorporates the impact and addresses the challenges relating to privacy invasions on women, men, and individuals of diverse sexual orientations, arising from the loss of the right to privacy, cyber harassment, discrimination in employment or other areas.	Annual	Relevant official publications, including government websites	Review of relevant official publications in project implementation reports submitted by PIU	PIU/Data Protection Commission (DPC)
ANSSI is operational	ANSSI is operating effectively, and deploys a broad range of regulatory and operational activities, from issuing regulations and verifying their application,	Annual	Project implementation reports submitted by PIU	ANSSI reports, Project implementation reports submitted by PIU	PIU/MPTEN

	to monitoring alert and rapid response – particularly on government networks.				
Institutes and education facilities providing government-approved courses and certification	This indicator will count the cumulative number of institutes and education facilities providing government-approved courses and certifications through programs (both general and targeted) on basic and intermediate digital skills.	Annual	Project implementation reports submitted by PIU	Project implementation reports submitted by PIU	PIU/MPTEN
of which in rural areas	the indicator is a percentage Numerator: number of institutions in rural areas providing government certified trainings denominator: number of institutions providing government certified trainings	Annual	Project implementation reports submitted by PIU	Data will be collected from the partnering entities and institutes by MPTEN and submitted through the project implementation reports by PIU	PIU/MPTEN
Trained teachers and trainers in the education system throughout the project	Cumulative total number of teachers and trainers trained by the project through formal and informal education system, and the participating MDAs. École Polytechnique, Marien Ngouabi University, and other implementing institutes, and MDAs (i.e.	Annual	Project implementation reports submitted by PIU	Data will be collected from the participating entities by MPTEN and submitted through the project implementation reports by PIU	PIU/MPTEN

	Ministries of Plan, Digital Economy, Education)				
of which women	The indicator is a percentage numerator: number of women trainers trained through the project denominator: total number of trainers trained	Annual	Project implementation reports submitted by PIU	Data will be collected from the participating entities by MPTEN and submitted through the project implementation reports by PIU	PIU/MPTEN
Graduates from specialized digital skills training programs reporting labor market impacts and/or better education outcomes within 12 months after the completion	This indicator will measure the number of graduates from specialized digital skills training (such as coding bootcamps, training centers etc.) supported by the project, who reported better labor market impacts (secured new employment, increased productivity, new income), or better education outcomes within 12 months after completing targeted training with at least one training certification supported under the project. Labor market impact refers to new employment in the private sector/public sector or self-employment plus new income, and education	Annual	Project implementation reports submitted by PIU	Data is collected through impact surveys from the implementing entities and local training providers by MPTEN, and submitted through the project implementation reports by PIU	PIU/MPTEN

	refers to pursuing higher and/or tertiary education (e.g. specialized master's and/or PhD programs)				
of which women	The indicator is a percentage Numerator: number of women graduates from specialized digital skills training programs reporting labor market impacts and/or better education outcomes within 12 months after the completion Denominator: total number of graduates from specialized digital skills training programs reporting labor market impacts and/or better education outcomes within 12 months after the completion	Annual	MPTEN, ANSSI, DGDEN, CIRAS, ARPCE, ACSI	Data is collected through impact surveys from the implementing entities and local training providers by MPTEN, and submitted through the project implementation reports by PIU	PIU/MPTEN
Localities covered in 3G by the project	Cumulative total number of unconnected villages and cities which become covered with 3G broadband as a result of the project	Annual	Project implementation reports submitted by PIU	Project implementation reports submitted by PIU	PIU/ARPCE/FASUCE
Multimedia centers deployed in schools/post offices, according to standards to withstand climate-related	Cumulative total number of multimedia centers setup/deployed and	Annual	Implementation report from PIU	Implementation report from the PIU	PIU/ARPCE/FASUCE

shocks and natural disasters	operationalized in the rural areas either in schools, post offices, etc. The infrastructure to be built is subject to quality standards, including compliance with disaster response requirements and climate change adaptation.		based on data from ARPCE and FASUCE		
MDAs connected to fiber by the project	This indicator will count the number of MDAs connected to both fiber by the project, and in which users can access the internet. MDAs could also include research and innovation agencies, or higher education institutions	Annual	Project implementation reports submitted by PIU	Project implementation reports submitted by PIU	PIU/MPTEN
People provided with new or enhanced access to broadband internet		Annual	ARPCE/FASUCE	Data is collected through the project implementation reports collected from ARPCE and/or FASUCE, submitted by PIU.	ARPCE/FASUCE
People provided with new or enhanced access to broadband internet – Female					
Private sector investment mobilized through the project	Private sector investment contribution mobilized through the project to finance ICT infrastructure	Annual	ARPCE/FASUCE	Annual reports	PIU/ARPCE/FASUCE

	development				
CR and ID legal and regulatory framework modernized	The Civil Registration and ID legislation updated, approved by the Parliament, and disseminated.	Annual	Ministry of Security and Public Order/Ministry of Territorial Administration	Reports	Review of relevant official publications and project implementation reports submitted by PIU
Digital ID roadmap and operational plan drafted	The Government defined the strategic roadmap of the modernization of the digital ID system and drafted the operational plan.	Annual	Ministry of Security and Public Order	Relevant reports	Ministry of Security and Public Order/DGDEN
Operationalization of digitalized CR database	A national digital database of CR records is operational.	Annual	Ministry of Territorial Administration/DGDEN	Report of implementation	PIU/DGDEN/Ministry of Territorial Administration
Average unique daily access to digital services developed under the project	The indicator measures the daily average number of unique access to all digital services- informational and transactional - (GtoC and GtoB) financed under the project, over a period of one calendar year.	Annual	DGDEN	System usage report	PIU
Share of users satisfied with the eGov one-stop-shop portal	Numerator: Number of users facilitated in the use of government services available online through the	Annual	Citizen feedback mechanism embedded in	Feedback mechanism on the e-Gov portal	PIU/Portal management unit

	one-stop-shop portal supported by this project providing feedback and expressing at least moderate satisfaction with said services. Denominator: Total number of users facilitated in the use of government services available online through the one-stop-shop portal supported by this project providing feedback. Indicator is not cumulative and should be calculated based on feedback recorded in the preceding year of implementation. The indicator will be measured through surveys embedded in the service portal. This will take the form of online questionnaires that will be sent out to users for completion, comprising of qualitative questions designed by the user-experience research group in order to inform the enhancement's cycle of the		the portal		

	portal on an annual basis and future development of digital government services by the product/service provider and the portal management unit.				
People consulted or involved in the design and delivery of digitally enabled public services	This indicator will count the number of people consulted through virtual or in-person focus group, interviews and surveys, or participated in user research process on the design and delivery of e-services to be financed under the project as part of e.g. the process re-engineering of a given e-service, or selection or e-services to prioritize for digitization/upgrade. The indicator will be measured by collating cumulative numbers for each of the sessions the objective of which to gather inputs and feedback on services prioritization and design. Data collected will directly	Annual	DGDEN		PIU

	shape e-services to enable wider access and usage.				
of which percentage of women	share of all people consulted in the design of systems that are women	Annual	DGDEN	Reports submitted by PIU	PIU
Number of Public Data Centers upgraded	This indicator will count the number of public Data Centers upgraded under the project.	Annual	ARPCE	Project implementation reports submitted by PIU	PIU/ARPCE
Grievances addressed within the stipulated service standards for response times	Numerator: Cumulative number of grievances responded to/addressed within the stipulated service standards for response time. Denominator: Cumulative total number of grievances received. Service standards including response times will be defined in the Project Implementation Manual.	Quarterly	GRM reports Administrative data	GRM reports Administrative data	PIU

ANNEX 1: Implementation Arrangements and Support Plan

Financial Management

1. The MPTEN PIU has been assessed according to the criteria in the World Bank Directive: Financial Management Manual for World Bank Investment Project Financing Operations and World Bank Guidance: Reference material - Financial Management in World Bank Investment Project Financing Operations. These arrangements ensure that the implementing entity (i) uses project funds only for the intended purposes in an efficient and economical way; (ii) prepares accurate and reliable accounts as well as timely periodic financial reports; (iii) safeguards assets of the project; and (iv) has acceptable auditing arrangements.

2. **The World Bank determined that FM arrangements at the MPTEN PIU can be deemed adequate for project implementation, subject to meeting the following requirements:** (i) opening a DA in a financial institution acceptable to the World Bank; (ii) the drafting of a manual of procedures in order to take in account the new project and grant specificities; (iii) the acquisition of an adequate management accounting software to record project transactions and prepare Quarterly Interim Unaudited Financial Reports whose format was agreed on, no later than three months after effectiveness; (iv) ToR for the recruitment of an external professional practice firm to implement the internal audit function, and subsequent recruitment, with the World Bank's agreement; (v) ToR to recruit an independent external auditor, acceptable to the World Bank, based on acceptable ToR; and (vi) completing the recruitment of an experienced FM specialist officer and an accountant.

3. **MPTEN PIU** will be the Project Implementation Entity.

4. **Staffing and training.** An experienced FM specialist officer and an accountant will be recruited to implement the project. The internal audit function will be externalized.

5. **Budgeting.** The budgeting arrangements will include an annual work plan and budget to be prepared for each year. The project FM Manual of Procedures will define the arrangements for budgeting and budgetary control and the requirements for budgeting revisions. Annual detailed disbursement forecasts and budgets will be required—the prospective nature of such forecasts will need to be emphasized so that uses of funds are adequately covered. Interim Financial Reports (IFRs) will provide information on budgetary control and analysis of variances between actual and budget. Current budget mechanisms will be revised to incorporate the new project specifications.

6. **Internal audit.** The internal audit function will be outsourced to an external audit firm to improve independence and objectivity; the ToR for this activity and subsequent recruitment will be agreed with the World Bank as necessary and based on project activities to be performed, specific agreed upon procedures will be designed into the ToR.

7. **Accounting policies and procedures.** The accounting systems and policies and administrative and financial procedures will be documented in the project's Administrative, Accounting, and Financial

Manual. It will be used by (i) the project staff as a reference manual; (ii) the World Bank to assess the acceptability of the project accounting, reporting, and control systems; and (iii) the auditors to assess project accounting systems and controls and to design specific project audit procedures. Accounting management software that can handle multiple projects, sites, and donor characteristics will be procured. At least two sets of financial reports will be prepared by the MPTEN PIU: quarterly IFRs, as required by the World Bank, and the annual financial statements, to include the project's consolidated financial statements. The quarterly IFRs, will be prepared and submitted to the World Bank 45 days after the close of each quarter and based on formats developed in the World Bank's Guidelines on Financial Monitoring Reports, with some adjustments. Project accounts will be maintained on an accrual basis, supported with appropriate records and procedures to track commitments and to safeguard assets.

8. **Flow of funds.** Project activities will be financed through a DA that will be opened in a commercial bank acceptable to the World Bank. The DA will be managed according to the disbursement procedures described in the PIM and Letter of Disbursement for the project. The ceiling of the account will be decided by the disbursement services of the World Bank and should take into account the disbursement capacity of the various structures implementing the project. The PIU should also manage counterpart funding which will be deposited in the same commercial bank. The ceiling of the DA will be set at XAF 1,500,000,000. Additional advances to the DA will be made on a monthly basis against withdrawal applications supported by Statements of Expenditures or records and other documents as specified in the Disbursement Letter (DL). The flow of funds is summarized as follows**.**

Flow of funds and disbursement arrangements

9. **Disbursement arrangements (disbursement methods):** Given the high-risk environment, the report-based disbursement will not be applicable by default. Therefore, upon project effectiveness, transaction-based disbursements will be used. An initial advance up to the ceiling of the DA (FCFA 1,500,000,000) will be made into the DA and subsequent disbursements will be made on a monthly basis against submission of Statement of Expenditures or records as specified in the DL. Hereafter, the option to disburse against submission of quarterly unaudited IFR (also known as the Report-based disbursements) could be considered, subject to the quality and timeliness of the IFRs and the overall FM performance. Other disbursement methods (reimbursement, direct payment and special commitment) will also be available to the project. The minimum value of applications for these methods is 20 percent of the DA ceiling. The project will have the option to sign and submit Withdrawal Applications electronically using the eSignatures module accessible from the World Bank's Client Connection website.

10. **Financial reporting and monitoring.** The manual of procedures will indicate provisions for quarterly and yearly financial reporting including physical progress. The quarterly reports include a table on budget execution. The format of this report will include (i) the statements of sources and uses of funds and utilization of funds per category; (ii) the updated Procurement Plan; (iii) the physical progress; and (iv) the summary of missions of internal audit as well as the implementation status of the recommendations of internal or external audit and supervision missions.

11. **External auditing.** The project financial statements and internal control system managed by the MPTEN PIU will be subject to annual audits by an independent external auditor acceptable to the World Bank whose mandate will be renewed every two years. The audit report should reflect all the activities of the FM program and be submitted to the World Bank within six months after the end of each fiscal year. Appropriate ToRs for the external auditor will be provided to the project team.

12. **The external auditor will give an opinion on the annual financial statements in accordance with auditing standards of International Federation of Accountants.** In addition to audit reports, the external auditor will provide a management letter on the internal control procedures outlining recommendations for improving the control system, accounting, and financial procedures as a result of the audit as well as maintaining compliance with financial covenants under the Loan Agreement.

13. **The project will be required to submit, not later than June 30 of each fiscal year, the annual audited financial statements.** In line with the new access to information policy, the project will comply with the disclosure policy of the World Bank of audit reports (for instance making available to the public without delay after receipt of all reports the final financial audit, including audit reports qualified) and place the information on its official website within one month after the acceptance of the final report by the World Bank.

14. **The following table specifies categories of eligible expenditures.**

Table 1.1. Categories of Eligible Expenditure

Category	**Amount of the Loan Allocated** (expressed in US$)	**Percentage of Expenditures to be financed** (inclusive of Taxes)
(1) Goods, works, non-consulting services, and consulting services, Operating Costs and Training for the project	84,155,000	100%
(2) CAPEX Subsidies under Part 2.1(b) of the Project	12,000,000	100%
(3) Refund of the Preparation Advance	3,595,000	Amount payable pursuant to Section 2.07(a) of the General Conditions.
(4) Emergency Expenditures under Part 5 of the project (CERC)	0	
(5) Front-end Fee	250,000	Amount payable pursuant to Section 2.03 of this Agreement in accordance with Section 2.07 (b) of the General Conditions
(6) Interest Rate Cap or Interest Rate Collar premium		Amount due pursuant to Section 4.05 (c) of the General Conditions.
Total Amount	100,000,000	

Implementation Support Plan

15. **FM implementation support missions will be consistent with a risk-based approach, carried out in collaboration with the project team.** The first implementation support mission will be performed six months after project effectiveness. Afterwards, the missions will be scheduled by using the risk-based approach model and will include the following: (i) monitoring of the FM arrangements during the implementation support process, at intervals determined by the risk rating assigned to the overall FM assessment at entry and subsequently during implementation (Implementation Status and Results Report); (ii) integrated fiduciary review on key contracts; (iii) review of the IFRs; (iv) review of the audit reports and management letters from the external auditors and follow-up on material accountability issues by engaging with the World Bank, client, and/or auditors; the quality of the audit (internal and external) also is to be monitored closely to ensure that it covers all relevant aspects and provide enough confidence on the appropriate use of funds by recipients; (v) physical implementation support on the ground; and (vi) assistance to build or maintain appropriate FM capacity.

16. The following implementation support plan is proposed to ensure the project maintains a satisfactory FM system throughout the project's life:

Table 1.2. Implementation Support Plan

FM Activity	Frequency
Desk reviews	
IFR review	Quarterly
Audit report review of the program	Annually
Review of other relevant information such as interim internal control systems reports	Continuous as they become available
On-site visits	
Review of overall operation of the FM system	Quarterly (implementation support mission)
Monitoring of actions taken on issues highlighted in audit reports, auditors' management letters, internal audit, and other reports	As needed
Transaction reviews (if needed)	As needed
Capacity-building support	
FM training sessions	Before project starts and thereafter as needed

17. **Conclusion of the Assessment. The overall residual FM risk at preparation is considered Substantial.**

Procurement

18. **Procurement will be carried out by a new PIU to be established under the MPTEN.** This PIU will be staffed with an experienced senior procurement specialist and a procurement assistant to be recruited through a competitive process. Given the (i) country context and associated risk; and (ii) the fact that this project will be implemented by a new PIU to be set up under MPTEN for which has no experience in implementation of World Bank-financed projects; the project procurement risk prior to the mitigation measures is rated High**.** The prevailing risk can be improved to Substantial provided that the mitigation measures contained in the action plan below are implemented.

19. **Recruitment of PIU staff.** Recruitment of PIU staff will be done as per clause 7.32 of the Regulations. The PIU staff will be selected by the Borrower according to its personnel hiring procedures for such activities, as reviewed and found acceptable by the World Bank. These recruitments are not "procurement" activities, and will not be included in the procurement plan in STEP, but the World Bank shall agree with the Borrower on review of ToR, shortlist, CV, and final selection of selected PIU positions.

Table 1.3. Action Plan Mitigation Measures

Risks	Mitigation Measures
Country context and associated risk (Fraud and corruption and procurement non-compliance)	1. Post review of contracts will be scheduled once a year for contracts subject to post review. 2. Mandatory use of STEP as a daily tool to manage procurement activities. 3. Elaborate a Project Implementation Manual that will include procurement procedures and arrangements for the project.
No experience in the implementation of World Bank-financed project (No knowledge of the World Bank's Procurement Framework).	1. Recruit a qualified and experienced procurement specialist and procurement assistant, preferably with experience in the World Bank-funded project. 2. As needed, recruit a qualified and experienced procurement consultant who will periodically train, coach, and assist the PIU in carrying out the procurement activities under the project. 3. At the request of the Borrower, the project may benefit from the Hands-on Expanded Implementation Support (HEIS) to better manage high value and high risks contracts and avoid delays and uncertainty around the procurement processes.

ANNEX 2: Identified Gender Barriers and Proposed Actions

Table 2.1. Identified Gender Barriers and Proposed Actions

ANALYSIS (Gender gaps identified)	**ACTIONS** (Proposed actions taken to address gaps)	**INDICATORS** (How the proposed activities will be measured)
Component 1. Strengthening the Enabling Environment for Digital Transformation Acceleration		
Lower education and digital skills acquisition amongst women compared to men leads to fewer economic opportunities, in both higher education sector and for the unemployed youth ✓ 20.4 percent of the graduates from STEM programs are women ✓ Only 7.5 percent of young women in tertiary education choose the STEM field. ✓ Women's enrolment in higher education stands at 6.8 percent compared to 10.4 percent. ✓ Less women enroll in TVET or other digital skills programs (advanced/specialized) due to lack of resources, awareness, self-confidence or role models)- however this is where the new, better paying jobs are.	**Design and deploy digital skills training targeted at women and young girls both in the private and public sectors:** ✓ Carry out a Digital skills gap analysis needed for the labor market, including the review of potential gender biases and stereotypes. ✓ Deploy digital skills training programs, with prioritization for women and other vulnerable groups, with safe zones and feedback mechanisms for women and young girls from any sexual violence and/or harassment. ✓ Develop gender-balanced Digital Ambassadors program as part of the *'train the trainers'* program to ensure the representation of female role models for young girls and women. ✓ Ensure training materials are accessible alternatively to allow women to juggle family care. ✓ Provide tailored counselling services and peer-to-peer learning events to women f and young girls who wish to continue building intermediate and advanced digital skills, and further develop a professional career development in the digital sector.	Number of graduates from specialized digital skills training programs reporting labor market impacts and/or better education outcomes within 12 months after the completion, of which **40 percent** are women; (PDO level) Number of individuals (civil servants and government contractors) who earned certifications in foundational, intermediate, and advanced digital skills throughout the project's activities, of which **40 percent** are women; Number of trained teachers and trainers in the education system throughout the project, of which **40 percent** are women.
Low representation of women in public service and in management positions, compounded by education gap for women more generally affecting their skills and job prospects.	**Design and include gender-smart and inclusive measures into the implementation of the sector strategies and roadmaps:** ✓ Integrating gender-smart inclusion measures into the strategies and policies to ensure inclusiveness and capture the needs of women.	**(Gender-informed)** Digital Transformation strategy action plans validated and disseminated (Yes/No). **(Gender informed)** Policy framework and regulation

ANALYSIS (Gender gaps identified)	ACTIONS (Proposed actions taken to address gaps)	INDICATORS (How the proposed activities will be measured)
✓ 18 percent of companies are owned by women compared to the regional average of 29.6 percent. ✓ Only 13 percent of seats in parliament are held by women.[100] ✓ Little to no gender-inclusive measures into the sector strategies and policies.	✓ Build awareness and capacity among policy and decision-makers on the importance of reducing the gender gap in the digital sector and increasing access to identification for women. ✓ Make sure gender is systematically considered in policy processes and actions resourced appropriately.	to enforce data protection legislation are established (Yes/No)
Component 2. Expanding Digital Broadband Connectivity and Digital Inclusion		
Low use of the internet and digital tools amongst women, particularly in poor households in the rural regions. ✓ Less than 1 percent of women (15-24) living in the poor rural household used the internet at least once per year, while the number increases up to 53.1 percent for women in wealthy urban households. On the other hand, internet use is more frequent amongst men: 5.5 percent of men in the poorest households use the internet at least one time per year, compared to 75.8 for men living in wealthy households.[101] ✓ Only 24 percent (compared to 48 percent for men) of women frequently use the internet.[102]	**Provision of connectivity in the priority rural areas where women have less access to the internet:** ✓ Integrated women's input and feedback in the Universal Service Fund's (FASUCE) for user quality and user experience. ✓ Ensure access to connectivity through FASUCE to maximize women's access to affordable internet in rural areas. ✓ Deployment of multimedia rooms and service centers and ICT tools acquisition in selected schools and postal offices, where women and young girls will have access to the internet, adequate training, programs and access to digital services made available under Components 1 and 3 ("*cartable numériques*"), eCommerce platform for women farmers/agro-business MSMEs, etc.	Number of unique broadband subscribers per 100 inhabitants, of which **40 percent** are women; Number of people provided with new or enhanced access to broadband internet of which **600,000** are women
Component 3. Improving Delivery of, and Access to User-centric Digitally Enabled Public Services		
Women's use of digital services is estimated much lower than men's, considering the noticeable gender gap in education, labor market, financial inclusion. ✓ The procedures for submitting basic services, such as submitting	**Develop ID strategy and design digital government services to improve accessibility and inclusiveness for women:** ✓ Conduct qualitative research to understand women and girls' perspectives on barriers to access to CR and ID services prior to updating registration process and to amending the relevant legal and regulatory framework	Number of people consulted or involved on the design and delivery of digitally enabled services, of which **50 percent** are women.

[100] IDEA, 2017. Gender Quota Country Profile - Republic of Congo. https://www.idea.int/data-tools/data/gender-quotas/country-view/133/35
[101] UNESCO & National Institute of Statistics, 2015. MICS Survey Republic of Congo. https://mics-surveys-prod.s3.amazonaws.com/MICS5/West%20and%20Central%20Africa/Congo/2014-2015/Final/Congo%202014-15%20MICS_French.pdf
[102] Idem.

ANALYSIS (Gender gaps identified)	ACTIONS (Proposed actions taken to address gaps)	INDICATORS (How the proposed activities will be measured)
a passport, are treated differently between men and women.[103]	✓ Ensure that female staff is equally included in all relevant capacity building, skills training programs in the public sector. ✓ The digitally enabled public services to be deployed through the Government one-stop-shop portal will prioritize the most pressing needs for the individuals and businesses (both equally to men and women) and will be developed based on user- research and testing, including specific consultation with women users. ✓ Develop priority services that are specifically tailored to women's needs with safe and secure feedback mechanisms. ✓ Awareness and communication programs will be tailored to women to increase their access to information and combat social norms and cultural barriers that prevent them from using digital tools and services.	

[103] World Bank, 2021. Women, Business, and the Law Report. https://wbl.worldbank.org/content/dam/documents/wbl/2021/snapshots/Congo-rep.pdf

ANNEX 3: Identified Climate Change Related Risks and Proposed Actions

A. Climate Vulnerability and Risks in Congo

1. The Republic of Congo contains a diverse geography including valleys, plateaus, hills, mountains, and a coastline along the Atlantic Ocean. Mean monthly temperatures range from 23-26°C, with February through March experiencing the highest temperatures and June through August experiencing the lowest. March through May sees a rainy season as well as September through November. On the other hand, the length of the dry season follows a gradient from south to north, with southern locales experiencing a longer dry season than northern ones. Largely populated cities such as Brazzaville and Pointe-Noire have seen average temperatures increase between 0.6°C and 0.8°C.[104]

2. The country is exposed to natural hazards such as urban and river floods, wildfire, and epidemics, which are amplified by climate change.[105] Urban and river floods are a recurring natural hazard; every department is seasonally flooded due to exceptional rainfall. Thirty-three percent of the Average Annual Natural Hazards that occurred between 1900-2018 were caused by floods.[106] Damaging and life-threatening urban and river floods are expected to occur at least once in the next 10 years. Increased heavy rainfall due to climate change may lead to serious malfunctioning and disruptions of critical infrastructures, including communications facilities and data centers through soil erosion, waterlogging, and flooding. The country is also considered vulnerable to epidemic diseases influenced by climatic factors.

B. Proposed Actions for Addressing Climate Vulnerability

3. The project is expected to strengthen climate mitigation, adaptation, and resilience efforts in Congo. This will be achieved by sector-wide digital acceleration — a key driver of improved climate resilience, adaptation, and mitigation— through green ICT sector framework, expansion of digital services, reducing transportation needs. The project is expected to have a positive impact on Congo's adaptive capacity and effort in mitigation climate change; thus, the project contributes to Congo's Nationally Determined Contributions (NDC) 2021 objectives,[107] featured in Paris Agreement. See below tables for detailed activities systematically designed to improve climate resilience in Congo which cover both climate adaptation and mitigation.

Adaptation

[104] World Bank, 2022. Climate Change Knowledge: Country profile — Republic of Congo. *Congo, Rep. - Climatology | Climate Change Knowledge Portal (worldbank.org)*
[105] World Bank, 2022. ThinkHazard! Country profile: Republic of Congo. *Think Hazard - Congo*
[106] Climate Change Knowledge Portal, 2021
[107] The Republic of Congo, 2021. Nationally Determined Contributions.
https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Congo%20First/CDN_Congo.pdf

Table 3.1. 6Climate Related Risks and Project Related Adaptation Measures

Climate change risks linked to the project	Corresponding project interventions and financing
There are gaps in enabling environment to manage climate change risks adequately, particularly in the telecom sector. Despite the Government's effort to enhance country's adaptation and response to climate change, more needs to be done to align the policies and action plans to sustainable development goals. To date, there is no ICT sector-specific policy framework to encourage climate-smart and energy-efficient digital infrastructure.	**Sub-component 1.1. Strengthening of the legal, regulatory, and institutional environment (US$6.34 million)** will support the Government in developing a Green ICT strategy. The strategy is to position the use of ICT as an enabler to minimize the impact stemming from the ICT sector. The project will also support an introduction of policy measures to encourage investments in green ICT infrastructure, products, and services. Additionally, the sector regulator, ARPCE, will be supported developing regulatory standards on deploying and operating ICT infrastructures both applicable for the service providers and government entities, as per ITU standards.
Digital Skills prerequisite to ensuring digital services can play their role in the country's climate change adaptation and mitigation effort. Limited digital skills remain one of the largest obstacles in using digital services. The adoption of digital services is conditioned by the ability of individuals to use the services daily and further increase the demand for more climate-smart and efficient digital solutions.	**Sub-component 1.2. Development of skills and capabilities for technology adoption (US$11.16 million)** will support digital skills acquisition which will enable individuals and businesses to make better use of the opportunities offered by digital technologies, thereby increasing their adaptive capacity to shocks, including climate-related events. It will also seek to raise awareness and build digital skills that have the potential to expand products and facilitate entrepreneurship related to climate in Congo (i.e., early warning systems related to expected increase in climate shocks and other extreme weather events in the country). Improving digital skills adoption would further facilitate the capacity to use digital services, especially in the event of natural disaster, and outreach of early warning systems.
Recurring natural disasters in Congo, such as flooding are expected to adversely impact network and ICT infrastructure deployed and contribute to the deterioration of older infrastructures. It not only elevates the cost of maintenance but also causes frequent network outages leaving communities unconnected and reversing the project's effort in increasing access to connectivity. According to the Government's satellite data in 2021, heavy rainfalls caused a significant rise of the water level of the rivers by 2.4 m above the riverbed, led to the total or partial flooding of several villages, neighborhoods and districts, and reported around 46 million people affected in the departments along the main rivers. [108] In particular, the northern parts of the country, where connectivity is the most underserved (i.e., Cuvette, Likouala, Plateux, Sangha departments), are most heavily affected. Critical infrastructures, including fiber optics, have also been reported affected by recurrent flashflood in Congo.[109]	**Sub-component 2.1. Support in improving digital inclusion especially in underserved areas (US$20 million)** will contribute to building resilient and climate-smart ICT infrastructure, by supporting FASUCE expanding connectivity in selected underserved areas, schools, and multimedia rooms, particularly those exposed to high climate risks. The resulting extended coverage and usage of telecommunications services would improve the efficiency of climate early warning and emergency response systems. **Sub-component 2.2. Support in improving broadband connectivity (US$22.5 million***)* will finance deployment of climate-resilient fiber optics in 22 MDAs and selected institutes, which will incorporate adaptation measures specific to region-specific natural disasters. **Sub-component 3.3. Strengthening of data hosting governance and capacity (US$6.5 million)** will conclude the project's support in ensuring a full-fledged delivery of digital government services, by providing the necessary equipment and capacity building training programs to reinforce the

	existing public data centers. All equipment will be subject to climate adaptation measures, especially flood risks. Any asset in the project that includes infrastructure deployment and/or ICT equipment, under Sub-component 2.1, 2.2, and 3.3 (e.g., mobile towers, access centers, fiber optics) will incorporate climate/ disaster resilient features, quality standards, compliance with disaster response requirements. All the infrastructure deployments are subject to weather-resistant materials and waterproof coverings to withstand extreme weather events and flashfloods. These standards will be embedded in the technical specifications, bidding documents, and operational manual for the partnering service providers connecting multimedia rooms, schools, MDAs, public institutes, and underserved areas.
Paper-based government records and services are highly vulnerable to climate event, especially floods. Recovering such records is impossible in the event of flooding, inundating local government offices and rooms where paper records are stored. This risk could be reduced by digitalizing critical public services, electronic back-up, and using cloud solutions. Moreover, during weather-related events, disasters, and emergencies (such as COVID-19), when in-person access is restricted to the physical office locations, efficient and remote mechanisms for delivering digital public services will be crucial to ensure readiness for climate-related emergencies response.	**Sub-component 3.1. Modernization of CR and implementation of pre-requisites for an inclusive digital ID framework and system (US$11 million)** will ensure secure CR and database, contributing to quick and effective service delivery for the digital public services. In the long term, it will also foster financial inclusion and facilitate emergency cash transfers via mobile payments in hard-to-reach areas. **Sub-component 3.2. Development and implementation of selected digitally enabled public services focusing on people (G2P) and businesses (G2B) (US$15.5 million)** will finance the development of one-stop-shop portal, a national statistical data platform, and service access points which will result in commitments to less paper-based processes and mitigate the risks of losing government records. Digitalizing paper-based records and deploying cloud-based solutions for data hosting will build climate change resilient digital platforms and services. The adoption of digital public services also presents an opportunity to significantly adapt and recover from recurring epidemic diseases and enhance emergency preparedness response for potential health crises, such as COVID-19. As such, any digital delivery platforms supported under the project will be designed to quickly enable the government to switch into a virtual mode to provide business/service continuity of essential informational and transactional services in critical sectors, if physical office locations are inaccessible in the event of natural disasters or pandemics.

Mitigation

[108] IFRC, 2021. Emergency Plan of Action — Republic of Congo: Floods. https://reliefweb.int/sites/reliefweb.int/files/resources/MDRCG018do.pdf
[109] USAID, 2021. BHA Republic of Congo Assistance Overview. https://www.usaid.gov/sites/default/files/documents/USAID-BHA_Republic_of_the_Congo_Assistance_Overview-December_2021.pdf Additionally, the

Table 3.2. GHG Mitigation Potential and Project Interventions

Climate change risks linked to the project	Corresponding project interventions and financing
There is no regulatory guideline, framework, or guidelines to encourage climate-smart and energy-efficient investment in digital infrastructure in the updated NDC 2021. Cross-cutting policies associated with e-waste, the largest growing waste stream in SSA region.	**Sub-component 1.1. Strengthening of the legal, regulatory, and institutional environment (US$6.34 million)** will include support in developing Green ICT framework and e-waste management strategy to mitigate the GHG emission deriving from the ICT sector activities, to be incorporated into the updated Vision Congo Digital 2025. The adoption of an e-waste management strategy will provide a common guideline for reducing the carbon footprint and the presence of heavy metals, flammable retardants, and hazardous substances posing significant human and environmental risk. The strategies will incorporate ITU's guidelines and international standards in evaluating the environmental impacts and defining a safe procedure for recycling heavy materials stemming from the ICT sector.
ICT are key to enable integration of renewable energies into the global power supply, thus contributing strongly to gas emission reduction. Resilient networks are the backbone for the deployment of early warning systems and ensures uninterrupted access to essential services and emergency assistance. However, digital infrastructure can be also a source of carbon footprint, requiring mitigation measures. The level of avoided emissions enabled by mobile communications technologies worldwide is 10 times greater than the carbon footprint of the mobile networks themselves.	Through **Sub-component 2.1. Support in improving digital inclusion especially in underserved areas (US$20 million)**, service providers will be required (to the extent possible) to equip multimedia rooms with clean energy sources such as installing rooftop solar panel systems for energy supply and battery storage, to address the carbon footprint. The mobile towers, community centers built in partnership with FASUCE will use solar power. Equipment that relies on solar panels, or more broadly on renewable energy, will be installed, and legacy equipment contributing to GHG emissions (such as diesel generators) will be replaced by more climate-neutral and green technologies. Numerous studies shows that the use of solar power (as well as nuclear and wind powers)) based technologies' energy use is much lower than fossil fuels, biomass, and hydropower, resulting in a much more favorable overall GHG balance.[110]
Digitalization of essential services and internal operations will lead to a substantial reduction in travel and material use; hence, a viable solution to reduce the carbon footprint and congestion generated by the necessary commuting to public administrations and services access points. The project will support connectivity for all and access to services online, thus reducing the need for people to travel in order to complete a transaction (such as CR, getting a civil status extract, obtaining a judiciary record extract, etc.)	**Sub-component 3.2. Development and implementation of select digitally enabled public services focusing on people (G2P) and businesses (G2B) (US$15.5 million)** will digitally transform public services and operations, thus will reduce the necessity of transportation/commuting, decreasing traffic congestion within cities and administrative districts, leading to a substantial reduction in GHG emissions. Consolidation of public back-end systems through shared platforms will reduce energy consumption. **Sub-component 3.3. Strengthening of data hosting governance and capacity (US$6.5 million)** will support the public sector to ensure better data management and exchange platforms that can support energy-efficiency gains. This will include the development of an appropriate data hosting and management approach to enable the most efficient, effective, and green digital service delivery, including through a cloud strategy focusing on limiting

	energy-consuming data infrastructures. Ultimately, the activity will generate significant efficiency gains.

ANNEX 4: Information on CIRAS

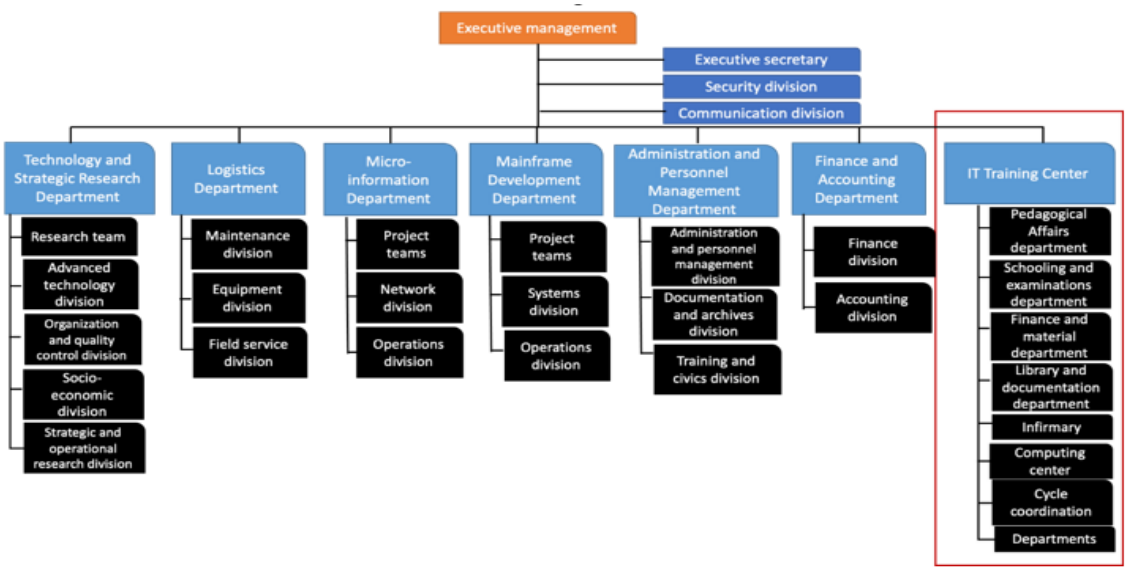
1. **The CIRAS - IT Research Center for the Army and Security (*Centre Informatique de Recherche de l'Armée et de la Sécurité*)** is a public institution created by decree 79-521 of September 25, 1979 and updated by decree 2011-437 of June 25, 2011. CIRAS is placed under the technical authority of the Office of the President of the Republic and under the administrative authority of the Minister in charge of the President's office. CIRAS assists the GoC in the areas of research, development of strategic applications and promotion of information and communication technologies in the field of national defense and security. More specifically, the CIRAS is tasked with (i) supporting the digitalization of institutions and services in the domain of defense and security; (ii) support research and innovation in digital transformation; and (iii) provide advanced digital skills training to civil servants and the public. The CIRAS is headed by a General Director and is comprised of seven central departments each led by a Central Director (see diagram below).

2. **CFI-CIRAS*:* CIRAS IT training center (*Centre de Formation Informatique du CIRAS*)** is one of the seven departments that compose the CIRAS and is a public institution of higher education specialized in the promotion and development of the use of computer techniques, created by decree N° 99-266 of 31 December 1999. The CFI-CIRAS is led by an appointed Central Director who manages around 10 services (similar organizational structure than a typical higher education institution). The CFI-CIRAS mandate is to: (i) ensure the initial and continuous provision of digital training in the middle and higher cycles of education; and (ii) ensure the improvement and continuous training of the agents of the public force (army, security sector), agents of the public administration, the private sector, and civilians.

3. **CIRAS currently has a role in safeguarding cybersecurity in the country, but this role is now evolving in light of the future creation of a separate cybersecurity agency.** Pending the establishment of the National Agency for the Security of Information Systems (ANSSI - *Agence Nationale de Sécurité des Systèmes d'Information*) created by the country's new cybersecurity legislation, CIRAS is currently acting as the country's cybersecurity agency and computer/system incidents monitor for the public sector. An upcoming EIB/EU project currently under preparation plans to support CIRAS to strengthen its cybersecurity capabilities, as a transitory measure, while the operationalization of the ANSSI, which will be a separate entity to CIRAS, will be supported under this proposed project.

[110] Pehl, M., Arvesen, A., Humpenöder, F., Popp, A., Hertwich, E. and Luderer, G., 2017. Understanding future emissions from low-carbon power systems by integration of life-cycle assessment and integrated energy modelling. *Nature Energy*, [online] 2(12), pp.939-945. URL: http://www.terrestrialenergy.com/wp-content/uploads/2020/07/Pehl_et_al-2017-Nature_Energy.pdf

Figure 4.1 CIRAS Functional Organization Chart



Source: Translation by the World Bank. Original version in French: https://www.ciras.cg/index.php/qui-sommes-nous/organigramme

4. **Given the importance of digital skills and innovation as lever of development, there is a strong economic rationale in supporting the CFI-CIRAS. The CFI CIRAS is an unavoidable public training institution in the provision of digital skills trainings in Congo, especially when it comes to training civil servants.** In the limited space of digital skills trainings providers in Congo, the CFI-CIRAS has been identified as one of the country's three main credible digital skills training institutions in computer science and emerging technologies, alongside the public higher education institutions Marien Ngouabi University and Denis Sassou Nguesso University. The center (CFI-CIRAS) is one of the country's largest and most credible training centers with track record of providing high quality digital skills training. It has an IT/computer science training school – currently partnering with the Marien Ngouabi University, the African Union Center of Excellence in Artificial intelligence, and the University of Reims-Champagne-Ardenne (France) - delivering undergraduate degrees (in computer science and e-administration) for up to 200 students per year (general civilian population and civil servants). While also providing training to the public, the CFI-CIRAS is the one key

institution specifically tasked with providing digital skills training to public sector staff. CFI-CIRAS delivers ad hoc certifying training to government executives in computer science and administrative techniques. CFI-CIRAS is regarded as one the few institutions in Congo delivering certifications in intermediate, and advanced digital skills. Relying on CFI-CIRAS under the PTN project can boost the number of government employees or contractors earning an official certification (which is a PDO indicator). CFI-CIRAS ambitions to train public sector specialists and private individuals on advanced digital skills, for jobs in the digital sector and to serve the public administration (e.g., data scientists, software developers and programmers, ICT & Big data engineers, chief technology officers, IT security experts, network and information system specialists, digital content developers, etc.). Finally, CFI-CIRAS is the only public institution in the country to have started a digital pedagogical platform for online training in public administration.