



THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

FOR OFFICIAL USE ONLY

Report No: PAD3724

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON

PROPOSED CREDITS

IN THE AMOUNT OF SDR 20.5 MILLION (US\$28.0 MILLION EQUIVALENT) TO THE
COMMONWEALTH OF DOMINICA

IN THE AMOUNT OF US\$8.0 MILLION TO GRENADA

IN THE AMOUNT OF US\$20.0 MILLION TO ST. LUCIA

IN THE AMOUNT OF US\$30.0 MILLION TO ST. VINCENT AND THE GRENADINES

AND A PROPOSED GRANT

IN THE AMOUNT OF SDR 5.9 MILLION (US\$8.0 MILLION EQUIVALENT) TO THE ORGANISATION
OF EASTERN CARIBBEAN STATES (OECS)

FOR A

CARIBBEAN DIGITAL TRANSFORMATION PROJECT ("DIGITAL CARIBBEAN")

JUNE 1, 2020

Digital Development Global Practice
Latin America and Caribbean Region

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.

CURRENCY EQUIVALENTS

Exchange Rate Effective April 30, 2020

Currency Unit = Eastern Caribbean Dollar (EC\$)

EC\$2.7 = US\$1

US\$1 = SDR 0.73

FISCAL YEAR

July 1 – June 30 – Commonwealth of Dominica

January 1 – December 31 – Grenada

April 1 – March 31 – Saint Lucia

January 1 – December 31 – Saint Vincent and the Grenadines

July 1 – June 30 – Organisation of Eastern Caribbean States

Regional Vice President: J. Humberto Lopez (Acting)

Country Director: Tahseen Sayed Khan

Global Director: Boutheina Guermazi

Practice Manager: Nicole Klingen

Task Team Leader(s): Casey Torgusson, Peter McConaghy

ABBREVIATIONS AND ACRONYMS

CAF	<i>Corporación Andino de Fomento</i> (Andean Development Corporation), commonly known in English as Development Bank of Latin America
CapEx	Capital Expenses
CARCIP	Caribbean Regional Communications Infrastructure Program
CARDTP	Caribbean Digital Transformation Project
CARICOM	Caribbean Community
CBA	Cost-Benefit Analysis
CERT	Computer Emergency Response Team
CTU	Caribbean Telecommunications Union
DFS	Digital Financial Services
DG4R	Digital Government for Resilience
E&S	Environmental and Social
ECCB	Eastern Caribbean Central Bank
ECCU	Eastern Caribbean Currency Union
ECTEL	Eastern Caribbean Telecommunications Authority
EGRIP	Electronic Government for Regional Integration Program
EPIC	Entrepreneurship Program for Innovation in the Caribbean
ESCP	Environmental and Social Commitment Plan
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standard
FM	Financial Management
GDP	Gross Domestic Product
GHG	Greenhouse Gases
GITS	Government Information Technology Services
GNI	Gross National Income
GOCD	Government of Commonwealth of Dominica
GOG	Government of Grenada
GOSL	Government of St. Lucia
GOSVG	Government of St. Vincent and the Grenadines
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
HMIS	Health Management Information System
ICT	Information and Communication Technology
ID	Identification
IDA	International Development Association
IEG	Independent Evaluation Group
IFR	Interim Financial Report
IMPACS	Implementation Agency for Crime and Security
IPF	Investment Project Financing
IPPF	Indigenous Peoples Planning Framework
IPS	Instant Payment System
IRR	Internal Rate of Return
IST	Implementation Support Team
IT	Information Technology
ITSD	Information Technology Services Division

LAC	Latin America and the Caribbean
LMP	Labor Management Procedures
M&E	Monitoring and Evaluation
MB	Mega Bytes
MOF	Ministry of Finance
MOPWDE	Ministry of Public Works and Digital Economy
MPID	Multi-Purpose Identification
MSME	Micro, Small, and Medium Enterprises
NCPC	National Competitiveness and Productivity Council
NPV	Net Present Value
NTRC	National Telecommunications Regulatory Commission
OECS	Organisation of Eastern Caribbean States
OpEx	Operating Expenses
PCU	Project Coordination Unit
PIU	Project Implementation Unit
POM	Project Operational Manual
PPP	Public-Private Partnership
PPSD	Project Procurement Strategy for Development
PSC	Project Steering Committee
PSIPMU	Public Sector Investment Programme Management Unit
PSMD	Public Sector Modernization Department
QoS	Quality of Service
RPF	Resettlement Policy Framework
RPOC	Regional Project Operations Committee
RPIU	Regional Project Implementation Unit
RPS	Regional Partnership Strategy
SAI	Supreme Audit Institution
SEP	Stakeholder Engagement Plan
STEM	Science, Technology, Engineering and Mathematics
STEP	Systematic Tracking and Exchanges in Procurement
SVG	St. Vincent and the Grenadines
UIN	Unique Identification Number
US\$	United States Dollars
WB	World Bank
WBG	World Bank Group
Wi-Fi	Wireless Fidelity

TABLE OF CONTENTS

DATASHEET	1
I. STRATEGIC CONTEXT	10
A. Regional Context	10
B. Sectoral and Institutional Context	11
C. Relevance to Higher Level Objectives.....	15
II. PROJECT DESCRIPTION.....	17
A. Project Development Objective	17
B. Project Components	18
C. Project Beneficiaries	23
D. Results Chain	24
E. Rationale for Bank Involvement and Role of Partners	24
F. Lessons Learned and Reflected in the Project Design	25
III. IMPLEMENTATION ARRANGEMENTS	26
A. Institutional and Implementation Arrangements	26
B. Results Monitoring and Evaluation Arrangements.....	28
C. Sustainability.....	29
IV. PROJECT APPRAISAL SUMMARY	30
A. Economic and Financial Analysis	30
B. Fiduciary.....	31
C. Legal Operational Policies.....	32
D. Environmental and Social.....	32
E. Grievance Redress Services	34
V. KEY RISKS	34
VI. RESULTS FRAMEWORK AND MONITORING	36
ANNEX 1: Implementation Arrangements and Support Plan	58
ANNEX 2: Regional Level Program Details	66
ANNEX 3: National Level Program Details – Dominica	71
ANNEX 4: National Level Program Details – Grenada.....	78
ANNEX 5: National Level Program Details – St. Lucia	83
ANNEX 6: National Level Program Details – St. Vincent and the Grenadines (SVG).....	89
ANNEX 7: Detailed Economic and Financial Analysis.....	96
ANNEX 8: Building Resilience to Climate and Health Events in the Eastern Caribbean Region through Digitalization.....	103



DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Caribbean, Dominica, Grenada, St. Lucia, St. Vincent and the Grenadines	Caribbean Digital Transformation Project	
Project ID	Financing Instrument	Environmental and Social Risk Classification
P171528	Investment Project Financing	Moderate

Financing & Implementation Modalities

<input type="checkbox"/> Multiphase Programmatic Approach (MPA)	<input type="checkbox"/> Contingent Emergency Response Component (CERC)
<input type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Performance-Based Conditions (PBCs)	<input checked="" type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input type="checkbox"/> Responding to Natural or Man-made Disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	

Expected Approval Date	Expected Closing Date
22-Jun-2020	22-Jun-2026
Bank/IFC Collaboration	
No	

Proposed Development Objective(s)

To increase access to digital services, technologies and skills by governments, businesses and individuals in the participating Eastern Caribbean countries.

**Components**

Component Name	Cost (US\$, millions)
Digital Enabling Environment	15.00
Digital Government Infrastructure, Platforms and Services	46.85
Digital Skills and Technology Adoption	22.15
Project Implementation Support	10.00

Organizations

Borrower:	Commonwealth of Dominica Saint Lucia Grenada Saint Vincent and the Grenadines
Implementing Agency:	Organisation of Eastern Caribbean States (OECS) Department of Public Service, Ministry of Finance of Saint Lucia Ministry of Public Works and Digital Economy of Commonwealth of Dominica OECS Commission Ministry of Finance, Economic Planning, Sustainable Development and Information Technology of SVG Ministry of National Security, Public Administration, Home Affairs and ICT of Grenada

PROJECT FINANCING DATA (US\$, Millions)**SUMMARY**

Total Project Cost	94.00
Total Financing	94.00
of which IBRD/IDA	94.00
Financing Gap	0.00

DETAILS**World Bank Group Financing**

International Development Association (IDA)	94.00
IDA Credit	86.00



IDA Grant	8.00
-----------	------

IDA Resources (in US\$, Millions)

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
Dominica	28.00	0.00	0.00	28.00
National PBA	16.00	0.00	0.00	16.00
Regional	12.00	0.00	0.00	12.00
Grenada	8.00	0.00	0.00	8.00
National PBA	1.00	0.00	0.00	1.00
Regional	7.00	0.00	0.00	7.00
St. Lucia	20.00	0.00	0.00	20.00
National PBA	11.70	0.00	0.00	11.70
Regional	8.30	0.00	0.00	8.30
St. Vincent and the Grenadines	30.00	0.00	0.00	30.00
National PBA	20.00	0.00	0.00	20.00
Regional	10.00	0.00	0.00	10.00
Caribbean	0.00	8.00	0.00	8.00
Regional	0.00	8.00	0.00	8.00
Total	86.00	8.00	0.00	94.00

Expected Disbursements (in US\$, Millions)

WB Fiscal Year	2020	2021	2022	2023	2024	2025	2026
Annual	0.00	4.00	10.00	16.00	22.00	23.00	19.00
Cumulative	0.00	4.00	14.00	30.00	52.00	75.00	94.00

INSTITUTIONAL DATA

Practice Area (Lead)

Digital Development

Contributing Practice Areas

Finance, Competitiveness and Innovation, Governance, Urban, Resilience and Land



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	● High
2. Macroeconomic	● Substantial
3. Sector Strategies and Policies	● Moderate
4. Technical Design of Project or Program	● Substantial
5. Institutional Capacity for Implementation and Sustainability	● Substantial
6. Fiduciary	● Substantial
7. Environment and Social	● Moderate
8. Stakeholders	● Low
9. Other	
10. Overall	● Substantial

COMPLIANCE

Policy

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

☐ Yes ☒ No

Does the project require any waivers of Bank policies?

☐ Yes ☒ No



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

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	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

The Recipient shall maintain the PIU under its under the Ministry of Public Works and Digital Economy at all times during implementation of its Respective Parts of the Project in a manner, with resources, functions, and responsibilities, including the day to day coordination of the implementation of the Recipient’s Respective Parts of the Project, all satisfactory to the Association, including, a Project manager, a financial management specialist, a procurement specialist, and, no later than 30 days after the Effective Date, an environmental and social specialist. [DOM: Section I.A.2, Schedule 2 of the Legal Agreement]

Sections and Description

No later than 60 days after the Effective Date, the Recipient shall establish and thereafter maintain in form and manner satisfactory to the Association a committee (the “Project Steering Committee”), with resources and functions and responsibilities (including the responsibility to provide overall oversight of Project implementation progress, including review of annual implementation plans and progress reports and coordinate between the different ministries and regional implementation mechanism and address policy issues impacting Project



implementation. all satisfactory to the Association, including, representatives of the Ministry of Public Works and Digital Economy; Ministry of Finance Economic Affairs, Investment, Planning, Sustainable Development Telecommunications and Broadcasting; and Ministry of Governance, Public Service Reform, Citizen Empowerment, Social Justice and Ecclesiastical Affairs. [DOM: Section I.A.3, Schedule 2 of the Legal Agreement]

Sections and Description

The Recipient shall operate and maintain the PIU under Ministry of National Security, Public Administration, Home Affairs, and Information and Communication Technology at all times during implementation of its Respective Parts of the Project in a manner, with resources, functions, and responsibilities, including the day to day coordination of the implementation of the Recipient's Respective Parts of the Project, all satisfactory to the Association, including: a Project manager; a financial management specialist; a procurement specialist; and, no later than 60 days after the Effective Date, an environmental and social specialist. [GRE: Section I.A.2, Schedule 2 of the Legal Agreement]

Sections and Description

No later than 60 days after the Effective Date, the Recipient shall establish and thereafter maintain in form and manner satisfactory to the Association a committee (the "Project Steering Committee"), with resources and functions and responsibilities including the responsibility to provide overall oversight of Project implementation progress, including review of annual implementation plans and progress reports and coordinate between the different ministries and regional implementation mechanism and address policy issues impacting Project implementation, all satisfactory to the Association, including, representatives of the Office of the CIO; Ministry of Infrastructure Development, Public Utilities, Energy, Transport and Implementation; Ministry of National Security, Public Administration, Home Affairs, and Information and Communication Technology; Department of Public Administration; Ministry of Finance, Planning, Economic Development and Physical Development; and National Training Agency. [GRE: Section I.A.3, Schedule 2 of the Legal Agreement]

Sections and Description

The Recipient shall operate and maintain the PIU under Department of Public Service within the Ministry of Finance, Economic Growth, Job Creation, External Affairs and the Public Service at all times during implementation of its Respective Parts of the Project in a manner, with resources, functions, and responsibilities, including the day to day coordination of the implementation of the Recipient's Respective Parts of the Project, all satisfactory to the Association, including, a Project manager, a financial management specialist, a procurement specialist, and, no later than 60 days after the Effective Date, an environmental and social specialist. [SLU: Section I.A.2, Schedule 2 of the Legal Agreement]

Sections and Description

No later than 60 days after the Effective Date, the Recipient shall establish and thereafter maintain in form and manner satisfactory to the Association a committee (the "Project Steering Committee"), with resources and functions and responsibilities (including the responsibility to provide overall oversight of Project implementation progress, including review of annual implementation plans and progress reports and coordinate between the different ministries and regional implementation mechanism and address policy issues impacting Project implementation. all satisfactory to the Association, including, representatives of the Public Sector Modernization Department (PSMD); GITS; Ministry of Finance, Economic Growth, Job Creation, External Affairs and the Public Service; NCPC; and Ministry of Economic Development, Housing, Urban Renewal, Transport and Civil Aviation. [SLU: Section I.A.3, Schedule 2 of the Legal Agreement]

Sections and Description



The Recipient shall operate and maintain the PIU under the Ministry of Finance, Economic Planning, Sustainable Development, and Information Technology at all times during implementation of its Respective Parts of the Project in a manner, with resources, functions, and responsibilities, including the day to day coordination of the implementation of the Recipient's Respective Parts of the Project, all satisfactory to the Association, including, a Project manager, a financial management specialist, a procurement specialist, and, no later than 60 days after the Effective Date, an environmental and social specialist. [SVG: Section I.A.2, Schedule 2 of the Legal Agreement]

Sections and Description

No later than 60 days after the Effective Date, the Recipient shall establish and thereafter maintain in form and manner satisfactory to the Association a committee (the "Project Steering Committee"), with resources and functions and responsibilities (including the responsibility to provide overall oversight of Project implementation progress, including review of annual implementation plans and progress reports and coordinate between the different ministries and regional implementation mechanism and address policy issues impacting Project implementation. all satisfactory to the Association, including, representatives of the Ministry of Finance, Economic Planning, Sustainable Development, and Information Technology; Ministry of Legal Affairs; Ministry of Education, National Reconciliation, and Information; and Ministry of Housing, Informal Human Settlements, Land and Surveys, and Physical Planning. [SVG: Section I.A.3, Schedule 2 of the Legal Agreement]

Sections and Description

The Recipient shall maintain the RPIU under its OECS Commission at all times during implementation of its Respective Parts of the Project in a manner, with resources and terms of reference satisfactory to the Association, including: a Project manager; a financial management specialist; a procurement specialist; and, no later than 60 days after the Effective Date, an environmental and social specialist. [OECS: Section I.A.3, Schedule 2 of the Legal Agreement]

Sections and Description

No later than 60 days after the Effective Date, the Recipient shall establish and thereafter maintain in form and manner satisfactory to the Association the Regional Project Oversight Committee, for the Recipient's Respective Parts of the Project with resources and terms of reference satisfactory to the Association, including, representatives of OECS, ECCB, ECTEL, CARICOM IMPACS and, as soon as the Participating Eastern Caribbean Countries make the respective appointments, the Ministry of Public Works and Digital Economy - Dominica, the Ministry of National Security, Public Administration, Home Affairs, and Information and Communication Technology - Grenada, the Ministry of Finance, Economic Growth, Job Creation, External Affairs and the Public Service – St. Lucia, and the Ministry of Finance, Economic Planning, Sustainable Development, and Information Technology - SVG, and which shall be responsible for coordination between the different regional institutions and governments, addressing strategic issues impacting Project implementation, overall oversight of Project implementation progress, including review of annual implementation plans and progress reports. [OECS: Section I.A.4, Schedule 2 of the Legal Agreement]

Conditions

Type	Description
Effectiveness	The Project Operational Manual has been prepared and adopted by the Recipient in respect of its Respective Parts of the Project, all in a manner acceptable to the Association. [DOM: Section 4.01(a) of the Legal Agreement; GRE: Section 4.01(a) of the Legal Agreement; SLU:



	Section 4.01(a) of the Legal Agreement; SVG: Section 4.01(a) of the Legal Agreement; OECS: Section 4.01(a) of the Legal Agreement]
Type Effectiveness	<p>Description</p> <p>The PIU has hired in a manner, with terms of reference and resources all satisfactory to the Association, a financial management specialist and a procurement specialist. [DOM: Section 4.01(b) of the Legal Agreement]</p>
Type Effectiveness	<p>Description</p> <p>The Implementation Agreements between the Recipient and each of ECCB, ECTEL, and CARICOM IMPACS, in form and substance satisfactory to the Association, have been duly executed and are in full force and effect. [OECS: Section 4.01(b) of the Legal Agreement]</p>
Type Disbursement	<p>Description</p> <p>Notwithstanding the provisions of Part A above, no withdrawal shall be made under Category (2) (Matching Grants) until the Recipient shall have adopted the Grants Manual in a manner satisfactory to the Association. [DOM: Section III.B.1(b), Schedule 2 of the Legal Agreement; GRE: Section III.B.1(b), Schedule 2 of the Legal Agreement; SLU: Section III.B.1(b), Schedule 2 of the Legal Agreement]</p>
Type Disbursement	<p>Description</p> <p>Notwithstanding the provisions of Part A above, no withdrawal shall be made for payments made prior to the Signature Date, except that withdrawals up to an aggregate amount not to exceed SDR4,100,000 may be made for payments made up to the date one year prior to this date, for Eligible Expenditures under Category (1). [DOM: Section III.B.1(a), Schedule 2 of the Legal Agreement]</p>
Type Disbursement	<p>Description</p> <p>Notwithstanding the provisions of Part A above, no withdrawal shall be made for payments made prior to the Signature Date, except that withdrawals up to an aggregate amount not to exceed \$1,600,000 may be made for payments made up to the date six months prior to this date, for Eligible Expenditures under Category (1). [GRE: Section III.B.1(a), Schedule 2 of the Legal Agreement]</p>
Type Disbursement	<p>Description</p> <p>Notwithstanding the provisions of Part A above, no withdrawal shall be made for payments made prior to the Signature Date, except that withdrawals up to an aggregate amount not to exceed \$4,000,000 may be made for payments made up to the date one year prior to this date, for Eligible Expenditures under Category (1). [SLU: Section III.B.1(a), Schedule 2 of the Legal Agreement]</p>
Type Disbursement	<p>Description</p> <p>Notwithstanding the provisions of Part A above, no withdrawal shall be made for payments made prior to the Signature Date, except that withdrawals up to an aggregate amount not to exceed \$6,000,000 may be made for payments made up to the date one year prior to this date, for Eligible Expenditures under Category (1). [SVG: Section III.B.1, Schedule 2 of the</p>



	Legal Agreement]
Type Disbursement	Description Notwithstanding the provisions of Part A above, no withdrawal shall be made for payments made prior to the Signature Date, except that withdrawals up to an aggregate amount not to exceed SDR 1,180,000 may be made for payments made up to the date one year prior to this date, for Eligible Expenditures. [OECS: Section III.B.1, Schedule 2 of the Legal Agreement]

I. STRATEGIC CONTEXT

A. Regional Context

1. **While project preparation commenced prior to the outbreak of the COVID-19 pandemic, the proposed project was designed with resilience and continuity of operations as a core driver.** The lack of digitization of the Eastern Caribbean economies has increased their vulnerability to external shocks such as the ongoing COVID-19 pandemic, limiting continuity of operations of the public and private sectors, and the ability of individuals to abide by social distancing rules and conduct daily transactions in a contactless manner. The proposed project activities not only strengthen the long-term resilience of the region to acute health and climate events by enabling economy-wide digitization, but also support governments' immediate need to respond to the pandemic – see Table 1 in Section C, Relevance to Higher Level Objectives, for details.
2. **The Eastern Caribbean region is characterized by small economies and populations as well as unique geographic assets and challenges.** The total population of the seven Organisation of Eastern Caribbean States¹ (OECS) member countries is approximately 625,000 with a cumulative Gross Domestic Product (GDP) of under US\$9 billion.² Gross National Income (GNI) per capita ranges from US\$7,090 (Atlas method, current US\$) in Dominica to US\$9,650 in Grenada. As islands, the OECS member states lack direct physical connection to large markets and all fall within the Atlantic Hurricane belt, making them prone to acute climatic events.
3. **Eastern Caribbean countries have made progress towards reducing poverty and rank relatively well on measures of human development.** The region demonstrates low levels of extreme poverty, measured at US\$1.90 per day, ranging from 0 to 3 percent. The incidence of general poverty (measured at US\$5.50 per day) is moderate and lower than in many countries in Latin America and the Caribbean (LAC) and countries at a similar level of GNI per capita globally. However, poverty rates are expected to increase as a result of COVID-19 shocks.³ OECS countries are ranked in the “high” human development category in the Human Development Index.⁴ Enrollment in and completion of secondary education is higher than the average for the LAC region, with notable gender parity.
4. **OECS countries are struggling to build on their physical and human capital endowments to generate adequate economic opportunity.** GDP growth has averaged just 1.3 percent for Caribbean small island states in 2018 (ranging from 1 percent in St. Lucia (SLU) to 4.3 percent in Grenada (GRE)) and is expected to fall precipitously in the wake of COVID-19. There is a substantial skills-job mismatch among graduates of the formal education system, and the region suffers from significant brain-drain with top talent leaving to seek opportunities in global markets. Prior to COVID-19, unemployment was already high, ranging from 19 to 23 percent in the project's participating countries, with youth unemployment reaching as high as 40 percent in some jurisdictions.
5. **The Eastern Caribbean region needs a new way forward to promote economic dynamism, diversification, and job creation.** Smaller and less diversified economies in the Caribbean will be most affected by the demand (reduced consumer spending) and supply (cancellation of flights and cruises) shocks to tourism as a result of COVID-19. Prior to COVID-19, tourism had already been losing ground, with arrivals rising only 0.6 percent annually from 2005-2017, compared with 4.2 percent globally. Financial services were likewise facing headwinds from global de-risking trends in the sector. Competitiveness of the services sector increasingly relies on technology and digital platforms to serve the

¹ <https://www.oecs.org/en/>

² World Development Indicators, World Bank Group, 2018

³ Estimates for participating OECS economies range from 1-2% increases in the poverty rate although subject to further analysis.

⁴ Grenada (78), St. Lucia (89), St. Vincent and the Grenadines (94) and Dominica (98)

demands of the modern consumer – a trend that is expected to accelerate in the wake of social distancing practices. However, too few OECS businesses are rising to this challenge and too few workers are equipped with the technology and soft skills needed to drive the needed transformation.

6. **The region's resilience is threatened by recurring natural disasters and the economic shocks brought on by COVID-19.** All OECS countries except St. Kitts and Nevis rank in the top 50 on the Climate Risk Index between 2008 and 2018, with Dominica in the top 10. In 2017, Dominica (DOM) suffered losses from Hurricane Maria estimated at US\$931 million (226 percent of GDP), and Grenada suffered similar devastation from Hurricane Ivan in 2004. Poorer populations have been most severely impacted, with vulnerable households in Dominica twice as likely to need to rebuild their homes after Hurricane Maria. The impact of COVID-19 has exposed the lack of preparedness of most governments, individuals, and businesses to operate in a virtual world and has amplified the consequences of the digital divide between the connected and unconnected.

7. **The rise of digital technologies and the digital economy offers a unique opportunity for Eastern Caribbean countries to accelerate economic growth and job creation, enhance public service delivery, and build resilience.** By working together to create a more deeply integrated and dynamic digital economy and digitally empowered citizens, businesses, and institutions, Eastern Caribbean countries can chart a new path. Together they have the opportunity to build a future in which seamless and efficient public services are available at the touch of a screen from even the remotest island, where individuals are equipped with the technology and soft skills to find meaningful employment in a knowledge and services driven regional and global economy, and where businesses and entrepreneurs are pushing the frontiers of innovation, creating new jobs, and accelerating the region's economic growth. They can improve preparedness and resilience to natural disasters and external shocks such as hurricanes and pandemics.

Box 1: Gender Dynamics and Outcomes in the Caribbean

The Eastern Caribbean region faces a unique set of challenges around gender equality. According to UNICEF's situational analyses for the region, girls' attendance in primary, secondary, and tertiary education is equal or greater than that of boys and they also have greater pass rates in the Caribbean Secondary Education Certification (CSEC) examinations. However, this does not follow through to the job market. In St Lucia, slightly more women are employed than men, but women are more likely to be in lower paying, lower skilled, informal jobs. The lower rates of women's participation in science, technology, engineering, and math (STEM) fields of study feeds into these outcomes.

There is also a gender disparity in leadership, with women underrepresented in executive positions in the private sector and government. Across the Caribbean, women represent 30% of managers in junior, middle, and senior levels but only 10% of managers in top executive roles. While several organizations and entities across the region collect data on skills and entrepreneurship, this data is often out of date and lacks gender disaggregation. Specific research into the digital lives and livelihoods of women in the region is warranted, with a particular focus on capacity around technical and soft skills in greatest demand among digitally enabled industries and those required for remote working arrangements. Additionally, there is opportunity to widen the market and create employment opportunities for women in foreign income earning areas, particularly around tourism and agriculture sectors.

B. Sectoral and Institutional Context

8. **Rapid digital transformation is reshaping the global economy, permeating virtually every sector and aspect of daily life, and changing the way we learn, work, trade, socialize, and access public and private services and information.** These trends are expected to accelerate in the wake of COVID-19. However, countries in the Eastern Caribbean are

capturing only a fraction of this innovation and growth potential and need to strategically and proactively invest in the foundational elements of their digital economy to ensure that their businesses and citizens can keep pace with and thrive in an increasingly digital world.

9. **While the project countries have made some strides in developing their digital foundations, most notably in upgrading digital infrastructure, more remains to be done.** Under the ongoing Caribbean Regional Communications Infrastructure Program – P171791 (CARCIP), financed by the World Bank in Grenada, St. Lucia (SLU), and St. Vincent and the Grenadines, as well as in Dominica through a similar Government-financed initiative, the respective governments have entered into a public-private partnership (PPP) with Digicel to build out new fiber optic networks across the islands. The network is now capable of delivering high speed broadband to government offices, schools, and other public services facilities, creating the opportunity to modernize and digitize government internal operations and to offer more efficient and convenient digitally enabled services to citizens. The infrastructure is likewise being utilized by Digicel to offer mobile and high-speed internet services to private individuals and businesses, creating the opportunity to transform how business is conducted and how individuals access information, services, and employment opportunities. Further efforts are now needed to capitalize on these opportunities.

10. **At present, Eastern Caribbean countries continue to lag significantly across most of the digital economy foundations, as well as in comparison to peers at similar levels of socioeconomic development.** COVID-19 has underlined these digital deficits even more, exposing the region’s lack of preparedness to move government operations, education, communications, and commerce online.

Figure 1: Digital economy readiness indicators for project countries⁵

Country	Digital Infrastructure		Digital Platforms		Digital Financial Services	Digital Skills	Digital Entrepreneurship
	Regulatory Environment	Broadband Penetration	Cybersecurity Index	E-Gov. Index			
Dominica	○	○	○	○	○	○	○
Grenada	○	●	○	△	○	○	○
St. Lucia	○	△	○	△	○	○	○
SVG	○	●	○	○	○	○	○

Legend: ○ Low Level of Development △ Intermediate Level of Development ● High Level of Development

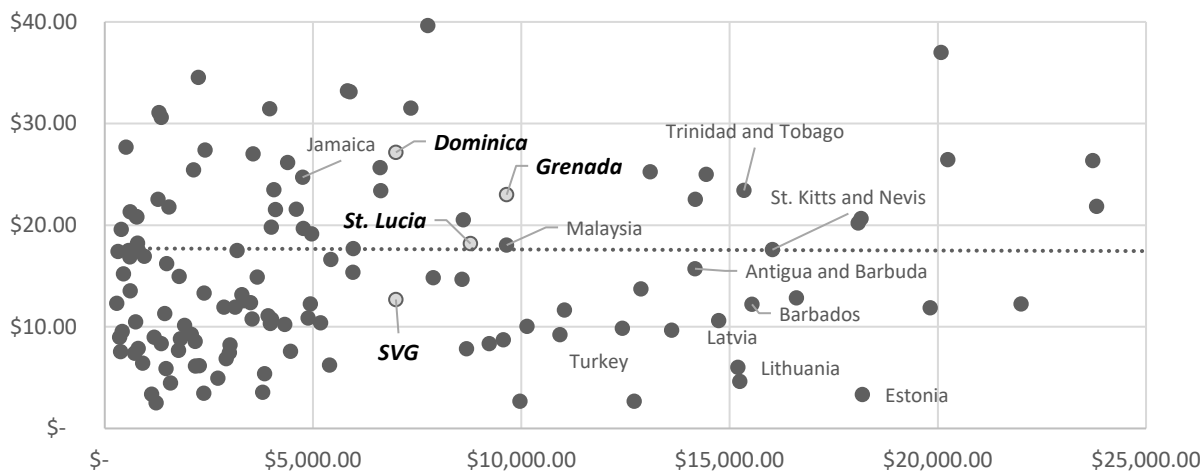
11. **While recent fiber-optic infrastructure upgrades have improved capacity and reach of networks, access to broadband still remains challenging for many individuals and businesses, and service quality remains unreliable.** The

⁵ Ratings for “Broadband Penetration” and “E-Gov. Index” are based on available secondary sources (GSMA (mobile broadband); TeleGeography (fixed broadband); UN E-Government Development Index). “Regulatory Environment” ratings are constant across all countries due to the regional approach to sector regulation and are rated as “low level of development” on account of obsolescence of governing legislation and associated regulation, compared to global trends and good practices. Other ratings are drawn from the task team’s assessment based on consultations and fact-finding during missions to the region, benchmarked against income and regional peers, on account of a lack of available data.



cost of a basic mobile broadband plan is above the average of peer countries at similar levels of per capita income, with the exception of SVG (see Figure 2). Perceived value for money is also a challenge given the low quality of broadband services and limited digital content, services, and applications on offer relative to other markets (mobile payments, e-commerce, ride hailing, public services, etc.). These challenges disproportionately impact the poorest individuals, micro and small enterprises and vulnerable or marginalized groups, which continue to be locked out of the digital economy as a result. COVID-19 has put further pressure on these marginalized groups as social, economic, and public services activity has rapidly moved online, and consequently, out of reach.

Figure 2: Mobile broadband plan price (500 MB plan in US\$) vs GNI PC



Source: TeleGeography Global Comms Database, 2019; World Bank, 2019

12. **There is an urgent need to modernize the legal, regulatory, and institutional frameworks governing the region's telecommunications sector to adequately address market failures, promote consumer interests and digital inclusion, and keep pace with rapid technology evolution.** The countries' national telecommunications regulatory commissions (NTRCs) lack the independent authority or appropriate enforcement tools to prevent or respond to anti-competitive or anti-consumer behavior. Both the regional telecoms regulator, the Eastern Caribbean Telecommunications Authority (ECTEL), and the NTRCs lack the capacity or regulations to monitor operators' compliance with quality of service standards or coverage obligations. As a result, there is limited ability to use regulatory tools to promote ubiquitous access and adoption of affordable broadband services by individuals and households.

13. **Utilization and acceptance of digital payments is very low across the region, preventing government, individuals, and businesses from transacting online and limiting financial inclusion.** High costs for opening and maintaining bank accounts, transaction fees for "traditional" digital payment methods such as credit and debit cards and steep Automatic Teller Machine (ATM) withdrawal fees drive a preference for cash transactions and avoidance of interaction with the formal banking system. Few merchants accept electronic payments at point of sale and those that do charge high fees for the service. Many government payment streams are still primarily handled through cash or checks, raising costs of administration and missing an opportunity to drive demand for digital financial services (DFS). The lack of a digitized social protection system hinders opportunities for rapid social payments as a response to COVID-19 or in the aftermath of natural disasters.

14. **Regulatory bottlenecks and weaknesses in the region's payment system infrastructure are inhibiting digital financial services innovation, affordability, and uptake.** Innovative digital financial services offerings such as mobile



money/e-money or more sophisticated mobile credit and insurance products that are growing rapidly across many parts of the globe are almost non-existent in the region despite the clear gap in the market. The lack of a clear legal and regulatory framework and licensing regime for e-money providers and a cautious stance by financial services regulators has either prevented entry of new e-money providers outside of the formal banking sector or severely limited their growth. Unlocking competition and innovation in DFS would not only fuel growth of the digital economy by creating a larger online consumer base, but also support resilience of individuals and businesses that have been locked out of the formal banking system due to high fees, lack of collateral, or credit history.

15. **Critical networks, information systems, and online transactions remain insecure and vulnerable to cyberattack, fraud, and natural disasters.** In addition to being affordable, digital services and the infrastructure delivering it need to be trusted and secure. Cybersecurity and data protection and privacy are growing concerns in the region as more and more sensitive data is digitized and critical infrastructure and services are connected to the internet. The region lacks a comprehensive cybersecurity or data protection framework, including policy, legislation, and regulation at regional and national levels. National level infrastructure and capacity to mitigate cyberthreats, address cyber emergencies, and restore IT operations in the event of natural or manmade disruption is very limited. Given the shared threats and high costs of putting in place cyber defense and resilience capabilities, there is wide scope for regional collaboration that would allow costs and expertise to be shared. Likewise, there is scope for regional harmonization of data protection legislation and data sharing protocols to reduce barriers to cross-border investment and create a seamless regional market for accessing and delivering data-driven services.

16. **Governments have yet to fully take advantage of improved connectivity to modernize their internal operations, improve the efficiency and convenience of accessing public services, and ensure continuity of operations in the wake of natural disasters and pandemics.** The opportunity cost is particularly high in the Eastern Caribbean context, with populations living on small islands and atolls, distant from physical service locations that would disproportionately benefit from online access to services. Cost savings from digitization and automation of core administrative functions and services could likewise relieve the strain on public finances. The Online Services Sub-Index (OSI) of the UN E-Government Development Index (UN EGD) ranks the level of development of digital government services and Government portals. OECS countries perform relatively poorly on this index for their income group, with rankings ranging between 93 for Dominica to 148 for St. Lucia out of 193 countries globally. Countries in the region suffer from weak capacity and financing of agencies responsible for digital transformation, lack of scale to justify the high costs of investment in new systems and human talent, and lack of regional collaboration to set common standards and pool scarce resources. There is also a lack of investment in cross-cutting platforms and registries such as digital identification (ID), geospatial platforms, and land registries that can form a foundation upon which to layer new applications, services, and analytics. Interoperability and integration between existing systems in all countries is low and line ministries and agencies struggle to ensure proper cybersecurity, maintenance, and upgrades after the initial capital expenditures. As a result, governments in the region are at greater risk of disruptions to critical operations and services as compared to the public sector in more digitally advanced economies.

17. **While all countries in the region currently lack a robust digital government services offering, some are moving quickly in that direction.** St. Lucia and Grenada are currently implementing public sector modernization programs. St. Lucia's project (titled DigiGov) is financed by Government resources while Grenada's project (Grenada: Digital Government for Resilience Project (P167588)) is financed by the World Bank Group. These projects include development of cross-cutting digital services enablers, such as cloud infrastructure, digital payment platforms, digital authentication and signatures, one stop mobile and web portals for accessing services online, and digitization of specific services such as civil registry, motor vehicle services, tax, customs, etc. Dominica and SVG lack many of these enablers to effectively deliver public services digitally, though some online services are currently on offer.

18. **High educational outcomes in the region have not translated into development of the skills needed in the digital era.** Building digital skills and creating a stronger local and regional market for them will be critical to tackling the region's unemployment challenges and maintaining competitiveness in the global economy of the future. Traditional education institutions are not producing enough graduates with the workforce-ready technical and "soft" skillsets in growing demand from digitally enabled industries. Women and girls are less likely to participate in STEM courses as a result of prevailing social norms, making them less prepared for the most promising digitally enabled fields of employment. Much of the top talent developed leaves the islands to pursue opportunities in the larger regional markets or globally, while those that stay do not find their skills fully utilized. The high costs of investment in specialized digital skills is also a challenge, suggesting that a regional approach is needed to share costs and expertise to create a pool of digital talent to attract investment and support technology adoption by traditional industries.

19. **Businesses across the region have been slow to adapt to the digital era, blunting their productivity growth, competitiveness, and ability to continue operations online during COVID-19, as well as suppressing demand for digital talent, goods, and services in the market.** Awareness of the potential benefits of digital technologies and business models and the skills, comfort, and financial resources to deploy them are lacking, particularly among small and medium enterprise management. Few businesses accept digital payments or use digital platforms to advertise and sell their goods and services. Fewer still are using such platforms to tap into regional and global market opportunities, to adopt digital centric business models, or to use data analytics to inform business strategy, integrate customer feedback, and improve efficiency. Conversely, the lack of a large base of digitally active consumers in the region suppresses the perceived return on such investments. A simultaneous push on both the supply and demand sides is needed to break out of this stalemate.

20. **The region's relatively robust regional institutions create an opportunity for the Eastern Caribbean states to tackle their digital deficits and promote digital economy development more effectively by working together.** Institutions such as the OECS can support harmonization of legal frameworks and data standards to create a larger market for data-driven service providers and increased digital trade. The Eastern Caribbean Central Bank (ECCB) can promote a harmonized space for digital financial services providers to innovate and expand seamlessly across borders. The Eastern Caribbean Telecommunications Authority (ECTEL) can facilitate adoption of best practices and greater broadband market competition, investment, and service quality across the region. The Caribbean Community (CARICOM) Implementation Agency for Crime and Security (IMPACS) can pool resources among small states to create the capacity needed to tackle fast growing cyberthreats. The Caribbean Telecommunications Union's (CTU) vision for a Single Information and Communication Technology (ICT) Space provides a unifying blueprint for cross-border integration of digital services and digital markets.

C. Relevance to Higher Level Objectives

21. **The project is fundamental to support the region's response to the COVID-19 pandemic.** In the short term, it will support access to broadband and digital devices to enable remote learning and virtual continuity of operations for critical government functions and services. In the longer term, it will support social, economic, and government communications and transactions to move online and ensure that everyone is included in the digital economy – improving the resilience of individuals, businesses, and governments to continue to operate and interact virtually in the wake of health, economic, or natural disruptions.

Table 1: Responding to the COVID-19 Pandemic

Time Frame	Project Activities Supporting COVID-19 Response
------------	---



Short-Term	Financing of devices for school students to facilitate remote education; Financing of high-speed broadband connectivity and access devices to facilitate remote work
Medium-Term	Financing of point of sale devices among small and medium enterprises (SMEs) to enable acceptance of digital payments; Development of a government payment platform; Digitization of social cash transfer programs; Digitization of internal government operations through investments in government cloud infrastructure, productivity tools (e.g., digital signatures), and e-document management systems
Long-Term	Development of digital identification systems; Digitization of key public services to enable contactless service delivery to citizens; Facilitating e-money through enabling environment reform; Improved affordability of broadband services through enabling environment reforms; Training of individuals in digital skills and support to secure digitally enabled work opportunities; Incentivizing technology adoption among SMEs

22. **The project aligns with the Bank's OECS Regional Partnership Strategy (RPS) (FY15-19) (Report No. 85156) extended through FY20 by its Performance and Learning Review (PLR) on April 30, 2018.** It will support private sector competitiveness (RPS Strategic Area 1 - fostering conditions for growth and competitiveness) through reforms in the telecommunications and financial services sectors, public sector modernization, and a focus on expanding employability and firm productivity through digital skills and entrepreneurship programs. This will support improved macro-fiscal management, and transparency and statistical capacity of the public sector (Outcomes 1 and 2) through digitization of the public sector, as well as support regulatory reforms for productivity and competitiveness (Outcome 3) to improve the investment climate and support female entrepreneurship (Outcome 4), while also contributing to human capital accumulation through digital skills and technology adoption programs. The project has a cross-cutting focus on enhancing resilience (RPS Strategic Area 2) of participating countries to natural disasters and public health emergencies such as the ongoing COVID-19 pandemic. The project will enhance the region's disaster management preparedness (Outcome 7) through increased use of technology by individuals, businesses, and governments, and also improve social protection programs (Outcome 6) by enabling more informed targeting and digital disbursement of benefits through project activities.

23. **National level socioeconomic development strategies and plans in participating countries identify digital development as an immediate priority and key to future growth and overall resilience of their economies.** As a result, governments in the region are investing in digital transformation and public sector modernization programs. Table 2 below lists strategies, plans, and ongoing programs in participant countries, and at the regional level, that have informed the project's objectives, priority areas, and design of activities.

Table 2: List of relevant regional and national strategies, plans, and programs

Entity	Strategy/ Plan/ Program
Dominica	National Resilience Development Strategy 2030: Underscores the importance of resilient communications networks and the use of digital technologies to deliver public services and to prepare for and recover from natural disasters.
Grenada	National Sustainable Development Strategy 2035: identifies development of the digital economy as key to Grenada's growth, and as an avenue for increased access to opportunities for the youth.
St. Lucia	Medium Term Economic Development Plan: Identifies digital development as a driver of economic growth and competitiveness. National Competitiveness Agenda (under preparation): Highlights digitization of industries and development of a digitally skilled talent pool as key priorities for improving competitiveness.
SVG	National Economic and Social Development Plan 2013-2025: Calls for economic diversification, human capital development, building climate resilience, and improving efficiency of the public sector.
Regional Initiatives	Caribbean Single ICT Space: An initiative led by CTU to create a fully harmonized and more dynamic regional digital market across the Caribbean Regional cybersecurity strategy: Developed by CARICOM IMPACS to improve regional cyber collaboration and cyber defense and response capabilities

II. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

24. To increase access to digital services, technologies, and skills by governments, businesses, and individuals in the participating Eastern Caribbean countries.

PDO Level Indicators

25. To monitor progress toward the PDO, the following set of indicators have been identified:

- (a) Internet penetration (percentage)
- (b) Adults with access to an e-money account (number; of which percentage women)
- (c) Percentage of users of digital public services reporting satisfaction with the efficiency of the transaction (percentage)
- (d) Number of individuals utilizing digital skills to improve workplace productivity or secure new employment opportunities (number, of which percentage women)
- (e) Number of firms adopting digital technologies and platforms for business purposes (number, of which percentage women-owned)

B. Project Components

26. **The project comprises three components that address key bottlenecks and harness opportunities to develop the Eastern Caribbean Digital Economy as a driver of growth, job creation, and improved service delivery.** It aims to ensure that every individual and business within the region is empowered with access to broadband, digital financial services, and the skills needed to actively participate in an increasingly digital marketplace and society. It leverages public sector modernization and digitization to improve service delivery and to drive creation of a digital culture across the region. It will facilitate technology adoption to improve productivity of flagship industries and create demand for digitally enabled jobs. It aims to foster regional integration and cooperation to capture the economies of scale and scope required to increase impact and value for money of the project interventions and to create a more competitive, seamless regional digital market to attract investment and provide room for growth of digital firms.

27. **The project will also support the region's climate mitigation efforts and strengthen its resilience to natural disasters, pandemics, and other shocks.** It will support resilience of digital infrastructure and disaster recovery/business continuity of critical communications systems, databases, and public services in the event of a natural disaster or external shocks. It will also help contribute to reduced emissions by eliminating the need to physically travel to access services and jobs and will promote the development of a clean, knowledge-based economy in the region. (See Annex 8 for details.)

28. **The project incorporates themes of inclusion, citizen-centric design, and citizen feedback to inform activity selection and implementation models.** It will provide opportunities for women, girls, at-risk youth, and the disabled to access digital services, skills development, and job-readiness training to prepare them for the digitally enabled jobs of the future. Design of digital public services and reform of the underlying transaction processes will be based on feedback from end-users to ensure that they are user friendly and accessible to the widest audience possible. Industry surveys will be utilized to identify skills gaps in the market and create skills development programs with clear pathways to employment opportunities.

29. **Project activities will be implemented in parallel at regional and national levels, financed through a regional IDA grant to the OECS Commission and country specific IDA credits respectively – see Table 3 for summary of financing.** Enabling environment improvements will largely be addressed at the regional level to leverage existing regional institutions and collaboration mechanisms and to support the creation of a harmonized regional digital market. The remaining activities will be implemented at the national level under a coordinated regional framework. The participation of the OECS Commission and individual countries is indicated in brackets after each activity below. See Annexes 2-6 for more detailed regional and country specific project descriptions.

Table 3: Project Financing by Institution/Country (US\$ million)

	OECS	DOM	GRE	SLU	SVG
Component 1 - Digital Enabling Environment					
1.1 - Telecommunications: Legal and Regulatory Environment, Institutions, and Capacity	1.5	0.0	0.0	0.0	0.0
1.2 - Digital Financial Services (DFS): Legal and Regulatory Environment, Institutions, and Capacity	1.5	0.0	0.0	0.0	0.0
1.3 - Cybersecurity, Data Protection and Privacy: Legal and Regulatory Environment, Institutions, and Capacity	2.0	2.0	2.5	3.5	2.0
Component 2 - Digital Government Infrastructure, Platforms, and Services⁶					
2.1 - Cross-Cutting Enablers of Digital Government Operations and Services	0.0	3.8	0.0	6.8	5.75
2.2 - Government Productivity Platforms and Citizen-Centric Digital Services	0.0	12.5	0.0	1.0	17.0
Component 3 - Digital Skills and Technology Adoption					
3.1 - Workforce-Ready Digital Skills	1.7	2.0	1.0	1.7	1.0
3.2 - Technology Adoption	0.0	4.5	3.5	5.0	1.75
Component 4 - Project Implementation Support					
4.1 - Project Implementation Support	1.3	3.2	1.0	2.0	2.5
Total	8.0	28.0	8.0	20.0	30.0

Component 1: Digital Enabling Environment (US\$15 Million)

30. This component will support the development of a positive enabling environment for the region's digital economy that drives competition, investment, and innovation while promoting trust and security of online transactions. It will focus on legal, regulatory, and institutional reforms to support modernization of the telecommunications and digital financial services sectors while mitigating growing risks of a digital economy, including cybersecurity and data protection and privacy.

Subcomponent 1.1: Telecommunications: Legal and Regulatory Environment, Institutions, and Capacity

31. This subcomponent aims to support greater telecoms sector competition, affordability, and service quality across the region as well as enhancing resilience and emergency response capabilities for critical communications infrastructure. It will support modernization of the legal, regulatory, and institutional frameworks governing the telecoms sector and the capacity to implement them at regional and national levels. Specific activities will include:

- (a) Carrying out a review of the legal and regulatory frameworks covering telecommunications and support for drafting of new or amending existing legislation and regulations as necessary at regional and national levels, paired with a review of telecom sector governance and institutional structures, procedures, and authority at regional and national levels (*regional*);
- (b) Establishment of a quality of service (QoS) monitoring and enforcement methodology and capacity (*regional*);

⁶ Grenada will make no investment in this component because it is already implementing a public sector modernization program. The World Bank financed Digital Government for Resilience Project (P167588) includes the introduction of new digital government services and platforms. See also para. 17.



and

- (c) Development of action plans to improve network resilience and post disaster recovery and emergency communications, and implementation of communications infrastructure disaster response and recovery drills in partnership with private sector (*regional*).

Subcomponent 1.2: Digital Financial Services: Legal and Regulatory Environment, Institutions, and Capacity

32. This subcomponent aims to spur greater innovation, investment, and adoption of digital financial services across the region. It will support modernization of the policy, legal, and regulatory frameworks and underlaying payment infrastructure currently holding back innovators within the Eastern Caribbean Currency Union (ECCU) from rolling out new non-bank digital payment products and services and preventing merchants, governments, and individuals from more routinely utilizing digital forms of payment. Specific activities will include:

- (a) Proposing updates to the Payment Systems Act and Money Services Business Act and corresponding regulations and designing an oversight framework for digital financial services, with corresponding support for adoption and implementation of the harmonized regional legislation and regulations at the national level (*regional*);
- (b) Undertaking demand-side surveys on financial access and usage in line with international standards to inform policy making and monitor progress toward financial inclusion goals (*regional*);
- (c) Development of an overarching Payment Systems Strategy for the region (*regional*); and
- (d) Technical design of a regional Instant Payment System (IPS) open to banks, non-banks, and ECCU governments to reduce the costs and time required for payment transfers. This activity will also examine payment systems infrastructure updates required for both the automated clearing house and the real-time gross settlement system (*regional*).

Subcomponent 1.3: Cybersecurity, Data Protection and Privacy: Legal and Regulatory Environment, Institutions, and Capacity

33. This subcomponent aims to build trust in online transactions and strengthen the security and resilience of digital infrastructure and systems. It will promote cybersecurity awareness and capacity building as well as create an enabling environment and institutions needed to protect the public and private sector from cyber vulnerabilities. The project will utilize a combination of regional and national level approaches to share knowledge, and resources and to respond to shared threats. The subcomponent will also include support to develop harmonized data protection and privacy frameworks across the region to ensure a unified space for investment and deployment of data-driven services. Specific activities will include:

- (a) Reviewing and updating of regional and national cybersecurity policies, legislation, regulation, and institutional and coordination structures (*regional, DOM, GRE, SLU, SVG*);
- (b) Establishing a Computer Emergency Response Team (CERT) or a cybersecurity agency at the national level in line with a regionally agreed model and support for regional threat intelligence sharing, incident escalation, and support protocols (*regional, DOM, GRE, SLU, SVG*);
- (c) Regionally coordinated capacity building and networking for government cyber professionals and cyber awareness campaigns for civil servants and general public (*regional, DOM, GRE, SLU, SVG*); and
- (d) Review and update of regional and national data protection and privacy laws and data access and exchange policies (*regional*).



Component 2: Digital Government Infrastructure, Platforms, and Services (US\$46.85 million)

34. **This component will support public sector modernization, resilience, and delivery of digital public services to individuals and businesses.** It will aim to ensure that all participating countries have put in place the core infrastructure, platforms, institutions, and human capacity needed to efficiently and effectively manage internal government operations, and to build on these core enablers to make public services widely accessible online from anywhere within the country, region, or across the globe. It will also prepare the region's governments for deeper interconnectivity and interoperability of data and information systems across borders to smooth administration of regional trade, immigration, and other services between countries. Finally, it will aim to ensure continuity of government operations and services, enable real-time data-driven decision making, and facilitate remote working for civil servants and the ability to rapidly target and deliver payments and social services to citizens and businesses in the event of natural disasters and external shocks.

Subcomponent 2.1: Cross-Cutting Enablers of Digital Government Operations and Services

35. **This subcomponent will support the development of key enablers of digital government services and operations, in line with regionally harmonized standards and frameworks.** It will enable line ministries to roll-out new digital services much more quickly and easily and generate significant cost savings and improve security, sustainability, and end-user experience compared with the current, highly fragmented practices whereby most entities roll out their digital infrastructure and platforms in silos. Specific activities will include:

- (a) Developing and implementing a digital transformation strategy or ICT policy, enterprise architecture, interoperability framework, and continuity of operations plan (*DOM, SLU, SVG*);
- (b) Reviewing and updating of proposed legislation, regulations, or policies covering e-transactions, digital signature, and identification, as required (*DOM, SLU, SVG*);
- (c) Establishing or reinforcing digital government infrastructure, equipment, and software, including extension of last mile access to high-speed broadband networks to support remote work, expansion of local area networks/Wireless Fidelity (Wi-Fi) for government office and service centers, datacenters or data hosting services, government cloud, digital devices, and enterprise communications and productivity software (*DOM, SLU, SVG*);
- (d) Developing a digital identification system or user authentication platform with privacy by design features, based on an agreed regional framework for assignment of unique identification number (*DOM, SVG*);
- (e) Establishing electronic document management, authentication, and digital signature capabilities (*DOM, SVG*);
- (f) Developing a digital payment platform to send and receive payments for, *inter alia*, public services, taxes, payroll, vendors, and social protection schemes (*SVG*); and
- (g) Supporting capacity building of the centralized information technology workforce and change management across the public service (*DOM, SLU, SVG*).

Subcomponent 2.2: Government Productivity Platforms and Citizen-Centric Digital Services

36. **This subcomponent supports the development of priority government productivity platforms and citizen-**



centric digital public services. It will build upon the core enabling infrastructure and platforms developed under Subcomponent 2.1. Specific activities will include:

- (a) Digitization and integration of key registries and information systems and establishment of a data exchange platform (enterprise service bus) (*DOM, SVG*);
- (b) Business process reengineering and end-to-end digitization of common government to citizen transactions and public services such as issuance of birth, death and marriage certificates, drivers' license and motor vehicle registration, passport applications, and tax filings (*DOM, SVG*);
- (c) Establishing an online web and mobile portal for accessing public services and information (*DOM, SVG*);
- (d) Developing a geographic information system and electronic single window for land and property information and transactions (*SVG*);
- (e) Establishing an electronic single window for customs clearance and administration (*SVG*);
- (f) Development of an electronic tax administration system (*SVG*);
- (g) Digitizing and increased automation of tourism and immigration administration for ports of entry (*DOM*);
- (h) Digitization of health information and administration, including connectivity for health centers and support for other COVID-19 health-related response needs (*DOM, SLU*); and
- (i) Digitizing social cash transfers and recurrent government payment streams (*DOM, SLU*).

Component 3: Digital Skills and Technology Adoption (US\$22.15 million)

37. **This component aims to better equip individuals and businesses across the region for the jobs and economy of the future and to spur innovation and productivity growth.** It adopts a regional approach, aiming to capture economies of scale in specialized digital skills development programs and to create a pool of advanced digital talent to better position the region to attract investment by digital firms. It also aims to tackle both supply and demand side constraints, supporting greater technology adoption and utilization of digitally enabled business models to drive demand for newly skilled employees and well as making connections with global employment opportunities through online working platforms. Specific efforts and targets are included to encourage maximum participation of women and girls in the support programs in order to promote greater opportunities and representation in digitally enabled professions and businesses.

Subcomponent 3.1: Workforce-Ready Digital Skills

38. **This subcomponent aims to support training for employment opportunities in digitally enabled professions.** Regional level activities will target more advanced and specialized digital skills development and remote working placements with global firms and clients. National level activities will be targeted primarily at digital skills in demand among industries in the Eastern Caribbean region. Specific activities will include:

- (a) A survey and assessment to identify the technical and soft skills in greatest demand in the regional and global market among digitally enabled industries and conducive to remote working arrangements (*regional*);
- (b) Designing and implementing a regional level advanced digital skills development and job coaching program, including the provision of Digital Skills Stipends (*regional*); and
- (c) National level digital skills development and job coaching programs (*DOM, GRE, SLU, SVG*).



Subcomponent 3.2: Technology Adoption

39. **This subcomponent seeks to increase adoption of digital technologies, platforms, and digitally enabled business models by SMEs and access to digital devices for students, teachers, and vulnerable groups.** It aims to boost the productivity and competitiveness of traditional industries, to initiate a cultural shift towards modernization and innovation in the private sector, and to overcome the current lack of demand for digitally skilled professionals and IT services in the regional market. It will also support access to digital devices and educational content among target groups such as students to facilitate digitally enabled distance learning in response to the COVID-19 pandemic and access to individuals otherwise at risk of being excluded from the digital economy and digital services. Specific activities will include:

- (a) A program to accelerate the adoption of digital technologies within priority sectors (tourism, agriculture, etc.) including managerial training, business advisory services, and provision of matching grants or other incentives to competitively selected SMEs to support digital technology and marketing investments (*DOM, GRE, SLU, SVG*);
- (b) Facilitating acceptance of electronic payments by merchants and promoting cash reduction in the economy (*GRE*);
- (c) Support for an internship or apprenticeship program to facilitate job placements of participants of the digital skills programs (under Subcomponent 3.1) including provision of Internship Stipends for participants (*DOM, GRE, SLU*);
- (d) Support for innovation programs and co-working spaces (*DOM, SLU*);
- (e) Support for purchase of digital devices and associated digital content and training to support access among vulnerable groups and remote learning by students (*DOM, SLU, SVG*).

Component 4: Project Implementation Support (US\$10 million)

40. **This component will support national and regional level Project Implementation Units (PIUs) with management and implementation of the project and associated activities.** The project will support capacity building initiatives, as well as PIU staffing through hiring of expert consultants for key areas such as project management, technical advisory and implementation support, procurement, financial management, environment and social safeguards, monitoring and evaluation, and strategic communications. It will also support capacity development of participating regional institutions and regional knowledge sharing events and forums. The funds will also be available to facilitate recruitment of technical advisory and implementation support firms as relevant (*regional, DOM, GRE, SLU, SVG*).

C. Project Beneficiaries

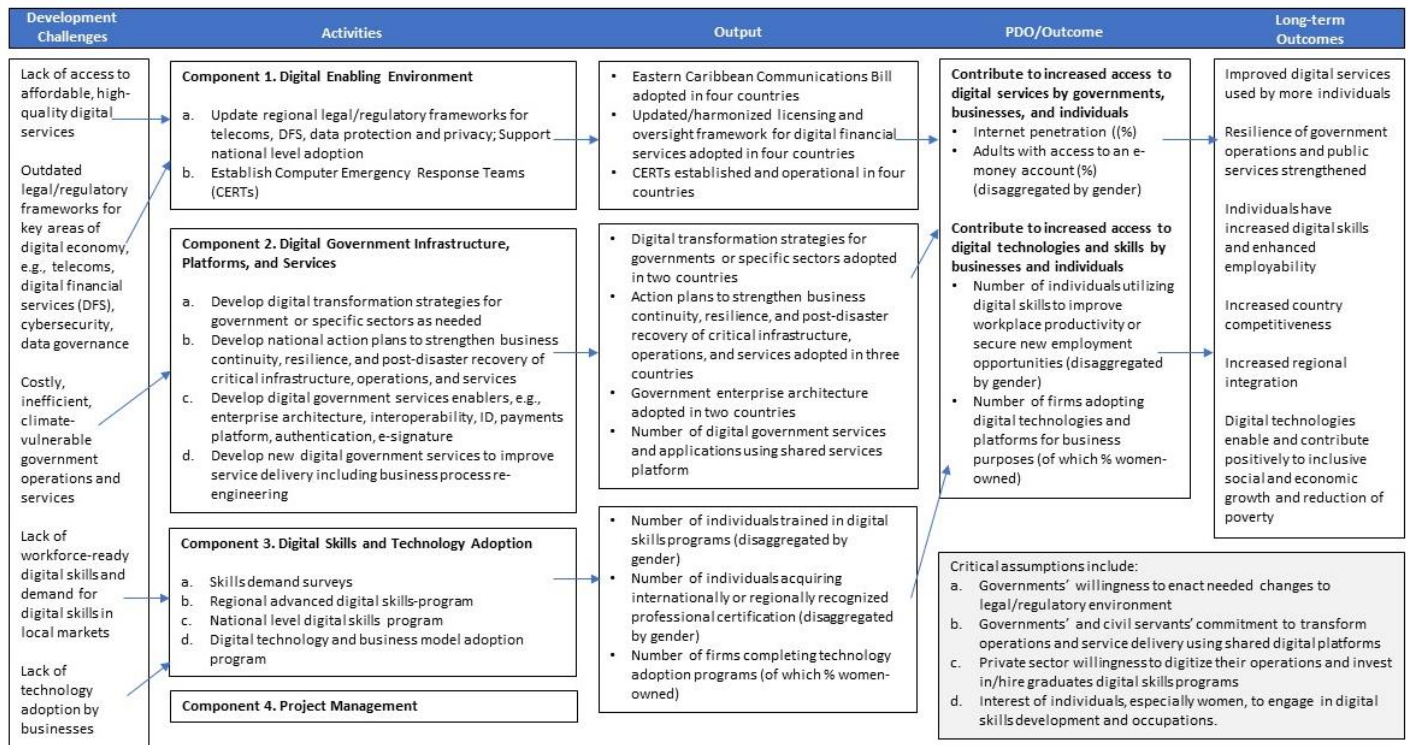
41. **The project is expected to benefit the entire population of the participating countries, estimated at over 450,000 individuals.** Nearly every current or future user of telecommunications and digital financial services will benefit from the legal and regulatory reforms aiming to reduce costs, improve quality of services, and stimulate investment and innovation. Businesses and individuals will be able to access public services and carry out transactions with government more efficiently and conveniently through online platforms. Individuals will have access to new training opportunities and support to help them find new digitally enabled jobs, while businesses will have opportunities to improve their productivity and tap into new customers and markets through support for technology adoption and training in online marketing and e-commerce. The project will also benefit the public sector through increased efficiency of the government's internal operations. Traditionally marginalized or vulnerable groups will also benefit, with rural and small



island/atoll communities having better access to services and digitally enabled jobs without the barriers of distance and transportation. Women and girls will be supported and encouraged to participate in digital skills and entrepreneurship opportunities in greater numbers, and digital public service offerings and training opportunities will be designed to ensure access to those with disabilities.

D. Results Chain

Figure 3: Results Chain



E. Rationale for Bank Involvement and Role of Partners

42. **The World Bank Group (WBG) is uniquely positioned to support the region's digital transformation.** The comprehensive, ecosystem-based approach and framework for simultaneously building the five foundations of the digital economy has been developed and tested through WBG programs in other regions, including under the Digital Economy for Africa (DE4A) Initiative (P169935). It builds on other investments supported by the WBG including the high-speed broadband and data hosting infrastructure developed under CARCIP and the regional harmonization frameworks on enterprise architecture, digital ID, etc. developed under the World Bank-financed Electronic Government for Regional Integration Program – P100635 (EGRIP), and complements the ongoing investments in public service modernization and digital services delivery under the ongoing DGR4 project in Grenada (P167588).

43. **The project strengthens collaboration with a number of regional institutions with a role in development and integration of the regional digital economy.** It both utilizes and reinforces existing collaboration processes and institutions including the ECCB, ECTEL, OECS Secretariat, and IMPACS to create a harmonized enabling environment for telecommunications, DFS, cybersecurity and data governance. Each institution will play a lead role in technical oversight, thought leadership, and cross-country coordination in the areas relevant to their mandate, supported with project resources. Existing partnerships between these institutions and other development partners will also be synchronized to



avoid overlap and maximize collective impact.

44. **Development partners have been consulted extensively throughout project preparation to ensure coordination and where possible to allow the Caribbean Digital Transformation Project (CARDTP) to provide a platform for common engagement around the digital economy.** Consultations included technical discussions with development finance institutions active in the OECS region, notably the Inter-American Development Bank, the Development Bank of Latin America (*Corporación Andino de Fomento*, CAF), and national development banks. Consultations with beneficiaries and national organizations, including non-governmental organizations, dedicated agencies, and business associations, took place iteratively during project preparation, and also in the context of the finalization of Environmental and Social Framework (ESF) documentation. Project preparation also included workshops in May and November 2019, which benefitted from the participation of the OECS Commission, the CTU, ECTEL, and the ECCB.

F. Lessons Learned and Reflected in the Project Design

45. **The CARDTP program reflects lessons learned from international, regional (Eastern Caribbean), and sectoral engagements related to the digital economy.** The project takes a comprehensive, ecosystem-based approach focused on building five key foundations of the digital economy - digital infrastructure, digital platforms, digital skills, digital financial services, and digital entrepreneurship. This represents a material departure from previous engagements which have taken more discrete sectoral approaches or focused on just a single foundation, which fail to capture synergies between the foundations.

46. **The selection of priority project activities reflects key lessons emanating from the WBG's Independent Evaluation Group (IEG).** The project supports telecoms and digital financial services regulatory reform as a complement to physical infrastructure investments, responding to a key finding from IEG's 2011 report "Capturing Technology for Development." The report also highlights the need for a stronger focus on demand side investments in digital skills and applications development, building on gains in internet connectivity to produce tangible results. The project also adopts key findings from the March 2014 IEG report "The Big Business of Small Enterprises" which urged moving from general SME support to tailored interventions targeting structural issues affecting small business. This is reflected in the project's focus on digital skills development and stimulation of greater adoption of digital technologies and platforms by businesses to boost productivity tailored to their individual needs and objectives.

47. **The project design accounts for key lessons highlighted in previous regional and national-level projects including CARCIP (P171791), Entrepreneurship Program for Innovation in the Caribbean (EPIC) (P128038, P128041, P128068, P131734, P132890, P131734, P148607, P151412, P153889, P157484), and EGRIP (P100635). These include:**

- (a) **Compensate for limited implementation capacity:** The project will be supported by dedicated PIUs at national and regional levels, potentially complemented by technical advisory firms in Dominica and SVG given the technical, procurement, and coordination complexity of the digital government infrastructure, platforms, and services program (Component 2) in those countries.
- (b) **Reduce implementation interdependencies:** While the program shares a common regional framework and approach, the design enables each country and regional institution to implement their programs in parallel, at their own pace. This will help mitigate the risk of a participant being held back by implementation delays in one or more of the other participating countries or institutions.
- (c) **Strike a balance between the benefits and risks of pooled procurements:** Countries will have the option to undertake pooled regional procurements if they choose, but the potential cost savings will be weighed against the risk of delays in each instance. This may make more sense in areas of strong alignment and greater benefits



of a fully unified approach such as cybersecurity, compared with development of specific digital services and applications which can be built at the national level to regional interoperability standards. As learned from EGRIP and CARCIP, while pooled procurement can generate cost savings, it can also create additional complexity.

- (d) **Adopt realistic implementation timelines:** Experience in whole of government digital transformation and reform projects indicates that there is a tendency to underestimate the time required for implementation and full onboarding of the reforms. As such, the project is structured with an extended implementation timeline which accounts for potential legislative delays and operational complexity.
- (e) **Use virtual platforms to boost participation/inclusion:** The EPIC end-of-program evaluation report revealed that a hybrid in-person and virtual skills development and mentorship model can be effective to extend opportunities for participation to more individuals regardless of location, while still maintaining physical interaction where it is most valuable –mentorship and personal development and networking. Embedding local institutions and facilitators with strong ties to those institutions in the delivery model also helped to ensure buy-in and sustainability beyond the life of the project. Both lessons are reflected in the design of Component 3.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

48. **The project entails implementation of activities at the national and regional level, under a coordinated regional framework.** The activities financed through the regional IDA grant will be implemented through a regional PIU at the OECS Secretariat. Activities financed through the national IDA credits will be implemented by national level PIUs. An overview of the project governance and implementation arrangements are outlined below.

Regional Level Implementation Arrangements: Below is a brief summary of Regional Level Implementation Arrangements (see Annex 2 for further details).

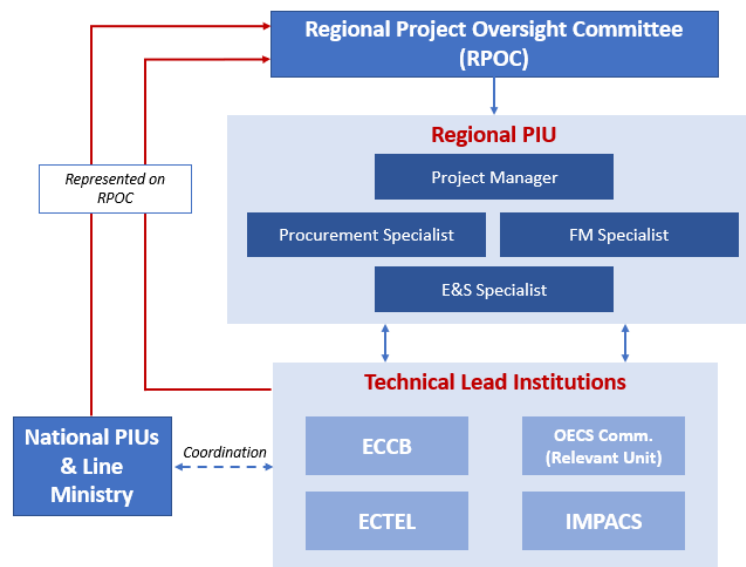
- (a) **Regional Project Oversight Committee (RPOC):** The RPOC will provide oversight and set strategic priorities for regionally implemented project activities. It will be co-chaired by the OECS Commission and ECCB and composed of representatives from ECTEL, IMPACS, and representatives from the lead implementing ministry of participating countries. These lead implementing ministries will also be a part of the national level Project Steering Committees (PSC), ensuring coordination between regional and national level project implementation. CTU will serve as an advisor to the RPOC to ensure alignment and coordination with the Caribbean Community (CARICOM) Single ICT Space initiative.
- (b) **Regional PIU:** A regional PIU is established and housed in the OECS Commission, responsible for overall implementation and coordination of regional grant-financed project activities, in collaboration with other regional institutions as relevant to their areas of expertise or mandate. It will be responsible for all procurement, financial management, environmental and social safeguards, monitoring and evaluation, and communications functions for activities implemented at the regional level. The PIU will leverage existing capacity for procurement, financial management (FM), and environmental and social (E&S) functions in place at the OECS Commission to implement ongoing WBG projects. Project funds will be used to recruit a project manager, and if needed, augment PIU capacity on procurement, Environmental and Social Framework implementation, and FM to support timely project implementation. The Head of the Portfolio Management



Office and the Head of Monitoring and Evaluation, Programme Management Unit, of the OECS Commission will undertake coordination responsibilities for project implementation until a full-time project manager is recruited.

- i. *Technical Lead Institutions:* Regional institutions with technical mandate in specific topic areas will be responsible to assign a representative to serve as the technical focal point and input coordinator for those activities. The agreed technical specialty assignments are as follows: Telecommunications – ECTEL; Digital Financial Services – ECCB; Cybersecurity – IMPACS; Data Governance – OECS.

Figure 4: Implementation and coordination model for Regional Activities



National Level Implementation Arrangements:

49. **Dedicated PIUs, housed in the primary line ministry of each country, will be responsible for implementation and coordination of the national level project activities.** National level project steering committees with representation from key ministries will be established to ensure cross-government coordination, set strategic priorities, and oversee implementation performance.

50. **Given below is a brief summary of national level implementation arrangements (see Annexes 3-6 for further details):**

- (a) **Dominica:** The Ministry of Public Works and Digital Economy is the lead implementation agency and host of a dedicated PIU for the project. Project financing will be utilized to augment existing capacity of the PIU as needed, including recruitment of a dedicated project manager, training program/grants manager, and procurement, E&S, and FM specialists. Additionally, a technical advisory and digital enterprise integration firm will be recruited to accelerate rollout and coordination of Component 2 activities. The Permanent Secretary, Ministry of Public Works and Digital Economy, will undertake coordination responsibilities for project implementation until a full-time project manager is recruited. Dedicated procurement and FM specialists will be recruited prior to project effectiveness.



- (b) **Grenada:** A dedicated PIU has been established in the Ministry of National Security, Public Administration, Home Affairs, and ICT for implementation of all digital transformation projects. Project financing will be utilized to augment existing capacity of the PIU or other supporting units as needed. The Central Procurement Unit of the Ministry of Finance will be responsible for procurement support under the project and the Accountant General's office will be responsible for FM. Environmental and Social Safeguards oversight will be managed by the central unit covering all World Bank-financed projects. The Permanent Secretary of Public Administration, Ministry of National Security, Public Administration, Home Affairs, and ICT will undertake coordination responsibilities for project implementation until a full-time project manager is recruited.
- (c) **St. Lucia:** A dedicated PIU has been established in the Department of Public Service Modernization, Ministry of Finance, Economic Growth, Job Creation, External Affairs and the Public Service. This follows the implementation arrangements utilized for the Government's DigiGov project. To support the PIU as it builds its capacity, FM functions will initially be performed by the Project Coordination Unit (PCU) in the Ministry of Finance, Economic Growth, Job Creation, External Affairs and the Public Service. A dedicated project manager, training program/grants manager, and additional procurement, E&S and FM specialists and other positions needed to strengthen PIU capacity will be recruited utilizing project funds. The Director, Public Service Modernization, Ministry of Finance, Economic Growth, Job Creation, External Affairs and the Public Service, will undertake coordination responsibilities for project implementation, supported by the Director of the National Competitiveness and Productivity Council, until a full-time project manager is recruited.
- (d) **St. Vincent and the Grenadines:** A dedicated PIU has been established in the Ministry of Finance, Economic Planning, Sustainable Development and Information Technology. The PIU will utilize existing procurement and financial management capacity within the Ministry prior to recruitment of additional dedicated specialists. A dedicated project manager, training program/grants manager, and other positions needed to strengthen PIU capacity will be recruited utilizing project funds. The Director of Economic Planning, Ministry of Finance, Economic Planning, Sustainable Development and Information Technology, will undertake coordination responsibilities for project implementation until a full-time project manager is recruited. Additionally, a technical advisory and digital enterprise integration firm will be recruited to accelerate rollout and coordination of Component 2 activities.

B. Results Monitoring and Evaluation Arrangements

51. **Evaluation of project results will be based on tracking of the project results framework indicators as highlighted in Section VI.** National-level indicators are standardized across the four participating countries. The national level PIUs will be responsible for data collection and reporting for the country level indicators on a biannual basis per procedures outlined in the Project Operational Manuals (POMs). The regional PIU will be responsible for data collection and reporting on regional-level indicators on a biannual basis. In collaboration with the respective technical lead institutions, it will also carry out regional survey work, including a survey on financial access and usage to be undertaken by the project, which will feed into overall project performance indicators.

52. **Rapid mobile/Short Message Service (SMS) survey tools, as well as user satisfaction surveys embedded within digital public services application offerings, will be leveraged as a means of citizen engagement and feedback.** Such tools will be used to identify priority digital services and public skills development offerings and to provide insights and identify course corrections related to public services applications as needed. User satisfaction surveys will also be dispatched to individuals and businesses benefitting from digital skills and technology adoption support financed under Component 3 of the project.

C. Sustainability

53. **The project design places an emphasis on unlocking economic growth and cost savings that will continue to grow beyond the life of the project.** The project design is thus aligned with a “Maximizing Finance for Development” approach. It focuses on upstream reforms necessary to unlock greater private sector investment, innovation and market access in telecoms, and financial services and e-commerce. It will also foster improved employment opportunities through promoting digital skill adoption amongst SMEs (technology adoption) and digital skills upgrading. It will also introduce cost savings in public administration and service delivery by digitizing and automating core government functions and centralizing provision of digital infrastructure, connectivity and other IT services across government. It also includes efforts to build and retain technical expertise within government through capacity building programs and knowledge transfer provisions of IT services contracts.

54. **Many of the activities supported under the project are central to government internal operations and fall within core public service delivery mandates and therefore will require commitment by governments to sustain them financially after project closure.** Specific measures to support sustainability for the program have been developed by component as captured in Table 4 below.

Table 4: Sustainability mechanisms by component

Component	Sustainability Mechanisms
Component 1: Digital Enabling Environment	<ul style="list-style-type: none"> Regulatory reforms will unlock private sector investment and growth beyond the life of the project; market creation approach. Capacity built among regional regulators and specialized technical institutions will be retained after the project. “Virtual” regional cybersecurity coordination model will significantly reduce ongoing operations costs.
Component 2: Digital Government Infrastructure, Platforms, and Services	<ul style="list-style-type: none"> The whole of government shared infrastructure, platforms, and services approach will allow for significant savings versus each ministry, department, or agency maintaining independent IT infrastructure, platforms, and applications, though continual funding will be needed for operations, maintenance, and upgrading. Digital services offerings include a number of revenue/fee-generating services, the partial proceeds of which can be used for IT needs. Linkage of government payments and services to a unique digital ID number will reduce leakage and lower administrative costs for social insurance schemes, agriculture subsidies, and other social welfare programs. Efforts will be taken to ensure a more gradual transition of recurring costs to the general government budgets, including a glidepath for financing of technical experts within central IT bodies.
Component 3: Digital Skills and Technology Adoption	<ul style="list-style-type: none"> Use of private sector service providers for program design and quality assurance and empowering local facilitators/institutions to take ownership for program delivery. Design skills training and mentoring platforms to crowd-in additional sources of public and private funding (including donor funding) and in-kind contributions from private sector companies interested in trainees/recruits from the program.
Component 4: Project Implementation Support	<ul style="list-style-type: none"> Use of institutionalized governance arrangements for continued implementation beyond the project closing date. The change management and on-the ground technical advisory and capacity building features built into project design are intended to generate buy-in

and capacity of the core IT department staff and wider civil service.

IV. PROJECT APPRAISAL SUMMARY

A. Economic and Financial Analysis

55. **The project is expected to have a positive economic and financial impact, contributing to accelerated GDP growth, long term government cost savings and revenue increases, and increased citizen well-being.** A detailed economic and financial analysis was conducted following a standard cost-benefit analysis (CBA) methodology. The model relied on available secondary data and reasonable assumptions based on prior experience and findings from consultations and interviews conducted by the task team to conduct a cash flow analysis and resulting financial analysis. The model also ran sensitivity assessments that quantified the benefits and costs attributable to the project against current baseline indicators.

56. **The project is expected to generate positive economic return with an NPV of US\$546 million and an IRR of over 1000 percent over a ten-year period.** Improving affordability and adoption of broadband services will positively impact GDP, digitization of government services is expected improve revenue collection and generate cost and time savings, and a digitally equipped private sector and workforce is expected to demonstrate productivity gains reflected in increased revenues and wages. In addition, the project will generate a consumer surplus through improved access to DFS, and savings on account of avoiding opportunity costs of natural disasters by building resilience. Table 5 below highlights the key impact pathways and economic and financial benefits estimated. The full analysis can be found in Annex 7.

Table 5: Key project benefits

Factor	Benefits
Affordability of broadband	Improved affordability of broadband services as a result of regulatory reforms is expected to contribute to an accelerated increase in fixed broadband penetration. Current growth trends imply an increase from 19.1 subscriptions per 100 people in 2017 to 28.2 by 2025. With the accelerated growth curve expected as a result of project interventions, subscriptions are projected to reach 40.0 by 2025 with the overall higher trend growth persisting in future years. The estimated GDP increase on account of improved fixed broadband penetration ranges from US\$13 million in 2022 to US\$106 million in 2030, based on research demonstrating that every 10-percentage point increase in fixed broadband penetration in developing countries leads to an increase of 1.3-1.5 percent of GDP ⁷ . An increase in mobile broadband uptake relative to trend is likewise expected to boost growth by an additional US\$2 million in 2022 to US\$24.8 million by 2030 with a 0.4 percent of GDP gain expected for every additional 10 percent increase in mobile broadband penetration above the baseline trend.
Digital financial services (DFS) innovation and access	Enabling environment improvements are expected to increase investment, innovation, and competition in DFS. This will lead to more attractive and convenient services, lower transaction fees, and higher account adoption and transaction volumes. This is projected to translate into a consumer surplus of US\$0.59 million per year between 2023 and 2027.
Resilience and recovery from climate-related	Improved resilience of digital infrastructure, ensuring continuity of critical communications networks, government operations and public services, and improved response capabilities in the event of climate-related or other natural disasters such as earthquakes and pandemics is projected

⁷ World Development Report 2016: Digital Dividends, World Bank Group

events and other natural disasters	to represent significant opportunity cost savings, ranging from US\$2.0 million per year from 2022 to US\$8.4 million by year 2026.
Digitization of public services	<p>Productivity and efficiency gains from the digitization, business process re-engineering, and automation of government operations and public services and use of shared digital infrastructure and platforms are expected to result in significant savings based on time saved. The financial analysis results in an increasing range of savings from US\$7.7 million in 2022 to US\$15.6 million by 2030.</p> <p>Digitization of government services and adoption of a digital payment platform and authentication platform linked to a unique ID number are also expected to result in improved revenue collection by increasing the volume and transparency of revenue generating services, reducing tax avoidance, and reducing leakage from erroneous payments. These benefits are estimated to range from US\$1 million in 2022 to US\$2 million by 2030.</p>
Fuel Savings, Greenhouse Gas Emissions Reductions	Digitization and automation of key government services would reduce the number of physical trips citizens currently undertake to complete a transaction (currently estimated at 4 trips between offices per transaction). The model estimates a positive financial and climate impact on account of reduced trips and savings in fuel consumption at US\$0.44 million per year starting in 2023.
Digital skills and technology adoption	Equipping individuals and businesses with digital skills and developing a more positive environment for innovation and entrepreneurship communities to grow are estimated to positively impact drivers such as unemployment, diversification of the economy (and income of individuals), and gender balance in the workforce. Benefits were calculated as increase in productivity and tax revenues due to job creation by the model. The estimated productivity and taxes account for an economic value of US\$1.57 million per year from 2022 to 2026.

B. Fiduciary

(i) Financial Management

57. **A Financial Management (FM) assessment of the project was conducted in accordance with OP/BP on Investment Project Financing (IPF) and the Financial Management Manual for World Bank IPF Operations (OPCS5.05-DIR.01 issued February 10, 2017).** It concluded that the respective implementing entities responsible for implementation of the FM arrangements in various countries have adequate FM arrangements that should be able to provide, with reasonable assurance, accurate and timely information on the status of the funds as required by the World Bank. FM aspects of the project in various countries will be executed by the designated implementing entities as briefed in the detailed FM assessment in Annex 1. A substantial fiduciary risk for the project may be anticipated due to the nature of the project and involvement of five implementing entities for a successful execution of the project. To mitigate this risk, the World Bank has agreed to receiving separate sets of Interim Financial Reports (IFRs) and annual audit reports from the participating implementing entities. Each implementing entity will submit (a) a six-monthly IFR to the World Bank within 45 days after the close of each six-month period, and (b) an annual audit report within six months of the close of the financial year. All the internal controls will be detailed in the POM. In addition, the World Bank's fiduciary team will provide the project staff training on specific World Bank policies and guidelines. FM risks and compliance will be monitored during the World Bank's six-monthly implementation support missions as well as through annual external audits. With the implementation of these measures, the respective implementing entities will have in place a FM system that should be able to provide, with reasonable assurance, accurate and timely information on the status of the funds as required by the World Bank.

(ii) Procurement

58. **Responsibility for conducting procurement financed under the project will rest with the national-level implementation organizations in each country and, for regional activities, with the OECS Commission.** Given the technical complexity of the contracts to be financed under the operation, the procurement resources of each implementing agency will be augmented periodically by the services of an internationally recruited procurement consultant with specialist expertise in World Bank procurement, who will work across all the countries and implementing agencies. Technical inputs to the procurement process, including the development of technical specifications for equipment and terms of reference for consulting assignments, as well as into the technical aspects of bid evaluation, will be provided by technical leads within the PIUs or partner agencies or institutions as relevant.

59. **Procurement will be carried out in accordance with the World Bank's Procurement Regulations for IPF Borrowers** ("Procurement Regulations") dated July 2016 and revised in November 2017 and August 2018, with due consideration to "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants," dated July 1, 2016, and other provisions stipulated in the Financing Agreement. In accordance with paragraph 5.9 of the Procurement Regulations, the Bank's Systematic Tracking and Exchanges in Procurement (STEP) system will be used to prepare, clear, and update Procurement Plans and monitor all procurement transactions for the project.

60. **A Project Procurement Strategy for Development (PPSD) for each country, and the regional PIU, has been prepared and agreed with the Bank.** The PPSD defines the applicable procurement arrangements, selection methods, market approaches for all major procurement inputs, and the level of procurement prior review to be conducted by the Bank. The PPSD provides market analysis to support the choice of selection methods that will apply to each contract financed under the project, which, in turn, drives the development of the Procurement Plan to be cleared by the Bank. Given the complex nature of the equipment and services that the project will finance and the limited capacity of the domestic supply market in each country, it is likely that most selection methods will be carried out using international, competitive market approaches. The World Bank's Standard Procurement Documents shall be used for all contracts subject to international competitive procurement.

61. **The project will comprise procurement of a wide range of goods, consulting and non-consulting services, and information systems.** Activities pertaining to enabling environment improvements (Component 1) will largely be carried out by specialist consulting firms. The project also includes the design, supply, and installation of information systems which entails hardware, software, licenses, and related services. Non-consulting services, mostly for digitization of paper-based records, will also be required. Activities under Component 3 include development of training contents and their delivery, which will be procured as consulting services. Furthermore, the project will support PIU staffing through contracting individual consultants for the whole project period.

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



62. **The project is expected to have moderate environmental risks and impacts.** The most relevant activities are related to the potential construction of a new data center in SVG, minor rehabilitation and retrofitting activities in existing buildings, and the procurement of information systems equipment in participant countries. Potential environmental and social impacts during construction are anticipated to be site-specific, manageable, and temporary. The project is not expected to pose negative impacts on sensitive natural habitats, biodiversity areas, or living natural resources, as infrastructure works will not take place near these areas.

63. **The social risk of the project is expected to be moderate.** The project will be implemented in a context where social exclusion patterns exist, and where processes of community consultation and grassroots participation seem to be weak as is the capacity for the management of the World Bank's Environmental and Social Framework. Inequitable distribution of project benefits is therefore a risk, with potential for disproportionate impact on the most vulnerable and disadvantaged: the poor, women, young girls, youth at risk, disabled, lesbian, gay, bisexual, and transgender (LGBT), and the Kalinago indigenous territory of Dominica, among others. However, project interventions are designed to target greater inclusion of these groups, making services and skills training opportunities more widely available. Civil works (if any) are expected to involve minor (if any) land acquisition or restrictions on land use or have minor negative impacts on tangible or intangible cultural heritage.

64. **The Borrowers have prepared, consulted, and disclosed a regional-level Environmental and Social Management Framework (ESMF) in line with the Bank's Environmental and Social Standards and the World Bank Group Environment, Health, and Safety (EHS) Guidelines.** The ESMF provides guidance on environmental and social screening and classification of subprojects and procedures for the development of national-level ESMPs to be prepared based on the specific characteristics of the project activities for each participant country. Given the characteristics of the project activities to be financed, the ESMF also includes a draft generic E-waste Management Plan (EWMP), and a generic Chance Finds Procedure for construction activities.

65. **The Borrowers have also prepared and disclosed:** (i) a Stakeholder Engagement Plan (SEP) that maps stakeholders and describes the timing and methods of engagement throughout the life-cycle of the project and describes the project's Grievance Redress Mechanism (GRM); (ii) a Labor Management Procedure (LMP) with a labor specific GRM that identifies the different types of project workers that are likely to be involved in the project and sets out the way in which they will be managed in accordance with the requirements of national law and ESS2; (iii) a Resettlement Policy Framework (RPF); and (iv) an Indigenous Peoples Planning Framework (IPPF).

66. **Each participant country, in agreement with the Bank, has prepared an Environmental and Social Commitment Plan (ESCP).** The ESCP covers all measures and actions needed to ensure compliance with the ESF and the project's environmental and social instruments as well as implementation details, monitoring, and reporting activities. At the regional level, the ECCB has also prepared one additional ESCP in agreement with the Bank which includes all necessary measures to be taken for the completion of the regional level environmental and social instruments.

67. **The following instruments have been disclosed on the Borrower's and Bank's website:⁸** (i) the regional-level

⁸ The listed ESF instruments were disclosed on all Borrower's websites by April 2, 2020, and on the World Bank's website on March 31, 2020. The instruments were disclosed at the following Government portals: <http://dominica.gov.dm/notices/1013-environmental-and-social-framework-esf-documents> (Dominica); <https://www.mgovernance.net/documents> (Grenada); <http://www.govt.lc/news/caribbean-digital-transformation-program-p171528->, <http://www.govt.lc/news/caribbean-digital-transformation-program-p171528-resettlement-policy-framework-rpf->, <http://www.govt.lc/news/caribbean-digital-transformation-program-p171528-no-2> (St. Lucia); <http://finance.gov.vc/finance/index.php/publications-and-reports> (St. Vincent and the Grenadines); <https://www.eccb-centralbank.org/p/the-digital-economy> (Original Disclosure); <https://www.oecs.org/en/our-work/r/research-and->

generic ESMF, (ii) SEP; (iii) LMP; (iv) RPF; (v) IPPF; and, (vi) the country and regional level ESCPs. The national level ESMPs will be prepared and disclosed on the Borrower's and Bank's websites, prior to launching the bidding process for the respective civil works.

E. Grievance Redress Services

68. **Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS).** The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB 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 Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service>. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

V. KEY RISKS

69. **The overall risk for the operation is considered substantial after accounting for mitigation measures.** The impact of COVID-19 on participating countries will be closely monitored and risks will be adjusted as needed during project implementation.

70. **Political and governance risks related to adoption and enforcement of key legislation and regulation at the national level are high.** The backlog of pending legislation to be adopted at the national level is long, including the Eastern Caribbean Electronic Communications Bill. This may carry over into delays in adoption and enforcement of legislation and regulation in areas of project support. Drafting committees in the attorney generals' offices are overstretched and may not have adequate expertise in technical subject areas under consideration. The project will mitigate these risks to the extent possible based on lessons learned from previous efforts to support enabling environment reform. This includes not only support for developing the regional legislation and regulation templates, but also provision of technical assistance at the national levels to augment capacity of the relevant drafting committees, and awareness raising among key decision makers and Parliamentarians as to the benefits of legal and regulatory modernization. The increasing spotlight on the digital economy and high-level support at the Prime Minister's level across many of the participating countries should help raise the profile and urgency of the proposed legislation and regulatory modernization relative to previous efforts. The planned review of the institutional set-up governing the telecommunications sector will be carried out with an eye toward increasing independence and authority of the regulator in each country to take enforcement actions.

71. **Macroeconomic risks are substantial given the region's high debt levels, heavy economic reliance on the tourism sector, the impact of COVID-19, and the islands' vulnerability to natural disasters.** Given the heightened external and domestic risks faced by Caribbean countries in the likelihood of a global recession occasioned by the coronavirus pandemic, and the uncertainties regarding the duration of the crisis, there is a high likelihood of recessionary pressures in the face of a halted tourism sector, underutilized production capacity, and worsening current and fiscal accounts. The



fallout from the crisis will cause governments to reprioritize government spending away from investment towards health and social services, which could impact implementation of this IPF. However, the expected annual outlays for the project are small relative to the size of the economies and relative to the size of total public investment spending; and, given the focus of the project on improving connectivity and access to digital services and technology, in addition to enabling environmental reforms, and the benefits it will have to the tourism sector, it should remain a priority area for the governments. On April 28, 2020, the IMF approved emergency support under the Rapid Credit Facility for Dominica, Grenada, and Saint Lucia and on May 20, 2020 for SVG to help fill the countries' balance of payments needs and create fiscal space for essential health expenditures, income support to workers, and cash transfers to households. The Fund financing will also help catalyze further donor support to close the remaining financing needs. To mitigate the macroeconomic risks, the team will monitor the macro-fiscal situation carefully in close dialogue with the governments.

72. The risks related to technical design of the project are considered substantial given the wide-ranging nature of reforms and investments pursued under the three components of the program. The project components touch upon multiple distinct technical areas spanning telecommunications, financial services, cybersecurity, platforms and services, and digital skills. Each country program is tailored to individual country needs, as highlighted in Annexes 3-6. As a result, the technical complexity in Grenada and St. Lucia is lower, reflecting the smaller number of activities and technical focus areas. In contrast, the programs in SVG and Dominica are more expansive and will require additional technical specialists to support implementation and/or specialized support from a firm to provide technical guidance and oversight. The dual regional-national nature of the project further contributes to complexity, but significant efforts have been taken in the design to minimize the dependency between implementation of the regional and national level activities so that they can run in parallel and still have significant impact if the corresponding regional or national level activities are not fully executed.

73. Risks related to institutional capacity for implementation and sustainability are rated as substantial. Institutional capacity across the four participating countries and OECS Commission varies. The main risks stem from: (a) a high degree of coordination required among the multiple governmental authorities involved in the operation; and (b) weak implementation capacity of central implementation units. The coordination risk will be mitigated by the establishment of regional and national level project oversight/steering committees, comprising representatives from the stakeholder countries and regional institutions at the regional level and stakeholder ministries, departments and agencies at the national level. Implementation capacity constraints will be mitigated through deployment of additional project management and technical specialist support financed through the project and establishment of dedicated PIUs. Capacity building measures have been incorporated at the national and regional levels in project activities pertaining to the enabling environment improvements to enable effective implementation and sustainability of the measures. Sustainability risk mitigation measures are outlined above in Section III-C.

74. Fiduciary risk of the project is rated as substantial. Prior experiences and supervision reports from projects under implementation in the region highlight challenges with capacity for key fiduciary functions, especially recruitment of qualified procurement specialists. The project will open key PIU positions to international applicants and include capacity building support for the specialists recruited and project management.



VI. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Caribbean

Caribbean Digital Transformation Project

Project Development Objectives(s)

To increase access to digital services, technologies and skills by governments, businesses and individuals in the participating Eastern Caribbean countries.

Project Development Objective Indicators

Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Increase access to digital services & technologies by govts, businesses & individuals								
Dominica: Internet penetration (Percentage)		69.60	73.00	76.00	80.00	83.00	86.00	90.00
Grenada: Internet penetration (Percentage)		59.00	62.00	65.00	69.00	73.00	77.00	80.00
St. Lucia: Internet penetration (Percentage)		50.80	56.00	61.00	67.00	73.00	79.00	85.00
St. Vincent and the Grenadines: Internet penetration (Percentage)		22.00	26.00	30.00	34.00	38.00	42.00	45.00
Dominica: Adults with access to an e-money account (Percentage)		0.00	0.00	5.00	7.00	9.00	12.00	15.00
of which percentage women (Percentage)		0.00	0.00	20.00	30.00	40.00	50.00	50.00



Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Grenada: Adults with access to an e-money account (Percentage)		0.00	0.00	5.00	7.00	9.00	12.00	15.00
of which percentage women (Percentage)		0.00	0.00	20.00	30.00	40.00	50.00	50.00
St. Lucia: Adults with access to an e-money account (Percentage)		0.00	0.00	5.00	7.00	9.00	12.00	15.00
of which percentage women (Percentage)		0.00	0.00	20.00	30.00	40.00	50.00	50.00
St. Vincent and the Grenadines: Adults with access to an e-money account (Percentage)		0.00	0.00	5.00	7.00	9.00	12.00	15.00
of which percentage women (Percentage)		0.00	0.00	20.00	30.00	40.00	50.00	50.00
Dominica: Percentage of users of digital public services reporting satisfaction with the efficiency of the transaction (Percentage)		0.00	0.00	0.00	25.00	50.00	65.00	65.00
St. Vincent and the Grenadines: Percentage of users of digital public services reporting satisfaction with the efficiency of the transaction (Percentage)		0.00	0.00	0.00	25.00	50.00	65.00	65.00



Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Increase access to digital technologies and skills by businesses and individuals								
Aggregate: Number of individuals utilizing digital skills to improve workplace productivity or secure new employment opportunities (Number)		0.00	0.00	410.00	820.00	1,230.00	1,640.00	2,050.00
of which percentage women (Percentage)		0.00	0.00	40.00	40.00	40.00	40.00	40.00
Regional: Number of individuals utilizing advanced digital skills to improve workplace productivity or secure new employment opportunities (Number)		0.00	0.00	50.00	100.00	150.00	200.00	250.00
of which percentage women (Percentage)		0.00	0.00	40.00	40.00	40.00	40.00	40.00
Dominica: Number of individuals utilizing digital skills to improve workplace productivity or secure new employment opportunities (Number)		0.00	0.00	120.00	240.00	360.00	480.00	600.00
of which percentage women (Percentage)		0.00	0.00	40.00	40.00	40.00	40.00	40.00
Grenada: Number of individuals utilizing digital skills to improve workplace productivity or secure new		0.00	0.00	60.00	120.00	180.00	240.00	300.00



Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
employment opportunities (Number)								
of which percentage women (Percentage)		0.00	0.00	40.00	40.00	40.00	40.00	40.00
St. Lucia: Number of individuals utilizing digital skills to improve workplace productivity or secure new employment opportunities (Number)		0.00	0.00	120.00	240.00	360.00	480.00	600.00
of which percentage women (Percentage)		0.00	0.00	40.00	40.00	40.00	40.00	40.00
St. Vincent and the Grenadines: Number of individuals utilizing digital skills to improve workplace productivity or secure new employment opportunities (Number)		0.00	0.00	60.00	120.00	180.00	240.00	300.00
of which percentage women (Percentage)		0.00	0.00	40.00	40.00	40.00	40.00	40.00
Aggregate: Number of firms adopting digital technologies and platforms for business purposes (Number)		0.00	0.00	80.00	160.00	240.00	320.00	400.00
of which percentage women-owned (Percentage)		0.00	0.00	30.00	30.00	30.00	30.00	30.00



Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Dominica: Number of firms adopting digital technologies and platforms for business purposes (Number)		0.00	0.00	20.00	40.00	60.00	80.00	100.00
of which percentage women-owned (Percentage)		0.00	0.00	30.00	30.00	30.00	30.00	30.00
Grenada: Number of firms adopting digital technologies and platforms for business purposes (Number)		0.00	0.00	25.00	50.00	75.00	100.00	125.00
of which percentage women-owned (Percentage)		0.00	0.00	30.00	30.00	30.00	30.00	30.00
St. Lucia: Number of firms adopting digital technologies and platforms for business purposes (Number)		0.00	0.00	25.00	50.00	75.00	100.00	125.00
of which percentage women-owned (Percentage)		0.00	0.00	30.00	30.00	30.00	30.00	30.00
St. Vincent and the Grenadines: Number of firms adopting digital technologies and platforms for business purposes (Number)		0.00	0.00	10.00	20.00	30.00	40.00	50.00



Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
of which percentage women-owned (Percentage)		0.00	0.00	30.00	30.00	30.00	30.00	30.00

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Component 1: Digital Enabling Environment								
Eastern Caribbean Electronic Communications Bill adopted at national level (Number)		0.00	0.00	2.00	3.00	4.00	4.00	4.00
Dominica: Effective retail price per GB for least costly 30-day prepaid mobile package (Amount(USD))		9.25	9.00	8.65	8.35	8.00	7.70	7.40
Grenada: Effective retail price per GB for least costly 30-day prepaid mobile package (Amount(USD))		2.50	2.40	2.30	2.25	2.20	2.10	2.00
St. Lucia: Effective retail price per GB for least costly 30-day prepaid mobile package (Amount(USD))		3.50	3.30	3.10	3.00	2.70	2.50	2.20
St. Vincent and the Grenadines: Effective retail price per GB for least costly 30-day prepaid mobile		3.40	3.30	3.20	3.00	2.90	2.70	2.60



Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
package (Amount(USD))								
Comprehensive Payment Systems Law adopted at regional level (Yes/No)		No	No	Yes	Yes	Yes	Yes	Yes
Updated/harmonized licensing and oversight framework for digital financial services adopted at national level (Number)		0.00	0.00	2.00	3.00	4.00	4.00	4.00
Computer Emergency Response Teams (CERTs) or cyber agencies are established and operational with staff and procedures in place and incident monitoring reporting being carried out in project countries (Number)		0.00	0.00	0.00	2.00	3.00	4.00	4.00
Component 2: Digital Government Infrastructure, Platforms, and Services								
Government enterprise architecture adopted (exempting Grenada and St. Lucia) (Number)		0.00	0.00	1.00	2.00	2.00	2.00	2.00
Action plans to strengthen business continuity, resilience and post-disaster recovery of critical digital infrastructure, operations, and services adopted at national level (exempting Grenada) (Number)		0.00	0.00	1.00	2.00	3.00	3.00	3.00
Dominica: Number of digital		0.00	0.00	2.00	4.00	7.00	10.00	12.00



Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
government functions and services using shared services platform (Number)								
St. Vincent and the Grenadines: Number of digital government functions and services using shared services platform (Number)		0.00	0.00	3.00	6.00	9.00	12.00	16.00
Component 3: Digital Skills and Technology Adoption								
Aggregate: Number of individuals trained in digital skills programs (Number)		0.00	0.00	540.00	1,080.00	1,620.00	2,160.00	2,700.00
of which percentage women (Percentage)		0.00	0.00	40.00	40.00	40.00	40.00	40.00
Regional: Number of individuals trained in digital skills program (Number)		0.00	0.00	60.00	120.00	180.00	240.00	300.00
of which percentage women (Percentage)		0.00	0.00	40.00	40.00	40.00	40.00	40.00
Dominica: Number of individuals trained in digital skills program (Number)		0.00	0.00	160.00	320.00	480.00	640.00	800.00
of which percentage women (Percentage)		0.00	0.00	40.00	40.00	40.00	40.00	40.00
Grenada: Number of individuals trained in digital skills program (Number)		0.00	0.00	80.00	160.00	240.00	320.00	400.00
of which percentage women (Percentage)		0.00	0.00	40.00	40.00	40.00	40.00	40.00
St. Lucia: Number of		0.00	0.00	160.00	320.00	480.00	640.00	800.00



Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
individuals trained in digital skills program (Number)								
of which percentage women (Percentage)		0.00	0.00	40.00	40.00	40.00	40.00	40.00
St. Vincent and the Grenadines: Number of individuals trained in digital skills program (Number)		0.00	0.00	80.00	160.00	240.00	320.00	400.00
of which percentage women (Percentage)		0.00	0.00	40.00	40.00	40.00	40.00	40.00
Regional: Number of individuals acquiring internationally or regionally recognized professional certification (Number)		0.00	0.00	60.00	120.00	180.00	240.00	300.00
of which percentage women (Percentage)		0.00	0.00	40.00	40.00	40.00	40.00	40.00
Aggregate: Number of firms completing technology adoption programs (Number)		0.00	0.00	80.00	160.00	240.00	320.00	400.00
of which percentage women-owned (Percentage)		0.00	0.00	30.00	30.00	30.00	30.00	30.00
Dominica: Number of firms completing technology adoption program (Number)		0.00	0.00	20.00	40.00	60.00	80.00	100.00
of which percentage women-owned (Percentage)		0.00	0.00	30.00	30.00	30.00	30.00	30.00



Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Grenada: Number of firms completing technology adoption program (Number)		0.00	0.00	25.00	50.00	75.00	100.00	125.00
of which percentage women-owned (Percentage)		0.00	0.00	30.00	30.00	30.00	30.00	30.00
St. Lucia: Number of firms completing technology adoption program (Number)		0.00	0.00	25.00	50.00	75.00	100.00	125.00
of which percentage women-owned (Percentage)		0.00	0.00	30.00	30.00	30.00	30.00	30.00
St. Vincent and the Grenadines: Number of firms completing technology adoption program (Number)		0.00	0.00	10.00	20.00	30.00	40.00	50.00
of which percentage women-owned (Percentage)		0.00	0.00	30.00	30.00	30.00	30.00	30.00



Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Dominica: Internet penetration	Percentage of the total population that uses the Internet. Supported through Component 1.	Biannual	ITU	Data from ITU statistics. Baseline for end-2017, as later data is not yet public.	National PIU
Grenada: Internet penetration	Same as above	Biannual	ITU	Same as above	Same as above
St. Lucia: Internet penetration	Same as above	Biannual	ITU	Same as above	Same as above
St. Vincent and the Grenadines: Internet penetration	Same as above	Biannual	ITU	Same as above	Same as above
Dominica: Adults with access to an e-money account	Refers to those adults with a transaction account held at a non-bank service provider (i.e., e-money provider). Supported through Component 1.	Biannual	Project data	Regional survey carried out by regional PIU in collaboration with ECCB	Regional PIU
of which percentage women	Percentage of those adults with a transaction account held at a non-bank service provider (i.e., e-money provider) who are women.	Biannual	Project data	Same as above	Same as above
Grenada: Adults with access to an e-money account	Same as above	Biannual	Project data	Same as above	Same as above
of which percentage women	Same as above	Biannual	Project data	Same as above	Same as above
St. Lucia: Adults with access to an e-money account	Same as above	Biannual	Project data	Same as above	Same as above



of which percentage women	Same as above	Biannual	Project data	Same as above	Same as above
St. Vincent and the Grenadines: Adults with access to an e-money account	Same as above	Biannual	Project data	Same as above	Same as above
of which percentage women	Same as above	Biannual	Project data	Same as above	Same as above
Dominica: Percentage of users of digital public services reporting satisfaction with the efficiency of the transaction	This indicator will measure the percentage of users of digital public services on the government's shared digital services platform who report being satisfied with the efficiency of their transaction on a survey built into the services modules. The survey will be issued at the end of each transaction and the feedback from the survey will be used iteratively throughout the project to revise the digital public services as needed. Supported through Component 2 and outreach to user MDAs.	Biannual	Project data	Statistics will be collected through the shared digital services platform.	National PIU
St. Vincent and the Grenadines: Percentage of users of digital public services reporting satisfaction with the efficiency of the transaction	Same as above	Biannual	Project data	Same as above	Same as above
Aggregate: Number of individuals utilizing digital skills to improve workplace productivity or secure new employment	Number of individuals who complete the project's digital skills development	Biannual	Project data	Survey/tracer study of graduates of digital skills development	Regional and National PIUs



opportunities	programs and utilize those skills to improve their workplace productivity or secure new employment opportunities. Aggregated from regional and country totals.			programs	
of which percentage women	Percentage of individuals completing the project's digital skills development programs who use those digital skills to improve their workplace productivity or secure new employment opportunities and who are women. Aggregated from regional and national totals.	Biannual	Project data	Same as above	Same as above
Regional: Number of individuals utilizing advanced digital skills to improve workplace productivity or secure new employment opportunities	Number of individuals who complete the project's regional advanced digital skills development program and utilize those skills to improve their workplace productivity or secure new employment opportunities.	Biannual	Project data	Same as above	Regional PIU
of which percentage women	Percentage of individuals completing the project's regional digital skills development program who use those digital skills to improve their workplace productivity or secure new	Biannual	Project data	Same as above	Same as above



	employment opportunities and who are women.				
Dominica: Number of individuals utilizing digital skills to improve workplace productivity or secure new employment opportunities	Number of individuals who complete the project's national digital skills development program and utilize those skills to improve their workplace productivity or secure new employment opportunities.	Biannual	Project data	Same as above	National PIU
of which percentage women	Percentage of individuals completing the project's national digital skills development program who are women	Biannual	Project data	Same as above	Same as above
Grenada: Number of individuals utilizing digital skills to improve workplace productivity or secure new employment opportunities	Same as above	Biannual	Project data	Same as above	Same as above
of which percentage women	Same as above	Biannual	Project data	Same as above	Same as above
St. Lucia: Number of individuals utilizing digital skills to improve workplace productivity or secure new employment opportunities	Same as above	Biannual	Project data	Same as above	Same as above
of which percentage women	Same as above	Biannual	Project data	Same as above	Same as above
St. Vincent and the Grenadines: Number of individuals utilizing digital skills to improve workplace productivity or secure new employment opportunities	Same as above	Biannual	Project data	Same as above	Same as above



of which percentage women	Same as above	Biannual	Project data	Same as above	Same as above
Aggregate: Number of firms adopting digital technologies and platforms for business purposes	Number of firms participating in the project's country-level technology adoption programs that adopt digital technologies and platforms for business purposes. Technologies adopted include but are not limited to utilizing online platforms for marketing, sales or payment processing; software for information, customer or contract managements; tools for production planning or quality control; or necessary measures to secure data and business information. Aggregated from country totals.	Biannual	Project data	Survey/tracer studies of participants in country-level technology adoption programs.	National PIUs
of which percentage women-owned	Percentage of the number of firms participating in project's country-level technology adoption programs that adopt digital technologies and platforms for business purposes and that are owned by women. Aggregated from country totals.	Biannual	Project data	Same as above	Same as above



Dominica: Number of firms adopting digital technologies and platforms for business purposes	Number of firms participating in the project's technology adoption program that adopt digital technologies and platforms for business purposes. Technologies adopted include but are not limited to utilizing online platforms for marketing, sales or payment processing; software for information, customer or contract managements; tools for production planning or quality control; or necessary measures to secure data and business information.	Biannual	Project data	Survey/tracer study of technology adoption program participants	National PIU
of which percentage women-owned	Percentage of the number of firms participating in the project's technology adoption program that adopt digital technologies and platforms for business purposes and that are owned by women.	Biannual	Project data	Same as above	Same as above
Grenada: Number of firms adopting digital technologies and platforms for business purposes	Same as above	Biannual	Project data	Same as above	Same as above
of which percentage women-owned	Same as above	Biannual	Project data	Same as above	Same as above



St. Lucia: Number of firms adopting digital technologies and platforms for business purposes	Same as above	Biannual	Project data	Same as above	Same as above
of which percentage women-owned	Same as above	Biannual	Project data	Same as above	Same as above
St. Vincent and the Grenadines: Number of firms adopting digital technologies and platforms for business purposes	Same as above	Biannual	Project data	Same as above	Same as above
of which percentage women-owned	Same as above	Biannual	Project data	Same as above	Same as above

Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Eastern Caribbean Electronic Communications Bill adopted at national level	Ratification by national Cabinets of legislation promulgating the provisions of the Eastern Caribbean Electronic Communications Bill at the national level	Biannual	Project data	Reporting by national PIUs	ECTEL
Dominica: Effective retail price per GB for least costly 30-day prepaid mobile package	This indicator measures the affordability of broadband services using the effective retail price per GB of typical entry-level broadband as a proxy (30-day prepaid mobile data package). Supported through Component 1.	Biannual	Operators' data	Average of the public tariffs per GB from the two largest mobile operators for the least costly 30-day prepaid mobile data package	National PIU / NTRC



Grenada: Effective retail price per GB for least costly 30-day prepaid mobile package	Same as above	Biannual	Operators' data	Same as above	National PIU / NTRC
St. Lucia: Effective retail price per GB for least costly 30-day prepaid mobile package	Same as above	Biannual	Operators' data	Same as above	National PIU / NTRC
St. Vincent and the Grenadines: Effective retail price per GB for least costly 30-day prepaid mobile package	Same as above	Biannual	Operators' data	Same as above	National PIU / NTRC
Comprehensive Payment Systems Law adopted at regional level	Adoption by ECCB of a Comprehensive Payment Systems Law that would allow ECCB regulate the payment systems, payment providers and payment instruments in the project countries	Biannual	Project data	Reporting by regional PIU	Regional PIU
Updated/harmonized licensing and oversight framework for digital financial services adopted at national level	Ratification by national Cabinets of updated/harmonized licensing and oversight framework for digital financial services	Biannual	Project data	Reportine by national PIUs	National PIUs
Computer Emergency Response Teams (CERTs) or cyber agencies are established and operational with staff and procedures in place and incident monitoring reporting being carried out in project countries	Computer Emergency Response Teams (CERTs) have been established and are operational with staff and procedures in place and incident monitoring reporting being carried out in all four project countries	Biannual	Project data	Reporting by national PIUs	National PIUs



Government enterprise architecture adopted (exempting Grenada and St. Lucia)	Government enterprise architecture adopted and operational	Biannual	Project data	Reporting by National PIUs	National PIUs
Action plans to strengthen business continuity, resilience and post-disaster recovery of critical digital infrastructure, operations, and services adopted at national level (exempting Grenada)	Ratification by national Cabinets of national action plans to strengthen resilience and post-disaster recovery of critical digital infrastructure, operations, and services	Biannual	Project data	Reporting by National PIUs	National PIUs
Dominica: Number of digital government functions and services using shared services platform	The number of separately identifiable digital government functions or services using the shared services platform	Biannual	Project data	Number of platforms, applications, and services integrated with the shared services platform	National PIU
St. Vincent and the Grenadines: Number of digital government functions and services using shared services platform	Same as above	Biannual	Project data	Same as above	Same as above
Aggregate: Number of individuals trained in digital skills programs	Number of individuals who complete the project's digital skills development programs. Aggregated from regional and country totals.	Biannual	Project data	Course completion rosters	Regional and National PIUs
of which percentage women	Percentage of the number of individuals who complete the project's digital skills development programs and who are women. Aggregated from regional and country totals.	Biannual	Project data	Same as above	Same as above



Regional: Number of individuals trained in digital skills program	Number of individuals who complete the project's regional digital skills development program	Biannual	Project data	Same as above	Regional PIU
of which percentage women	Percentage of the number of individuals who complete the project's regional digital skills development programs and who are women	Biannual	Project data	Same as above	Same as above
Dominica: Number of individuals trained in digital skills program	Number of individuals who complete the project's national digital skills development program	Biannual	Project data	Same as above	National PIU
of which percentage women	Same as above	Biannual	Project data	Same as above	Same as above
Grenada: Number of individuals trained in digital skills program	Same as above	Biannual	Project data	Same as above	Same as above
of which percentage women	Same as above	Biannual	Project data	Same as above	Same as above
St. Lucia: Number of individuals trained in digital skills program	Same as above	Biannual	Project data	Same as above	Same as above
of which percentage women	Same as above	Biannual	Project data	Same as above	Same as above
St. Vincent and the Grenadines: Number of individuals trained in digital skills program	Same as above	Biannual	Project data	Same as above	Same as above
of which percentage women	Same as above	Biannual	Project data	Same as above	Same as above
Regional: Number of individuals acquiring internationally or regionally recognized professional certification	Number of individuals trained in the project's regional digital skills development program who	Biannual	Project data	Same as above	Regional PIU



	acquire internationally or regionally recognized professional certification				
of which percentage women	Percentage of individuals trained in the project's regional digital skills development program who acquire internationally or regionally recognized professional certification and who are women	Biannual	Project data	Same as above	Same as above
Aggregate: Number of firms completing technology adoption programs	Number of firms that complete the project's technology adoption programs. Aggregated from country totals.	Biannual	Project data	Program completion rosters	National PIUs
of which percentage women-owned	Percentage of firms that complete the project's technology adoption programs that are owned by women. Aggregated from country totals.	Biannual	Project data	Same as above	Same as above
Dominica: Number of firms completing technology adoption program	Number of firms that complete the project's national technology adoption program	Biannual	Project data	Same as above	National PIU
of which percentage women-owned	Percentage of firms that complete the project's national technology adoption program that are owned by women	Biannual	Project data	Same as above	Same as above



Grenada: Number of firms completing technology adoption program	Same as above	Biannual	Project data	Same as above	Same as above
of which percentage women-owned	Same as above	Biannual	Project data	Same as above	Same as above
St. Lucia: Number of firms completing technology adoption program	Same as above	Biannual	Project data	Same as above	Same as above
of which percentage women-owned	Same as above	Bioannual	Project data	Same as above	Same as above
St. Vincent and the Grenadines: Number of firms completing technology adoption program	Same as above	Biannual	Project data	Same as above	Same as above
of which percentage women-owned	Same as above	Biannual	Project data	Same as above	Same as above



ANNEX 1: Implementation Arrangements and Support Plan

COUNTRY: Caribbean
Caribbean Digital Transformation Project

Project Institutional and Implementation Arrangements:

1. **See Annexes 2-6 for detailed institutional and implementation arrangements at regional and national levels.**

Financial Management and Disbursement:

2. **Summary.** An FM assessment of the project was conducted in accordance with OP/BP on Investment Project Financing (IPF) and the Financial Management Manual for World Bank IPF Operations (OPCS5.05-DIR.01 issued February 10, 2017). It concluded that the respective implementing entities responsible for implementation of the FM arrangements in various countries have adequate FM arrangements that should be able to provide, with reasonable assurance, accurate and timely information on the status of the funds as required by the World Bank. FM aspects of the project in various countries will be executed by the designated implementing entities as briefed in the detailed FM assessment in this annex.

3. **Planning and Budgeting:** The respective implementing entities will designate a financial management staff to undertake the recordkeeping for the project. Each implementing entity will prepare an overall budget for the life of the project, which will be revisited periodically and updated, as needed, to reflect the implementation progress. An annual work plan and annual budget will be derived from this overall budget, which will be agreed with the World Bank and then included in respective ministries' annual budget for approval by the parliament (except for the OECS Commission, where it will be included in the entity's budget for approval by OECS Commission's Board). Implementing entities will prepare annual budgets in the agreed format, including the agreed line of expenditure items. The agreed expenditure items to be financed through the project will be duly stated in the Financing Agreement.

4. **Funds Flow:** Advances will be disbursed by the World Bank to a segregated Designated Account (DA) opened at an agreed bank of each implementing entity. The DA will be used to finance the US\$ currency expenditures. Funds will be periodically transferred from the DA to a segregated local currency operating account, which will also be maintained at the agreed bank. The local currency operating account will be used to finance local currency expenditures. Disbursement methods available to the project will be: Advance, Reimbursement, and Direct Payment.

5. **Accounting and Internal Controls:** The respective implementing entities will use their existing FM systems to record and maintain all project transactions. The annual budget for the World Bank project, once approved, will be the guiding factor for recording all the project transactions. The respective FM systems will allow capturing of the project transactions by categories, components, subcomponents, and activities, as needed. In the case of Dominica, all WB projects are facing challenges in extracting reports from the SmartStream FM system, resulting in delays in submission of FM reports to the Bank. The project may support automation of this process by hiring of a consultant to work with the PIU and Ministry of Finance. All the implementing entities will briefly prepare a project financial manual guidance for staff, which will also be an integral part of the Project Operational Manual. It will be reviewed by the World Bank and agreed before project negotiations.

6. **Reporting:** Advances will be disbursed to the respective implementing entities based on a twelve-month cash



forecast and each implementing entity will be submitting six-monthly unaudited financial reports to the World Bank (called interim financial reports – IFRs) within 45 days after the close of each six-month period. The IFRs will be generated from the physical accounting records and variance analysis (actual versus budgeted expenditures) will also be included in the IFRs. IFR format will be agreed during project appraisal and it will be included in the disbursement letter. The World Bank will document expenditures from the IFRs, which will also include additional requests for funds.

7. **External Auditing:** The external audit of the project will be conducted by the agreed audit entities (referred to as external auditors) as briefed in the table below. The project will be producing annual financial statements that will be submitted to the external auditors to be audited as per Terms of Reference agreed between the project and the World Bank. The project budget will include cost of the technical support to be obtained by the Supreme Audit Institution (SAI), if needed. The project will submit the Audit Report along with the Audited Financial Statements and the Management Letter to the World Bank no later than six months after the close of the year.

8. **Conclusions of the financial management risks and agreed mitigation measures:** A substantial fiduciary risk for the project may be anticipated due to the nature of the project and involvement of five implementing entities for a successful execution of the project. To mitigate this risk, the World Bank has agreed to receiving separate sets of IFRs and annual audit reports from the participating implementing entities. Each implementing entity will submit (a) a six-monthly IFR to the World Bank within 45 days after the close of each six-month period, and (b) an annual audit report within six months of the close of the financial year. All the internal controls will be detailed in the Project Operational Manual. In addition, the World Bank’s fiduciary team will provide the project staff training on specific World Bank policies and guidelines. FM risks and compliance will be monitored during the World Bank’s six-monthly implementation support missions as well as through annual external audits. With the implementation of these measures, the respective implementing entities will have in place a FM system that should be able to provide, with reasonable assurance, accurate and timely information on the status of the funds as required by the World Bank. The overall disbursement arrangements will follow standard disbursement policies and procedures included in the Disbursement and Financial Information letter and as established in the Disbursement Guidelines for Investment Project Financing, dated February 2017. The minimum application size for Direct Payments and Reimbursements will be recorded in the Disbursement and Financial Information Letter. Further details of the agreed FM arrangements for the FM of the project at the respective implementing entities can be found in Table A1.1 below.



Table A1.1: Summary of Financial Management arrangements

FM element	OECS Commission	St. Lucia ⁹ (National PCU)	Grenada ¹⁰ (Accountant General, Ministry of Finance - MOF)	Dominica ¹¹ (Ministry of Public Works & Dig. Eco. (MOPWDE) PIU with adequate support from IST)	SVG ¹² (Public Sector Investment Programme Management Unit - PSIPMU in MOF)
Responsible FM staff for the project	Accountant under the supervision of Finance Business Partner Manager	Accounting Officer in the National PCU under supervision of Finance Manager	Senior Certified Accountant under supervision of Accountant General	Accounting Officer under the oversight of PIU Manager	Two accountants under the supervision of Finance Manager
Designated US\$ & local currency bank accounts at	First National Bank of St. Lucia	Bank of Saint Lucia	Grenada Cooperative Bank	National Bank of Dominica	Bank of Saint Vincent and the Grenadines
Accounting software used for recordkeeping	SAGE 50 Accounting Software	QuickBooks	QuickBooks	SmartStream with assistance from a consultant who will facilitate developing the reporting function, in	Peachtree Sage 50

⁹ FM aspects of the project in St. Lucia in the beginning will be implemented by the National PCU in the Department of Economic Development, Transportation and Civil Aviation, which has experience in managing several WB projects satisfactorily. The Department of Public Service Modernization, which is implementing the programmatic aspects of the project, will be setting up a dedicated program implementation unit (PIU) for the fiduciary functions of the project. Once this PIU is ready, its FM capacity will be assessed by the World Bank and under an agreed Memorandum of Understanding (MOU), the implementation of the current project will be transferred to the PIU.

¹⁰ The Accountant General's Department in the MOF set up a project accounts unit in January 2019. While the FM arrangements there are deemed to be adequate, the functions, responsibilities, and procedures of the office of the Chief Information Officer, MOF Central Procurement Unit, and the MOF Accountant General's Department need to be clearly outlined in the POM. This will ensure that all parties involved understand their functions and responsibilities, which should facilitate proper planning, coordination, and seamless execution of activities under the project.

¹¹ MOF has set up an Implementation Support Team (IST), which is assisting PIUs of all the donor funded projects in establishing the respective FM function. IST will accordingly support the MOPWDE in the recruitment of a financial management officer, setting up the FM function in the project, and providing it support later as needed.

¹² PSIPMU, housed within the Ministry of Finance, Economic Planning, Sustainable Development and Information Technology, is familiar with WB-financed projects and is cognizant of the World Bank's policies and guidelines, as it is currently responsible for the FM aspects of several World Bank-financed projects.



				coordination with MOF, IST and PIU	
Basis of Accounting	Cash basis of accounting	Cash basis of accounting	Cash basis of accounting	Cash basis of accounting	Cash basis of accounting
IFRs to be submitted for the six-months ended	July – December	April – September October – March	January – June July – December	July – December January - June	January – June July – December
Annual external audit reports to be submitted for	January - June	April – March	January – December	July – June	January – December
Audit report to be submitted to the Bank	July - June	Project audit report to be submitted by 30 September	Project audit report to be submitted by 30 June	Project audit report to be submitted by 31 December	Project audit report to be submitted by 30 June
Selection of external auditor	Project audit report to be submitted by 31 December	The Office of the Director of Audit (SAI) with external technical assistance, paid by the project	Auditor General of Grenada (SAI)	The Office of the Director of Audit (SAI) with external technical assistance, paid by the project	An audit firm deemed acceptable to the Bank and appointed as per WB procurement procedures

Procurement

9. **Responsibility for conducting procurement financed under the project will rest with the national-level implementation organizations in each country and, for regional activities, with the OECS Commission.** Given the technical complexity of the contracts to be financed under the operation, the procurement resources of each implementing agency will be augmented periodically by the services of an internationally recruited procurement consultant with specialist expertise in World Bank procurement, who will work across all the countries and implementing agencies. Technical inputs to the procurement process, including the development of technical specifications for equipment and terms of reference for consulting assignments, as well as into the technical aspects of bid evaluation, will be provided by technical leads within the PIUs or partner agencies or institutions as relevant.

10. **Procurement will be carried out in accordance with the World Bank’s Procurement Regulations for Investment Project Financing (IPF) Borrowers** (“Procurement Regulations”) dated July 2016 and revised in November 2017 and August 2018, with due consideration to “Guidelines on Preventing and Combating Fraud and Corruption in Projects



Financed by IBRD Loans and IDA Credits and Grants,” dated July 1, 2016, and other provisions stipulated in the Financing Agreement. In accordance with paragraph 5.9 of the Procurement Regulations, the Bank’s STEP system will be used to prepare, clear, and update Procurement Plans and monitor all procurement transactions for the project.

11. **A Project Procurement Strategy for Development (PPSD) has been prepared by each implementing entity and has been agreed with the Bank.** The PPSDs define the applicable procurement arrangements, selection methods, and market approaches for all major procurement inputs and the level of procurement prior review to be conducted by the Bank. The PPSDs provides market analysis to support the choice of selection methods that will apply to each contract financed under the project, which, in turn, will drive the development of the Procurement Plan to be cleared by the Bank. Given the complex nature of the equipment and services that the project will finance and the limited capacity of the domestic supply market in each country, it is likely that most selection methods will be carried out using international, competitive market approaches. The World Bank’s Standard Procurement Documents shall be used for all contracts subject to international competitive procurement.

12. **The project will comprise procurement of a wide range of goods, consulting and non-consulting services, and information systems.** Activities pertaining to enabling environment improvements (Component 1) will largely be carried out by specialist consulting firms. The project also includes the design, supply, and installation of information systems which entails hardware, software, licenses, and related services. Non-consulting services, mostly for digitization of paper-based records, will also be required. Activities under Component 3 include development of training contents and their delivery, which will be procured as consulting services. Furthermore, the project will support PIU staffing through contracting individual consultants for the whole project period.

13. **Procurement risk after mitigation is rated as Substantial.** The main sources of procurement risk are the complexity of the various types of goods and services that the project will finance, include the information technologies to be financed, and the relatively weak procurement capacity of the Borrowers. These risks will be mitigated by the provision of specialist technological support to the implementing agencies by the responsible regional authorities and by technical consultants whose services will be financed under the project and their hiring local and international procurement consultants. Given the substantial risk rating accorded to procurement, the prior review thresholds applicable to the project are defined below. All Bank-financed contracts at or above the thresholds set out below are subject to the Bank’s procurement prior review. These thresholds apply to all procurement activities regardless of their selection methods.

Table A1.2 Procurement Prior Review Thresholds

Type of Procurement	Prior Review Threshold (US\$ millions)
Works (including turnkey, supply & installation of plant and equipment, and PPP)	10.0
Goods, information technology, and non - consulting services	2.0
Consulting services: Firms	1.0
Consulting services: Individuals	0.3



Implementation Support Plan

14. **The cross-sectoral and regional nature of the CARDTP program will require significant implementation support.** The project spans across a wide variety of technical areas - including telecommunications, digital financial services, cybersecurity, digital platforms, land management/geospatial, digital skills, and technology adoption among others. It also involves multiple stakeholders within each country and at the regional level and involves a combination of technical assistance, reforms, and change management processes. The relatively large number of project activities will require close monitoring and adherence to timelines in order to avoid implementation delays as well as careful sequencing of dependent activities. Project interventions are interlinked with other projects, for example the World Bank-financed Digital Government for Resilience (DG4R) Project in Grenada and the Government's DigiGov project in St. Lucia, requiring additional hands-on, proactive support from the World Bank team and coordination of missions and interventions.

15. **Mitigation of the political and governance risks outlined in Section V of the PAD will require close monitoring and proactive engagement with key policy and decision makers.** This will require active engagement not only from the task team, but also country management unit management through the policy dialogue with the Governments at the highest levels. Linkages with policy lending operations will also be critical to help push needed reforms and to prevent any policy backsliding.

16. **Implementation support will be organized along three dimensions:**

- (i) **Sectoral and technical aspects, including** (i) General task team management; (ii) Support on regulatory modernization covering Subcomponents 1.1 and 1.2, including ensuring congruence with international best practice; and (iii) technical support to ensure program delivery across Components 2 and 3. This will involve respective technical lead staff in addition to daily project implementation support from the task team.
- (ii) **Continuous fiduciary and compliance oversight, including** regular implementation support and supervision oversight of procurement, FM, safeguards, and monitoring and evaluation (M&E).
- (iii) **Donor coordination and partnership support.** The WBG will support PIUs at both the regional and national levels in using the project as a platform for effective partnership and donor coordination. This entails task team leadership in facilitating an inter-institutional dialogue and convening process to leverage resources under the project with resources from complementary donor initiatives. Consultations will include technical discussions with development finance institutions active in the OECS, notably the Inter-American Development Bank, CAF, and national development banks. This supports sustainability, crowding in financing from across development institutions, and will support technical work in related areas of the digital economy not covered under CARDTP.



Implementation Support Plan and Resource Requirements

Time	Focus	Skills Needed	Resource Estimate (US\$)
First twelve months	<ol style="list-style-type: none"> 1. Supporting speedy project approval by Parliaments/project effectiveness 2. Technical Assistance for Development of key legal/regulatory documents (including in the telecommunications, digital financial services, and cybersecurity sectors) 3. Technical assistance for strategies, Studies and Implementation Roadmaps (Digital Government Strategy and Institutional Review; Enterprise Architecture; policy related to CERT/cybersecurity agency). 4. Technical assistance for development of Terms of Reference/Bidding Docs for major activities, particularly with regards to component three. 5. Support for establishment of strategic partnerships, donors, civil society, and technical organizations. 	<ol style="list-style-type: none"> 1. TTLs, Communications specialist 2. TTLs, Regulatory expert; Telecoms/network expert; e-Government expert; Skills and innovation expert; 3. TTLs, Regulatory expert; Telecoms/network expert; e-Government expert; Skills and innovation expert; 4. TTLs, e-Government expert and Skills and Innovation expert; 5. TTLs; Telecoms/network expert; e-Government expert; Skills and innovation expert; 6. TTLs; Financial services expert; 7. Fiduciary experts (FM/procurements) and ESF focal points. 	450,000
Annually	<ol style="list-style-type: none"> 1. Ongoing technical support for Components 1–3 2. Fiduciary, safeguards, and project management support 3. Continued policy dialogue/support for sector reforms; link to WBG policy lending. 	<ol style="list-style-type: none"> 1. TTLs; Regulatory expert; Telecoms/network expert; e-Government expert; Cybersecurity specialist; Land Management/Geographic Information Systems (GIS) specialist; Skills and innovation expert; 2. TTLs; Financial services expert; Fiduciary experts (FM/procurements) and ESF focal points. 	400,000



Skills Mix Required			
Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task Team Leaders	16 SWs Annually	3 in year 1; 2 in year 2+	Based in Washington
ICT Specialist	16 SWs Annually	3 in year 1; 2 in year 2+	Based in Washington
Financial Sector/DFS Specialist	8 SWs Annually	3 in year 1; 2 in year 2+	Based in Washington
Private Sector Specialist	8 SWs Annually	3 in year 1; 2 in year 2+	Based in Washington
Public Sector Specialist	3 SWs Annually	1 per year; leverage with existing engagements for co-mission	Based in Washington
Cybersecurity Specialist	8 SWs Annually	3 in year 1; 2 in year 2+	Based in Washington
Land Administration/Geospatial Specialist	6 SWs Annually	3 in year 1; 2 in year 2+ (SVG only)	Based in Country Office
Communications Specialist	1 SW Annually	Field trips as needed	Country Office Based
Environmental Safeguards Specialist	1.5 SWs Annually	Field trips as needed	Based in Region
Social Safeguards Specialist	1.5 SWs Annually	Field trips as needed	Based in Region
Procurement Specialist	4 SWs Annually	As needed (combined with other country missions)	Based in Washington
FM Specialist	2 SWs Annually	As needed (combined with other country missions)	Based in Washington



ANNEX 2: Regional Level Program Details

Background

1. **Regional level project activities aim to create a dynamic, seamless regional market for digital investment, services, and trade and foster cross-country collaboration to support development and security of the Eastern Caribbean Digital Economy.** Activities focus on removing legal and regulatory barriers to innovation, investment, and competition in telecommunications and digital financial services, strengthening security of online transactions and critical infrastructure, and privacy of sensitive personal data. Adoption of harmonized legal and regulatory frameworks will help create a larger digital market more capable of generating economies of scale and network effects critical to fueling investment in digital infrastructure and services and space for growth of the region's digitally enabled firms before competing in global markets. Activities will also focus on a shared approach to development of advanced digital skills and creation of remote working opportunities to continue to build a cadre of top digital talent and increase retention within the region, with expected spillover benefits as those individuals lead digitization efforts across major industries and start their own firms within the region.

2. **Regional project activities are aligned with and reinforce the mandates and capacity of regional institutions with a role in development of the Eastern Caribbean Digital Economy.** These include the ECCB's role in regulation, oversight, and promotion of digital financial services, ECTEL's role in regulation of the telecommunications sector, OECS's role in regional legislative harmonization and standard setting, and IMPACS's role in promoting regional cybersecurity.

Project Components

3. **Regional level project activities are outlined in detail below.** Note that the component and sub-component numbering aligns with the overall program framework. The activities below reflect only the activities to be financed through the regional IDA grant.

Component 1: Digital Enabling Environment

Subcomponent 1.1: Telecommunications: Legal and Regulatory Environment, Institutions, and Capacity (US\$1.5 million regional IDA)

4. **This subcomponent aims to support greater telecoms sector competition, affordability, and service quality across the region as well as enhancing resilience and emergency response capabilities for critical communications infrastructure across the region.** It will support modernization of the legal, regulatory, and institutional frameworks governing the telecoms sector and the capacity to implement them at the regional and national level. The regional sector regulator, ECTEL, will provide technical leadership of the subcomponent, in coordination with the National Telecommunications Regulatory Commissions (NTRCs) and other relevant national authorities. Specific activities will include:

- (i) Review the legal and regulatory frameworks covering telecommunications and support for drafting of new or amending existing legislation and regulations as necessary at regional and national levels, paired with a review of telecom sector governance and institutional structures, procedures, and authority at regional and national levels; Support to include establishment of a market competition assessment methodology and capacity building of regulatory stakeholders on conducting the analyses on a periodic basis;



- (ii) Support for establishment of a quality of service (QoS) monitoring and enforcement methodology, equipment (software and hardware), and capacity building to support implementation; and
- (iii) Support for development of action plans (regional template and national level plans) to improve network resilience and post disaster recovery/emergency communications, and implementation of communications infrastructure disaster response and recovery drills in partnership with the private sector. Plans will include arrangements for support from other countries in the region to assist with response as needed.

Subcomponent 1.2: Digital Financial Services: Legal and Regulatory Environment, Institutions, and Capacity (US\$1.5 million regional IDA)

5. **This subcomponent aims to spur greater innovation, investment, and adoption of DFS across the region.** It will support modernization of the policy, legal, and regulatory frameworks and underlying payment infrastructure currently holding back innovators within the Eastern Caribbean Currency Union (ECCU) from rolling out new non-bank digital payment products and services and preventing merchants, governments, and individuals from more routinely utilizing digital forms of payment. The regional financial services regulator, ECCB, will provide technical leadership of the subcomponent, in coordination with the national level financial services regulators. Specific activities will include:

- (i) Support for updating the Payment Systems Act and Money Services Business Act and corresponding regulations and creating an oversight and enabling framework for digital financial services, with corresponding support for adoption and implementation of the harmonized regional legislation and regulations at the national level. The new Payment Systems Law should incorporate concepts such as open banking, designation of systems as systemically and prominently important (where applicable), agent banking, cyber resilience of systems, and standardization in data reporting.
- (ii) Undertaking demand-side surveys on financial access and usage in line with international standards to inform policymaking and monitor progress toward financial inclusion goals; This would include data collection on how adults save, borrow, make payments, and manage risk as well as use of informal financial services and financial technology (fintech). The activity will allow participant countries to join 150 other countries where this survey is available.
- (iii) Development of an overarching Payment Systems Strategy for the region; and
- (iv) Support for technical design of a regional Instant Payment System (IPS) open to banks, non-banks, and ECCU governments to reduce the costs and time required for payment transfers.

Subcomponent 1.3: Cybersecurity, Data Protection, and Privacy: Legal and Regulatory Environment, Institutions, and Capacity (US\$2.0 million regional IDA)

6. **This subcomponent aims to build trust in online transactions and strengthen the security and resilience of digital infrastructure and systems across the region.** It will promote cybersecurity awareness and capacity building as well as create an enabling environment and institutions needed to protect the public and private sectors from cyber vulnerabilities. The project will utilize a combination regional and national level approach to share knowledge, resources, and respond to shared threats. At the regional level, IMPACS will provide technical leadership and coordination support for activities related to cybersecurity. They will work in collaboration with the national level computer emergency response teams (CERTs)/cybersecurity agencies to be established under the project and which will assume leadership within the respective country programs (with separate but coordinated activities financed through national credits). The involvement of influential regional bodies such as the OECS Commission and CARICOM IMPACS will ensure that the regional nature of the activities under this subcomponent will be preserved and protected from political interference.



The subcomponent will also include support to develop harmonized data protection and privacy frameworks across the region to ensure a unified space for investment and deployment of data-driven services. These efforts will be coordinated by a regional data council to be established. Specific activities at the regional level will include:

- (i) Review of regional and national cybersecurity policy, legislation, and regulation, and institutional structures, with implementation support for recommendations at regional and national levels, including support to develop/update relevant legislation and regulation.
- (ii) Support for regional cybersecurity collaboration mechanism and protocols among the national level CERTs/cybersecurity agencies, regionally coordinated capacity building and networking for government cyber professionals, and cyber awareness campaigns for civil servants and general public; and
- (iii) Review and update of regional and national data protection and privacy laws and data access and exchange policies at regional and national levels including support to develop/update legislation and regulation.

Component 3: Digital Skills and Technology Adoption

Subcomponent 3.1: Workforce-Ready Digital Skills (US\$1.7 million regional IDA)

7. **This subcomponent aims to support training for employment opportunities in digitally enabled professions across the region.** It adopts a regional approach, aiming to capture economies of scale in specialized digital skills development programs and to create a pool of advanced digital talent to better position the region to attract investment by digital firms. Regional level activities will target more advanced and specialized digital skills development and remote working placements with global firms and clients. This will be complemented by activities at the national level targeted primarily at digital skills in demand among industries in the Eastern Caribbean region. Specific activities at the regional level will include:

- (i) A survey and assessment to identify the technical and soft skills in greatest demand in the regional and global market among digitally enabled industries and conducive to remote working arrangements;
- (ii) A regional level advanced digital skills development and job coaching program, including provision of digital skills stipends. The program will be implemented through an entity to be competitively selected (private company, non-profit institution, or consortium) under a consultancy contract with the purpose of facilitating certification and employment placements of trainees. Specific efforts and targets will be adopted to encourage maximum participation of women and girls in order to promote greater opportunities and representation downstream in digitally enabled professions; and
- (iii) Support for an internship/apprenticeship program to facilitate job placements of participants of the digital skills programs (under Subcomponent 3.1).

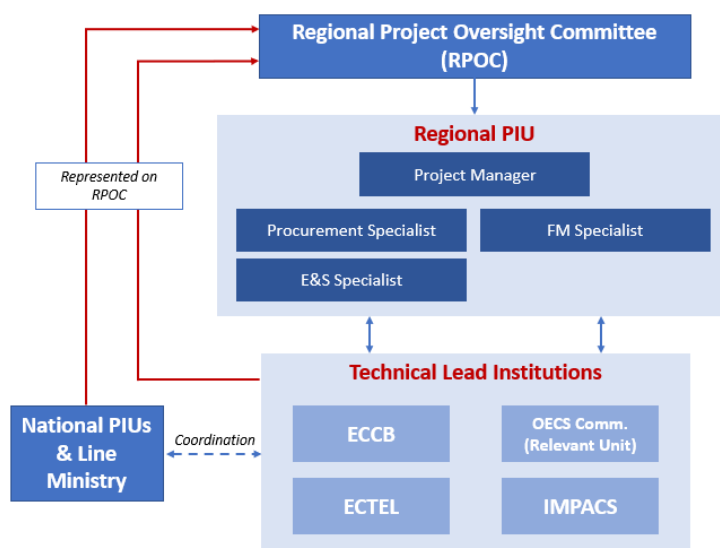
Component 4: Project Implementation Support (US\$1.3 million)

8. **This component includes support to the regional PIU for the implementation and management of regional level project activities, including for staffing of the PIU as well as capacity building and training initiatives.** Key technical functions to be supported can include but will not be limited to project manager, technical specialists, procurement specialists, financial management specialist, environmental and social safeguards specialists, monitoring and evaluation, and communications.

Regional Level Implementation Arrangements

9. **Implementation of the regional level activities will be led by a project implementation unit (PIU) within the OECS Commission.** The wide spectrum in terms of topics covered by regional project activities and their interlinkages as part of the digital ecosystem require close coordination between the regional PIU and regional institutions, and with participating governments. As seen in Figure A2.1 below, the project implementation arrangements entail a tiered structure with mechanisms for coordination at the strategic and working levels. The structure provides for overall responsibility and oversight to be shared among participating institutions through the Regional Project Oversight Committee, with operational coordination and technical leadership for specific activities being assigned to specific institutions based on their mandate. Such an implementation structure provides the necessary layers of implementation and oversight, while not limiting agility and efficiency through complex implementation structures. An independent PIU is already established in the OECS Commission, and will leverage existing capacity for procurement, FM, and E&S functions in place to implement ongoing WBG projects. Project funds will be used to recruit a project manager, and if needed, augment PIU capacity in procurement, E&S, and FM to support timely project implementation. The Head of the Portfolio Management Office and the Head of the Monitoring and Evaluation, Programme Management Unit, of the OECS Commission will undertake coordination responsibilities for project implementation until a full-time project manager is recruited.

Figure A2.1: Implementation arrangements – Regional





10. The following table highlights the roles and responsibilities of the regional implementation entities:

Table A2.1: Roles and responsibilities

Element	Roles and Responsibilities
Regional Project Oversight Committee (RPOC)	<p>Facilitate coordination between the different regional institutions and governments, address strategic issues impacting project implementation. Responsible for overall oversight of project implementation progress, including review of annual implementation plans and progress reports.</p> <p>RPOC members include: OECS, ECCB, ECTEL, IMPACS and representatives from implementing ministry of participating governments. CTU will serve as an advisor to the RPOC to ensure coordination with activities on the Single ICT Space CARICOM level initiative. The RPOC will be co-chaired by the OECS and ECCB.</p>
Regional Project Implementation Unit (Regional PIU)	<p>The Regional PIU is housed at the OECS Commission. The PIU will use project funds to recruit a dedicated project manager and augment capacity for procurement, FM, and E&S implementation. Additionally, the following roles have been identified, which will be served by the other regional institutions involved in project implementation -</p> <p><i>Technical Lead Institution Representatives:</i> Regional institutions with technical mandate for each topic area will be responsible to assign a representative to serve as the technical specialist and input coordinator for those activities. The agreed technical specialty assignments are as follows:</p> <ul style="list-style-type: none"> (i) <i>Telecommunications:</i> ECTEL (ii) <i>Digital Financial Services:</i> ECCB (iii) <i>Cybersecurity:</i> IMPACS (iv) <i>Data Protection and Privacy:</i> OECS (v) <i>Digital Skills:</i> OECS (in partnership with an administering private sector firm, non-profit institution, or consortium to be competitively selected)



ANNEX 3: National Level Program Details – Dominica

Background

- Following Hurricane Maria in September 2017, the Government of Commonwealth of Dominica (GOCD) has instituted resilience as a central theme to the country's rebuilding efforts and socioeconomic development plans, with the aim to make Dominica the first climate resilient country in the world.** The hurricane resulted in losses and damages of over 200 percent of GDP, with the telecom sector alone suffering over US\$40 million in losses and damages. Furthermore, GOCD lost data and records and suffered losses beyond its infrastructure, highlighting the need to make government more resilient so that it can better prepare for and respond to incidents and restore operations and services quickly. The Government recognizes the role digital technologies and solutions can play in strengthening the island's and its inhabitants' climate resilience, as well as the importance of integration with the global digital economy to expand markets and drive sustainability of businesses, government, and individuals. In small island countries such as those in the Eastern Caribbean region, the resilience of governments has a very direct impact on the resilience of society at large.
- GOCD's recovery and resilience building efforts include development of a Government Wide Area Network, and nodal digital infrastructure to lay the foundations for digitization of government.** GOCD has engaged in a partnership with Digicel to connect all government service locations (Government offices, schools, hospitals, and health centers) to high-speed connectivity delivered using fiber optic networks. The network being developed under the partnership will provide multiple layers of redundant connectivity—underground and overhead fiber, microwave, and satellite at key locations—in addition to cloud services to host Government data and services. The government connectivity project includes development of a primary datacenter to host the government cloud and applications, as well as a secondary location to serve as a backup site.
- The improved connectivity can be leveraged to develop digital government services and increase the level of digitization of government operations, which is currently lagging.** Currently Dominica lacks the enablers of digital government, including an enterprise architecture, interoperability framework, identification and authentication, and a government payment portal. Uniquely and securely identifying residents through a digital ID is fundamental to enable access to digital services, both public and private, but the current ID ecosystem in Dominica is fragmented and not interconnected. In order to fully utilize and benefit from investments in cross-cutting enablers and specific digital government services, there is also a need for legal and regulatory reforms across key areas of the digital economy. These enabling environment improvements are a key first step towards removing roadblocks to improved adoption of digital services among individuals and businesses, as well as contributing to the development of digital applications and services by emerging entrepreneurs in Dominica.

Project Components

- The national level program for Dominica aims to develop the core foundations to enable digitization of government and improved access and adoption of digital services, skills, and technologies among individuals and businesses.** The national level program will be complemented by parallel regional level initiatives (detailed in Annex 2) to strengthen the enabling environment to promote investment, competition, and innovation in telecoms and digital financial services, regional cybersecurity collaboration, and a modernized and harmonized data protection and privacy regime across the region. It will also be complemented by a regional level advanced digital skills program open to high potential digital specialists from Dominica. National level activities financed by the project will complement and build upon the parallel support at the regional level and align with regionally agreed frameworks and standards pertaining to



cross-cutting enablers of digital government services. It will aim to extend the benefits of public sector modernization to the general public through digital public service delivery, digital skills development, and demand stimulation for digitization of the private sector. Specific subcomponents and national level project activities are described below. Note that the subcomponent numbering aligns with the overall regional program framework (not all program subcomponents will have national level implementation)

Component 1: Digital Enabling Environment

Subcomponent 1.3: Cybersecurity, Data Protection, and Privacy (US\$2.0 million)

5. **Establishment of a national Computer Emergency Response Team (CERT) (US 2.0 million):** The project will support development of a national level cybersecurity capability to monitor, identify, protect against, and respond to cyberthreats and support the requisite enabling environment and capacity improvements at the national level. The CERT will be established using a regionally compatible design and frameworks developed as part of the regionally implemented activities under the subcomponent. Specific activities under this subcomponent include:

- (i) Financing for hardware and software necessary for CERT activities including threat monitoring, incident logging, automation of investigation, and sensors for collection of telemetry information;
- (ii) Support for CERT human capacity including hiring of CERT manager and analysts;
- (iii) Development of CERT operational procedures, work plan, roles and responsibilities matrix, financial sustainability plan (CapEx and OpEx), and localization of regionally developed trust and transparency frameworks;
- (iv) Support for implementation of regionally developed cybersecurity standards and protocols for critical public and private sector infrastructures, including development of standardized information sharing mechanisms; and
- (v) Support for development and implementation of a national level awareness campaign; training and general awareness for civil servants; and professional training opportunities for ICT professionals and potential CERT cybersecurity analysts.

Component 2: Digital Government Infrastructure, Platforms, and Services

Subcomponent 2.1: Cross-Cutting Enablers of Digital Government Operations and Services (US\$3.8 million)

6. **Digital Government strategy, standards, business continuity, and protocols (US\$0.5 million):** This activity supports the development of the necessary strategy and frameworks to guide public sector digitization along the three dimensions of technology, processes, and people. This includes the development of targets for government digitization, a roadmap for its implementation, and standards and protocols to enable effective storage of data and integration of services to ensure the automatic flow of information and data across government. This will also strengthen and streamline the enabling environment for public sector digitization and support coordination and the development of an integrated approach towards digital public service delivery. It will also support resilience and business continuity in the event of natural disasters. Specific tasks include the following:

- (i) Development of a Digital Government strategy and action plan to guide public sector modernization and development of digital government services;
- (ii) Development of a government-wide Enterprise Architecture (EA) and interoperability framework to govern



the public sector digitization process and enable the development of an integrated approach to public sector operations and service delivery.

- (iii) Development of a continuity of operations plan for the public sector.
- (iv) Training of enterprise architects and ICT Unit staff on the EA and interoperability framework to facilitate implementation of digital government; Awareness raising among the public service, particularly mid-level and senior management, on the existing IT policies and newly developed standards and processes for development, maintenance, and upgrade of IT systems.

7. **Unique digital identifier and citizen authentication (US\$2.0 million):** The ability to digitally identify and authenticate individuals is key to delivering public services digitally, as it enables safe, secure, and legally verifiable access to public services. The activity will build on previous efforts around the development of a regionally-standardized identifier – the multi-purpose ID number (MPID) - by utilizing the same numbering system to facilitate regional interoperability. The tokenized use of the MPID number as the unique identification number (UIN) will enable the back-end integration of various identification registries in the country, and when combined with an authentication layer and payment platform, will facilitate digital public service delivery while maintaining privacy of individuals' data. Specific tasks include the following:

- (i) Legal and regulatory assessment and recommendations on necessary reforms to implement an integrated ID system and authentication platform;
- (ii) Assignment of the MPID numbering system based UIN to individuals on a foundational ID registry (civil registry, as currently agreed);
- (iii) Development of a digital authentication layer to access digital government services and linked with currently accepted forms of ID; and
- (iv) Design and rollout of a new physical ID card (national ID).

8. **Digital signatures (US\$0.8 million):** This activity will support the development of capability for digital signature and digital document authentication interoperable with identification and authentication layers, and its integration with and other relevant government systems, including those developed under Subcomponent 2.2. The activity will also include a review and update of policy, legislation, and regulation governing digital signatures and authentication to enable its implementation.

9. **Capacity building of public sector IT professionals and civil servants (US\$0.5 million):** Financing for awareness raising and training program to support technical capacity development of the ICT staff, with potential for additional human resources to augment the ICT unit. The activity will leverage advanced professional training courses developed under Component 3.1 by financing access to those trainings for ICT Unit staff (with potential time-based employment bonds post completion).

Subcomponent 2.2: Government Productivity Platforms and Citizen-Centric Digital Services (US\$12.5 million)

10. **End-to-end digitization, business process reengineering, and integration of priority services and systems (US\$1.5 million):** This activity will finance the digitization of specific citizen-facing services, development of a data exchange platform, and back-end integration of key systems, registries, databases, and platforms with each other. Such an integrated data exchange platform and service bus can enable interlinkage of the cross-cutting enablers of digital government (identification, authentication, and payment platforms) as citizen-facing public services are digitized. Specific tasks include:



- (i) Back-end integration and clean-up of existing ID systems, registries, and databases using the tokenized MPID number-based UIN assigned to individuals in the selected foundational ID registry (civil registry);
- (ii) Development of a government portal (web/mobile) for citizens to access digital government services;
- (iii) Business process reengineering and end-to-end digitization of citizen-facing services such as social security, drivers' license, passport, and potentially tax systems;
- (iv) Development of an enterprise service bus/data exchange platform interlinking the various systems, databases, and services within Government (including those digitized above), and support for integration with the authentication layer and government payment portal;
- (v) Capacity building and training of ICT Unit staff on the use, maintenance, and enhancement of the data exchange platform developed; and
- (vi) Integration of newly digitized databases and services with the government web/mobile portal for secure access to citizens.

11. **Travel facilitation (US\$1.5 million):** This activity will facilitate the ease of arrival of individuals in Dominica through support to implement an electronic entry permit mechanism and immigration kiosks at all ports of entry. The activity will also include associated business process reengineering, training, and awareness raising for relevant institutions and agencies.

12. **Health administration (US\$8.5 million):** This activity will support the implementation of a Health Management Information System (HMIS). The activity will include:

- (i) Feasibility study for development of the HMIS, including development of bidding documents; and
- (ii) Development of the HMIS following a modular approach, allowing for scalability of the system.

13. **Bulk disbursements digitization (US\$1.0 million):** The activity will provide support to digitize recurring government bulk disbursement streams, including government to citizen, government to business, and vice versa. The activity will use cash-based social transfer programs as a pilot use case for the government payment platform, promoting digital financial services, and building familiarity with cashless payments and digital service delivery. This activity will include:

- (i) Feasibility study including technology/distribution choice (cards, wallets, hybrid models);
- (ii) Support with upgrading financial infrastructure (payment settlement), operational considerations, policy modifications, and monitoring and evaluation; and
- (iii) Implementation support, including subsidizing a pilot, financing payments and program management module, and monitoring and evaluation work.

Component 3: Digital Skills and Technology Adoption

14. **This component aims to better equip individuals and businesses across the region for the jobs and economy of the future and to spur innovation and productivity growth.** It takes a comprehensive supply and demand side approach, supporting greater technology adoption and utilization of digitally enabled business models to drive demand for newly skilled employees and well as making connections with global employment opportunities through online working platforms. Specific efforts and targets will be adopted to encourage maximum participation of women and girls and other at-risk populations, such as unemployed youth in the support programs, in order to promote greater opportunities and



representation in digitally enabled professions.

Subcomponent 3.1: Workforce-Ready Digital Skills (US\$2.0 million)

15. **This subcomponent aims to support training for employment opportunities in digitally enabled professions.** It will complement the regional level activities supporting more advanced and specialized digital skills development and remote working placements with global firms and clients. It will include a digital skills development and workforce readiness coaching program targeting development of skills identified to be in demand within digitally enabled professions in Dominica or in the Eastern Caribbean Region (as identified through the regional level activities under Component 3). The subcomponent will also include training to individuals on monetizing the internet to boost livelihoods and prepare more advanced candidates for gig economy work opportunities, enabling them to earn an income working remotely for international organizations/clients from Dominica. Implementation will be through a partnership with a local training institution and a firm or non-profit foundation selected to administer the skills trainings, provide job coaching and “soft” skills support to participants, and develop partnerships with private sector industries interested in contributing to curriculum development, executing the trainings, and hiring of graduates. The program will include dedicated outreach and programming to attract and support women and at-risk youth to participate in the program and will be administered through a combination of in-person training and mentoring and online learning to enable more flexible participation by a wider range of interested individuals.

Subcomponent 3.2: Technology Adoption (US\$4.5 million)

16. **This subcomponent seeks to increase adoption of digital technologies, platforms, and digitally enabled business models by small and medium enterprises (SMEs) across the region.** It aims to boost the productivity and competitiveness of traditional industries, initiate a cultural shift towards modernization and innovation in the private sector, and overcome the current lack of demand for digitally skilled professionals and IT services in the regional market. Specific activities will include:

- (i) A program to accelerate the adoption of digital technologies within priority sectors (tourism, agriculture, etc.) including managerial training, business advisory services, and provision of matching grants or other incentives to competitively selected SMEs to support digital technology and marketing investments;
- (ii) Support for an internship/apprenticeship program to facilitate job placements of participants of the digital skills programs (under Subcomponent 3.1) including provision of Internship Stipends for participants;
- (iii) Support for innovation programs and co-working spaces; and
- (iv) Support for purchase of digital devices and associated digital content and training to support access among vulnerable groups and remote learning by students.

Component 4: Project Implementation Support (US\$3.2 million)

17. This component includes support to the PIU for the implementation and management of national level project activities, including for staffing of the PIU as well as capacity building and training initiatives. Key technical functions to be supported can include but will not be limited to project manager, technical specialists, procurement specialists, financial management specialist, environmental and social safeguards specialists, monitoring and evaluation, and communications.

National Level Implementation Arrangements

18. Recognizing the cross-cutting as well as technical nature of the activities being implemented, GOCD has proposed a multi-layer implementation structure, with an independent PIU in the responsible line ministry, the **Ministry of Public Works and Digital Economy**. The PIU will be supported through existing financial management (FM) and E&S capacity within Government. Project financing will be utilized to augment existing capacity of the PIU as needed, including recruitment of a dedicated project manager and training program/grants manager. The Permanent Secretary, Ministry of Public Works and Digital Economy, will undertake coordination responsibilities for project implementation until a full-time project manager is recruited. Dedicated procurement and FM specialists will also be recruited prior to project effectiveness. As seen in Figure A3.1 below, the project implementation arrangements account for cross-government coordination at strategic and working levels, as well as regional coordination through participation of the responsible line ministry in the regional project oversight committee. The implementation arrangements take into account lessons learned from prior project implementation experiences and include full-time technical expertise at the PIU, in the form of a technical advisory firm, to support procurement preparation, contract management, and quality assurance for each activity being implemented, as well as capacity building of implementation staff.

Figure A3.1: Implementation arrangements – Dominica



19. The following table highlights the roles and responsibilities of the various elements of the implementation arrangements agreed with GOCD.

Table A3.1: PIU roles and responsibilities

Element	Roles and Responsibilities
Project Steering Committee (PSC)	Facilitate coordination between the different ministries and regional implementation mechanism and address policy issues impacting project implementation. Responsible for overall oversight of project implementation progress, including review of annual implementation plans and progress reports. Representative from the Ministry of Public Works and Digital Economy will be part of the Regional Project Steering Committee.



	<p>PSC members include: Ministry of Public Works and Digital Economy; Ministry of Finance, Economic Affairs, Investment, Planning, Sustainable Development, Resilience Sustainable Development, Telecommunications and Broadcasting; Ministry of Governance, Public Service Reform, Citizen Empowerment, Social Justice and Ecclesiastical Affairs.</p>
<p>Project Implementation Unit (PIU)</p>	<p>The PIU is housed in the Ministry of Public Works and Digital Economy. The PIU will use project funds to recruit a dedicated project manager, and augment capacity for procurement, FM, and E&S given the scale and complexity of the project. Additionally, the PIU will include the following role, also staffed using project funds:</p> <p><i>Training and Technology Adoption Coordinator/Grants Manager:</i> Individual responsible for implementation and oversight of Component 3 activities, in collaboration with selected implementation partner. This role will include management and oversight of the technology adoption grants program (overall coordination, processing applications, M&E).</p> <p>The project may also support automation of FM report extraction from the SmartStream FM system, which will streamline implementation of all ongoing WBG projects in Dominica.</p>
<p>Technical Advisory Firm</p>	<p>Firm with responsibility for drafting of technical specifications and terms of reference for project activities being procured in coordination with relevant public and private sector stakeholders. The firm will also be responsible for training bid evaluation committee members for each activity, support of contract negotiations, contract management, and capacity building of implementation staff and will provide in-house advisory services pertaining to project implementation to GOCD.</p>



ANNEX 4: National Level Program Details – Grenada

Background

1. **The Government of Grenada (GOG) views the country's digital development as a key driver of economic growth, inclusion, job creation, and service delivery.** The National Sustainable Development Plan 2035 clearly identifies the digital economy as a priority area of public investment to enable the country to compete in the digital era and provide opportunities for its citizens. Rising youth unemployment is a critical concern for the Government and requires the creation of opportunities that can support labor market needs of the 21st century. To this effect, GOG has invested in establishing a robust connectivity infrastructure network for government offices and institutions throughout the country under the CARCIP project and is in process of implementing the World Bank-financed DG4R Project that will support the development of key enablers of a digital government and a first suite of digital government services.
2. **Through the CARCIP and DG4R programs, GOG has embarked on a digitization process across government, and it views the digitization of government as a key enabler of resilience and continuity of operations.** Furthermore, recognizing the critical role played by the public sector across all elements of the economy in Grenada, the Government aims to use the public sector's digitization effort as a driver of economy-wide digital transformation. The CARDTP project is seen as complementary to and building upon the ongoing public sector modernization efforts, primarily tackling foundations of digital economy development not covered by the other programs.
3. **The national level program for Grenada under the CARDTP project is designed to extend the benefits of public sector modernization to the general public and businesses in Grenada.** The DG4R project will develop the cross-cutting enablers of digital government, including an enterprise architecture and interoperability framework, digital identification platform (using the MPID numbering system), authentication infrastructure, and a government payment platform. However, the economy can benefit from improvements in the digital enabling environment across key areas to enable improved access to affordable and safe broadband services and development and adoption of DFS and to build trust and transparency in the digital ecosystem. Furthermore, there is a need to equip citizens with the skills to use the digital services being developed as well as to build a talent pool of digitally skilled professionals and demand for their skills in the domestic market. The CARDTP program addresses the above-mentioned gaps through legal and regulatory reforms at the regional level and targeted interventions at the national level to fill cybersecurity, skills, and private sector digitization gaps.

Project Components

4. **As described above, national level CARDTP project activities are designed to fill gaps in government digitization efforts and support the expansion of the benefits of digitization to the general public and private sector through skills and technology adoption support.** The ongoing DG4R project already addresses many of the project activities envisioned under Component 2 of the CARDTP Project. Therefore, national level program activities in Grenada are largely focused on Components 1 and 3 of the project, filling gaps in cybersecurity and DFS, while developing a cadre of digitally skilled individuals and demand for their services and technology adoption among the domestic private sector. The project will also leverage the technical specialty of project management support procured under the DG4R project to support implementation of national level program activities under Components 1 and 2. Note that the subcomponent numbering aligns with the overall regional program framework (not all subcomponents will have a national level implementation.)



Component 1: Digital Enabling Environment

Subcomponent 1.3: Cybersecurity, Data Protection and Privacy (US\$2.5 million)

5. **Establishment of a national Computer Emergency Response Team (CERT) or cybersecurity agency:** The project will support for development of national level cybersecurity capability to monitor, identify, protect against, and respond to cyberthreats and support for requisite enabling environment and capacity improvements at the national level. The CERT, or cybersecurity agency with functional CERT, will be established using a regionally compatible design and frameworks developed as part of the regionally implemented activities under the subcomponent. Specific activities under this subcomponent include:

- (i) Financing for works (such as refurbishment), hardware, and software necessary for activities of the CERT, or cybersecurity agency with functional CERT, including threat monitoring, incident logging, automation of investigation, and sensors for collection of telemetry information;
- (ii) Support for CERT or cybersecurity agency human capacity including support for hiring of CERT manager and analysts;
- (iii) Development of CERT or cybersecurity operational procedures, work plan, roles, and responsibilities matrix, financial sustainability plan (CapEx and OpEx), and localization of regionally developed trust and transparency frameworks;
- (iv) Support for implementation of regionally developed cybersecurity standards and protocols for critical public and private sector infrastructures, including development of standardized information sharing mechanisms; and
- (v) Support for development and implementation of a national level awareness campaign; training and general awareness for civil servants; and professional training opportunities for ICT professionals and potential cybersecurity analysts.

Component 3: Digital Skills and Technology Adoption

Subcomponent 3.1: Workforce-Ready Digital Skills (US\$1.0 million)

6. **This subcomponent aims to support training for employment opportunities in digitally enabled professions and the civil service.** It will complement the regional level activities supporting more advanced and specialized digital skills development and remote working placements with global firms and clients. It will include a digital skills development and workforce readiness coaching program targeting development of skills identified to be in demand within digitally enabled professions in Grenada or in the Eastern Caribbean Region (as identified through the regional level activities under Component 3). Implementation will be through a local training institution, potentially in partnership with a firm or non-profit foundation, to administer the skills trainings, provide job coaching and “soft” skills support to participants, and develop partnerships with private sector industries interested in contributing to curriculum development, executing the trainings, and hiring of graduates. The program will include dedicated outreach and programming to attract and support women and at-risk youth to participate in the program and will be administered through a combination of in-person training and mentoring and online learning to enable more flexible participation by a wider range of interested individuals.



Subcomponent 3.2: Technology Adoption (US\$3.5 million)

7. This subcomponent seeks to increase adoption of digital technologies, platforms, and digitally enabled business models by small and medium enterprises (SMEs) across the region. It aims to boost the productivity and competitiveness of traditional industries, initiate a cultural shift towards modernization and innovation in the private sector, and overcome the current lack of demand for digitally skilled professionals and IT services in the regional market. Specific activities will include:

- (i) A program to accelerate the adoption of digital technologies within priority sectors (tourism, agriculture, etc.) including managerial training, business advisory services, and provision of matching grants or other incentives to competitively selected SMEs to support digital technology and marketing investments;
- (ii) Support for an internship/apprenticeship program to facilitate job placements of participants of the digital skills programs (under Subcomponent 3.1) including provision of Internship Stipends for participants; and
- (iii) Support for a point of sale adoption program for individual entrepreneurs and SMEs to promote acceptance of digital payments.

Component 4: Project Implementation Support (US\$1.0 million)

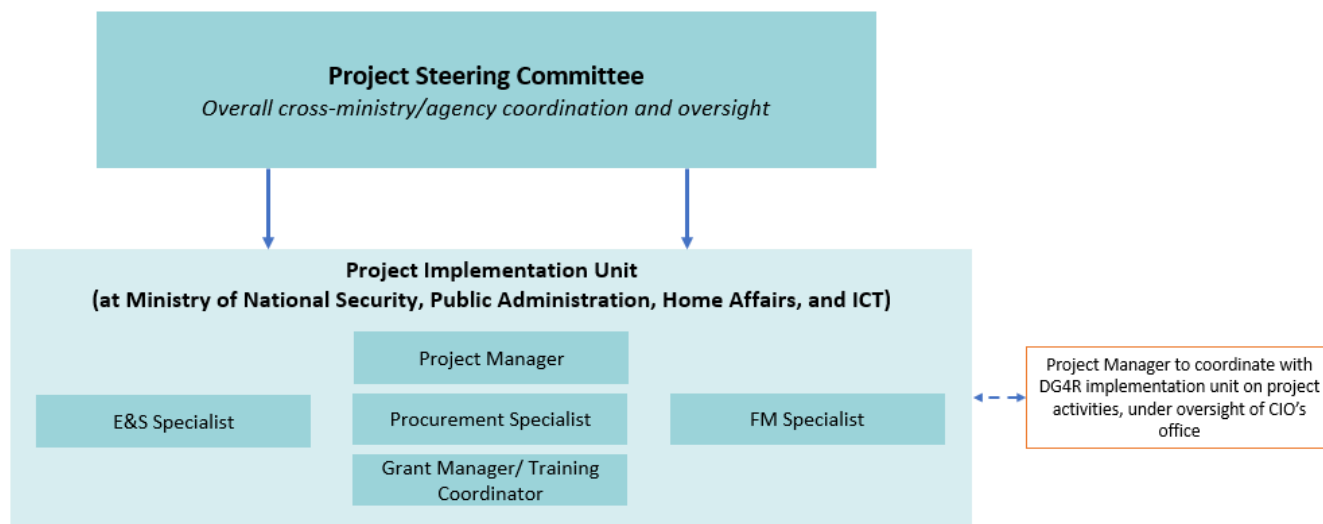
8. This component includes support to the PIU for the implementation and management of national level project activities, including for staffing of the PIU as well as capacity building and training initiatives. Key technical functions to be supported can include but will not be limited to project manager, technical specialists, procurement specialists, financial management specialist, environmental and social safeguards specialists, monitoring and evaluation, and communications.

National Level Implementation Arrangements

9. GOG has proposed to use similar project implementation arrangements used for other World Bank projects. The Project Steering Committee will oversee project implementation and will be composed of similar core members as that for the DG4R project. A dedicated PIU has been established in the Ministry of National Security, Public Administration, Home Affairs, and ICT for implementation of all digital transformation projects, and project financing will be utilized to recruit a project manager and augment existing capacity of the PIU or other supporting units as needed. The Central Procurement Unit (CPU) of the Ministry of Finance will be responsible for procurement support under the project and the Accountant General's office in the Ministry of Finance will be responsible for FM. Environmental and social safeguards oversight will be managed by the central unit covering all World Bank-financed projects - see Figure A4.1. The Permanent Secretary of Public Administration, Ministry of National Security, Public Administration, Home Affairs, and ICT will undertake coordination responsibilities for project implementation until a full-time project manager is recruited.



Figure A4.1: Implementation arrangements – Grenada



10. The following table highlights the roles and responsibilities of the various elements of the implementation arrangements agreed with GOG.

Table A4.1: PIU roles and responsibilities

Element	Roles and Responsibilities
Project Steering Committee (PSC)	<p>Facilitate coordination between the different ministries and regional implementation mechanism and address policy issues impacting project implementation. Responsible for overall oversight of project implementation progress, including review of annual implementation plans and progress reports.</p> <p>PSC members include: Office of the Chief Information Officer ; Ministry of Infrastructure Development, Public Utilities, Energy, Transport and Implementation; Ministry of National Security, Public Administration, Home Affairs, and ICT; Department of Public Administration; Ministry of Finance, Planning, Economic Development and Physical Development; National Training Agency</p>
Project Implementation Unit (PIU)	<p>The PIU is housed in the Ministry of National Security, Public Administration, Home Affairs, and ICT for implementation of all digital transformation projects, and will leverage in-house capacity for key project implementation functions including: Procurement (Central Procurement Unit, Ministry of Finance); FM (Accountant General's Office, Ministry of Finance); E&S (Department of Infrastructure Development and Implementation); M&E (Department of Infrastructure Development and Implementation). Project funds may be used to augment the above capacity as needed.</p> <p>The PIU may procure technical advisory services to assist with procurement preparation and finalization activities for specific activities, such as establishment of the CERT/cybersecurity agency. These activities include development of terms of reference</p>



	<p>and technical specifications in coordination with relevant ministries and agencies, training of bid evaluation committee, and other related tasks.</p> <p>Additionally, the following positions will be staffed and financed by the project:</p> <p><i>Project Manager:</i> Responsible for day-to-day operations and coordination for project implementation; and</p> <p><i>Training and Technology Adoption Coordinator/Grants Manager:</i> Individual responsible for implementation and oversight of Component 3 activities, in collaboration with selected implementation partner. This role will include management and oversight of the technology adoption grants program (overall coordination, processing applications, M&E).</p>
--	--



ANNEX 5: National Level Program Details – St. Lucia

Background

- 1. The Government of St. Lucia (GOSL) is aiming to transform public services delivery utilizing digital technologies and platforms to improve the user experience for citizens accessing public services and to improve the efficiency of internal government operations.** GOSL is also seeking to mitigate the impact of climate change and natural disasters by putting in place resilient policies and systems that promote government business continuity in the event of natural or other disasters. Toward this end, the Government is in the process of implementing a large-scale public service modernization project (DigiGov), with phased implementation of 30 digitized public services over the next two years (by 2022). The DigiGov project builds on CARCIP and is intended to utilize the connectivity infrastructure developed across the island, as well as nodal infrastructure in the form of a centralized government datacenter.
- 2. Public sector modernization and the development of a domestic digital economy are priorities highlighted in the Medium-Term Economic Development Plan as well as the National Competitiveness Agenda.** The DigiGov project will develop the cross-cutting enablers of digital government including an enterprise architecture and interoperability framework, a digital identification platform (using the MPID numbering system), authentication infrastructure, and a government payment platform. The project builds on the cross-cutting enablers being developed to deliver 30 citizen-facing services including civil registry (birth, marriage, and death registration), drivers' license application, testing and renewal, as well as permits and authorizations for construction, among others.
- 3. Even with the DigiGov project, a number of gaps in government infrastructure, platforms, and capacity remain unaddressed.** These include cybersecurity, government cloud infrastructure/environment, a unified portal for citizens to access digital services and track transactions, continuity of operations procedures, and capacity building of public sector ICT staff in line with the enhanced mandate and workload. The CARDTP program is designed to fill these gaps and contribute to the expansion of the benefits of public sector modernization to citizens and businesses. Additionally, the domestic digital sector can benefit significantly from improvements in the digital enabling environment to improve access to connectivity and DFS, enhance cybersecurity, and develop data protection and privacy regimes that can support investments in data-driven business models and enhance trust and transparency.
- 4. The extensive investments in digital infrastructure and digital government create the opportunity to drive wider private sector digitization and to create opportunities for individuals in the digital economy.** This will require development of the professional digital skills and "soft" skills needed in the economy of the future and a push to overcome the low rates of adoption of digital technologies, business models, and platforms by traditional businesses. It will also require building the support infrastructure to help new digitally enabled business to get off the ground and grow.

Project Components

- 5. The CARDTP program's national level activities in St. Lucia fill key gaps identified in the implementation of the DigiGov program and aim to promote economy-wide digital transformation.** These include a combination of digital infrastructure enhancements, enabling environment improvements, support for digitization of the private sector, and greater adoption of digital services. Given the ongoing DigiGov project, the CARDTP program does not directly support the development of additional digital services. However, the project does provide support to close the loop on implementation of the DigiGov platform by financing a cloud-based citizens' portal to access services being developed on the platform. Furthermore, the project is seen as a key driver of private sector digitization and digital skills



development and will adopt a sector-focused view towards the process. Note that the subcomponent numbering aligns with the overall regional program framework (not all subcomponents will have a national level implementation).

Component 1: Digital Enabling Environment

Subcomponent 1.3: Cybersecurity, Data Protection and Privacy (US\$3.5 million)

6. **The project will support development of national level cybersecurity capability to monitor, identify, protect against, and respond to cyberthreats and support for requisite enabling environment and capacity improvements at the national level.** A CERT will be established using a regionally compatible design and frameworks developed as part of the regionally implemented activities under the subcomponent. Specific activities under this subcomponent include:

- (i) Financing for hardware and software necessary for CERT activities including threat monitoring, incident logging, automation of investigation, and sensors for collection of telemetry information;
- (ii) Support for CERT human capacity including support for hiring of CERT manager and analysts;
- (iii) Development of CERT operational procedures, work plan, roles and responsibilities matrix, financial sustainability plan (CapEx and OpEx), and localization of regionally developed trust and transparency frameworks;
- (iv) Support for implementation of regionally developed cybersecurity standards and protocols for critical public and private sector infrastructures, including development of standardized information sharing mechanisms; and
- (v) Support for development and implementation of a national level awareness campaign; training, and general awareness for civil servants; and professional training opportunities for ICT professionals and potential CERT cybersecurity analysts.

Component 2: Digital Government Infrastructure, Platforms, and Services

Subcomponent 2.1: Cross-Cutting Enablers of Digital Government Operations and Services (US\$6.80 million)

7. **Digital Government strategy, standards, business continuity and protocols (US\$1.30 million):** This activity supports early implementation of government digitization-related activities identified in the National ICT Strategy, currently under development by GOSL, such as the development of action plans, policies, digital platforms, and standardization measures/frameworks. The activity will also include support to develop a continuity of operations plan for the public sector.

8. **Digital infrastructure strengthening (US\$5.0 million):** This activity will fill infrastructure gaps in supporting the implementation of the DigiGov platform and future digital government services. The activity includes enhancements to nodal digital infrastructure and improving resilience of digital government and ability for civil servants to work remotely. Specific activities include:

- (i) Support to develop or expand/upgrade and improve the resilience of the government datacenter to host the DigiGov platform and associated data and services, and backup centralized Government data hosted by the Government Information Technology Services (GITS);
- (ii) Financing of last mile high-speed broadband connectivity and access devices (laptops) to enable remote working for civil servants; and



- (iii) Development of a government cloud environment and migration of public sector data to the primary government datacenter and integration with the DigiGov platform. Migration will support reductions in energy consumption compared with older, less efficient and siloed services and improve data security and backup/recovery in the event of disruption due to a natural disaster or another event.

9. **Capacity building of public sector IT professionals and civil servants (US\$0.5 million):** Financing for awareness raising and training program to support technical capacity development of GITS and Public Sector Modernization Unit ICT staff and others as relevant. The activity will leverage advanced professional training courses developed under Component 3.1 by financing access to those trainings for staff (with potential time-based employment bonds post completion).

Subcomponent 2.2: Government Productivity Platforms and Citizen-Centric Digital Services (US\$1.0 million)

10. **Bulk disbursements digitization (US\$1.0 million):** The activity will provide support to digitize recurring government bulk disbursement streams, including government to citizen, government to business, and vice versa. The activity will use cash-based social transfer programs as a pilot use case for the government payment platform, promoting digital financial services, and building familiarity with cashless payments and digital service delivery. This activity will include:

- (i) Feasibility study including technology/distribution choice (cards, wallets, hybrid models);
- (ii) Support with upgrading financial infrastructure (payment settlement), operational considerations, policy modifications, and monitoring and evaluation; and
- (iii) Implementation support, including subsidizing a pilot, financing payments and program management module, and monitoring and evaluation work.

Component 3: Digital Skills and Technology Adoption

Subcomponent 3.1: Workforce-Ready Digital Skills (US\$1.7 million)

11. **This subcomponent aims to support training for employment opportunities in digitally enabled professions and the civil service.** It will complement the regional level activities supporting more advanced and specialized digital skills development and remote working placements with global firms and clients. It will include a digital skills development and workforce readiness coaching program targeting development of skills identified to be in demand within digitally enabled professions in St. Lucia or in the Eastern Caribbean Region (as identified through the regional level activities under Component 3). Implementation will be through a local training institution, potentially in partnership with a firm or non-profit foundation, to administer the skills trainings, provide job coaching and “soft” skills support to participants, and develop partnerships with private sector industries interested in contributing to curriculum development, executing the trainings, and hiring of graduates. The program will include dedicated outreach and programming to attract and support women and at-risk youth to participate in the program and will be administered through a combination of in-person training and mentoring and online learning to enable more flexible participation by a wider range of interested individuals.



Subcomponent 3.2: Technology Adoption and Innovation (US\$5.0 million)

12. **This subcomponent seeks to increase adoption of digital technologies, platforms, and digitally enabled business models by small and medium enterprises (SMEs).** It aims to boost the productivity and competitiveness of traditional industries, initiate a cultural shift towards modernization and innovation in the private sector, and overcome the current lack of demand for digitally skilled professionals and IT services in the regional market. Specific activities will include:

- (i) A program to accelerate the adoption of digital technologies within priority sectors (tourism, agriculture, etc.) including managerial training, business advisory services, and provision of matching grants or other incentives to competitively selected SMEs to support digital technology and marketing investments;
- (ii) Support for an internship/apprenticeship program to facilitate job placements of participants of the digital skills programs (under Subcomponent 3.1) including provision of Internship Stipends for participants;
- (iii) Support for an innovation program and co-working space; and
- (iv) Support for purchase of digital devices and associated digital content and training to support access among vulnerable groups and remote learning by students.

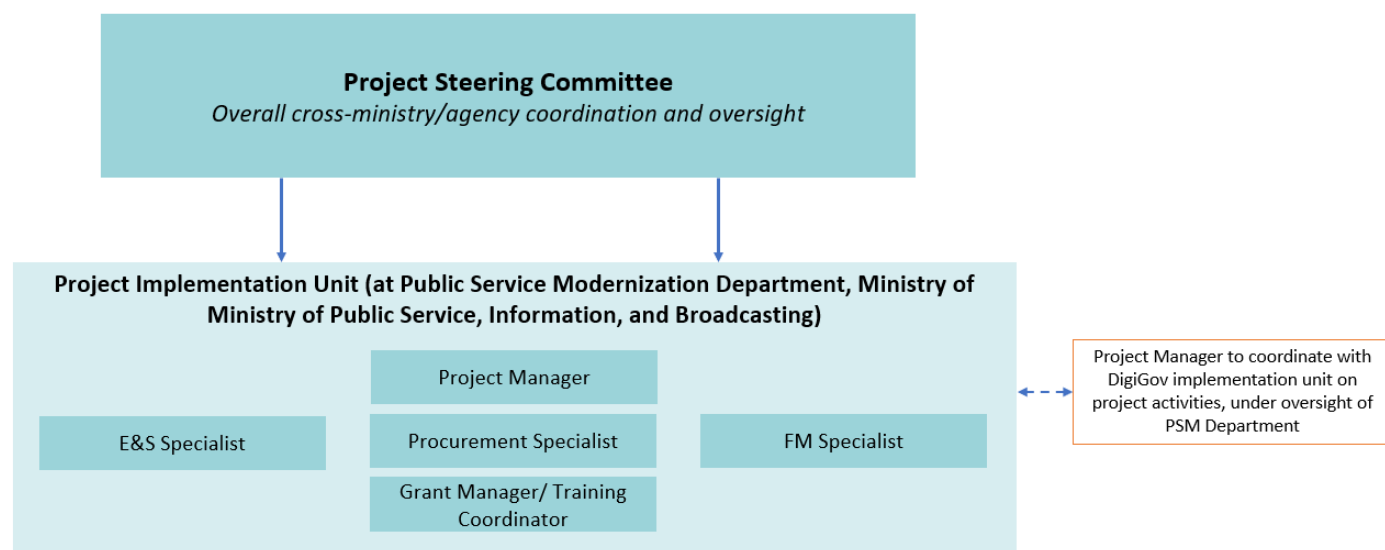
Component 4: Project Implementation Support (US\$2.0 million)

13. This component includes support to the PIU for the implementation and management of national level project activities, including for staffing of the PIU as well as capacity building and training initiatives. Key technical functions to be supported can include but will not be limited to project manager, technical specialists, procurement specialists, financial management specialist, environmental and social safeguards specialists, monitoring and evaluation, and communications.

National Level Implementation Arrangements

14. **The national level project implementation arrangements agreed in St. Lucia is based on lessons learned from prior project implementation experiences and those from the ongoing DigiGov project.** GOSL recognizes the technical complexity and specialized skillsets involved in implementing ICT and digitization projects as opposed to projects in tradition brick-and-mortar sectors. As a result, implementation of the DigiGov project is being led by the Public Sector Modernization Department (PSMD), with key implementation activities outsourced to a project management firm. For the CARDTP project, GOSL has proposed following a similar structure, with a separate PIU, housed in the Public Service Modernization Department (PSMD), Ministry of Finance, Economic Growth, Job Creation, External Affairs and the Public Service – see Figure A5.1. Project funds will be used to recruit a dedicated project manager and augment PIU capacity for procurement, E&S, and FM, as needed. While the PIU is strengthened, FM functions will be performed by the Project Coordination Unit (PCU) in the Ministry of Finance, and procurement functions will be performed by PSMD. The Director, Public Service Modernization, Ministry of Finance, Economic Growth, Job Creation, External Affairs and the Public Service, will undertake coordination responsibilities for project implementation, supported by the Director of the National Competitiveness and Productivity Council (NCPC), until a full-time project manager is recruited.

Figure A5.1: Implementation Arrangements – St. Lucia



15. The following table highlights the roles and responsibilities of the various elements of the implementation arrangements agreed with GOSL.

Table A5.1: PIU roles and responsibilities

Element	Roles and Responsibilities
Project Steering Committee (PSC)	<p>Facilitate coordination between the different ministries and regional implementation mechanism and address policy issues impacting project implementation. Responsible for overall oversight of project implementation progress, including review of annual implementation plans and progress reports.</p> <p>PSC members include: Public Sector Modernization Department, GITS, Ministry of Finance, Economic Growth, Job Creation, External Affairs and the Public Service; NCPC; Ministry of Economic Development, Housing, Urban Renewal, Transport and Civil Aviation.</p>
Project Implementation Unit (PIU)	<p>The PIU is housed in the Ministry of Finance, Economic Growth, Job Creation, External Affairs and the Public Service. The PIU will use project funds to recruit a dedicated project manager and augment capacity for procurement, FM, and E&S, given the scale and complexity of the project. The PIU may use project funds to procure technical advisory services to assist with procurement preparation and finalization for specific project activities, such as establishment of the CERT, and development of a government cloud environment. This will include development of terms of reference and technical specifications in coordination with relevant ministries and agencies, training of bid evaluation committee, contract management and other related tasks.</p>



	<p>Additionally, the PIU will include the following role, also staffed using project funds:</p> <p><i>Training and Technology Adoption Coordinator/Grants Manager:</i> Individual responsible for implementation and oversight of Component 3 activities in collaboration with selected implementation partner. This role will include management and oversight of the technology adoption grants program (overall coordination, processing applications, M&E).</p>
--	---



ANNEX 6: National Level Program Details – St. Vincent and the Grenadines (SVG)

Background

1. **The Government of St. Vincent and the Grenadines (GOSVG) has invested in building a high-speed fiber-optic based Government Wide Area Network through the World Bank-funded CARCIP Project.** The project is close to completion, with Government locations across the country connected to the infrastructure. However, gaps in terms of in-building connectivity remain and limit the ability of GOSVG to utilize the digital infrastructure developed as well as its ability to adopt digital services and tools within government and to deliver public services digitally. While Government connectivity needs will be largely met after filling Local Area Network gaps, access to and adoption of high-speed broadband connectivity among the general public and businesses remains a challenge. Additionally, with increased connectivity and potential to develop and adopt digital services, there is a need to boost capacity of the central Information Technology Services Division (ITSD) to be able to serve Government needs and skilling of the broader civil service to use the digital tools that will be available, enabling effective digital public service delivery.
2. **The Government has identified the development of citizen-facing digital government services as a key priority to improve the user experience for citizens accessing public services and to improve the efficiency of internal government operations.** Given SVG's geographic context as an archipelago, digitization of citizen-facing services can have a significant impact on the quality of life of citizens, particularly those living in the Grenadines, enabling citizens in remote locations to access services and information without time-consuming and costly physical journeys. GOSVG is also seeking to mitigate the impact of climate change and natural disasters by putting in place resilient policies and systems that promote government business continuity in the event of natural or other disasters. These priorities follow from the priorities identified in the National Economic and Social Development Plan 2013-2025.
3. **Improving digital public service delivery and modernizing government operations will require a number of cross-cutting enablers to be put in place – namely an enterprise architecture and interoperability framework, digital identification, authentication infrastructure, and a government payment platform.** As the Government's digital footprint expands, and citizens' use of internet increases, so will the vulnerability to cyberthreats. Cybersecurity is a shared concern in the region, and the need for necessary national and regional level capacity to mitigate against these threats is highlighted. The CARDTP program is designed to build the cross-cutting enablers of digital government, digitize specific priority services, fill existing infrastructure gaps, and contribute to the expansion of the benefits of public sector modernization to citizens and businesses. Note that the subcomponent numbering aligns with the overall regional program framework (not all subcomponents will have a national level implementation).

Project Components

Component 1: Digital Enabling Environment

Subcomponent 1.3: Cybersecurity, Data Protection and Privacy (US\$2.0 million)

4. **The project will support the development of national level cybersecurity capability to monitor, identify, protect against, and respond to cyberthreats and of the requisite enabling environment and capacity improvements at the national level.** The CERT will be established using a regionally compatible design and frameworks developed as part of the regionally implemented activities under the subcomponent. Specific activities under this subcomponent include:

- (i) Financing for hardware and software necessary for CERT activities including threat monitoring, incident



- logging, automation of investigation, and sensors for collection of telemetry information;
- (ii) Support for CERT human capacity including support for hiring of CERT manager and analysts;
- (iii) Development of CERT operational procedures, work plan, roles and responsibilities matrix, financial sustainability plan (CapEx and OpEx), and localization of regionally developed trust and transparency frameworks;
- (iv) Support for implementation of regionally developed cybersecurity standards and protocols for critical public and private sector infrastructures, including development of standardized information sharing mechanisms; and
- (v) Support for development and implementation of a national level awareness campaign; training and general awareness for civil servants; and professional training opportunities for ICT professionals and potential CERT cybersecurity analysts.

Component 2: Digital Government Infrastructure, Platforms, and Services

Subcomponent 2.1: Cross-Cutting Enablers of Digital Government Operations and Services (US\$5.75 million)

5. **Digital Government Strategy, standards, business continuity, and protocols (US\$0.5 million):** This activity supports the development of necessary strategy and frameworks to guide public sector digitization along the three dimensions of technology, processes, and people. This includes the development of targets for government digitization, a roadmap for its implementation, and standards and protocols to enable the automatic flow of information and data across government. This will also strengthen and streamline the enabling environment for public sector digitization and support coordination and the development of an integrated approach towards digital public service delivery. It will also support resilience and business continuity in the event of natural disasters. Specific tasks include the following:

- (i) Development of a digital government strategy and milestone-based roadmap for implementation, aligning with key policy documents such as the climate resilience action plan and economic development policies and strategies;
- (ii) Development of a government-wide Enterprise Architecture (EA) and interoperability framework to govern the public sector digitization process and enable the development of an integrated approach to public sector operations and service delivery;
- (iii) Development of a continuity of operations plan for the public sector; and
- (iv) Training of enterprise architects and ICT Unit staff on the EA and interoperability framework to facilitate implementation of digital government; Awareness raising among the public service, particularly mid-level and senior management, on the existing IT policies and newly developed standards and processes for development, maintenance, and upgrade of IT systems.

6. **Unique digital identifier and citizen authentication (US\$2.0 million):** The ability to digitally identify and authenticate individuals is key to delivering public services digitally, as it enables safe, secure, and legally verifiable access to public services. The activity will build on previous efforts around the development of a regionally-standardized identifier—the multi-purpose ID number (MPID)—by utilizing the same numbering system to facilitate regional interoperability. The use of the MPID number as the unique identification number (UIN) will enable the back-end integration of various identification registries in the country, and when combined with an authentication layer and payment platform, will facilitate digital public service delivery. Specific tasks include the following:



- (i) Legal and regulatory assessment and recommendations on necessary reforms to implement an integrated ID system and authentication platform;
- (ii) Assignment of the MPID numbering system based UIN to individuals on a foundational ID registry (civil registry, as currently agreed); and
- (iii) Development of a digital authentication layer to access digital government services and linked with currently accepted forms of ID.

7. **Digital infrastructure strengthening (US\$1.55 million):** This activity will fill infrastructure gaps in supporting the implementation of government digitization efforts. The activity includes enhancing data storage capability and improving resilience of digital government and ability of civil servants to work remotely. Specific activities include:

- (i) Support for development of a government datacenter or use of commercial cloud services to host government data and services, including migration from existing arrangements of fragmented storage at the level of individual ministries and agencies to the selected platform/infrastructure. All storage solutions (whether new infrastructure or services) will follow best practices for green energy, mitigation of climate-related risks (siting servers out of flood plains, etc.) and ensuring automated backup and disaster recovery of data; and
- (ii) Financing support to upgrade and install in-building connectivity solutions—wiring and Wi-Fi routers—for government locations connected to the Government Wide Area Network (CARCIP infrastructure).

8. **Government payment platform (US\$1.0 million):** The activity will support the deployment of an integrated electronic payment system to enable Government, citizens, and businesses to transact electronically in a seamless and secure way, facilitating end-to-end digital public service delivery. This will also ensure a continuity of funds flow in the event and aftermath of a natural disaster. Specific activities will include:

- (i) Support to develop a government payment platform to enable e-payment for government services, licenses, permits, etc., by individuals and businesses; and
- (ii) Technical assistance for negotiations with banks and other financial institutions to reduce fees charged for transactions in order to support uptake.

9. **E-Document management system (US\$0.5 million):** The activity will support the development and implementation of an e-document management system. Such a system will improve public sector productivity and reduce paper consumption in government operations. The activity will also include support to review and update policy, legislation, and regulation governing digital signatures and authentication to facilitate integration of the system with digital signatures infrastructure. Associated training and awareness raising programs for users of the system will also be financed by the activity.

10. **Capacity building of public sector IT professionals and civil servants (US\$0.2 million):** Financing for awareness raising and training program to support technical capacity development of ITSD and other ICT staff as relevant. Capacity building activities will be financed on the basis of the development and approval of an annual training program.

Subcomponent 2.2: Government Productivity Platforms and Citizen-Centric Digital Services (US\$17 million)

11. **End-to-end digitization, business process reengineering, and integration of priority services and systems (US\$2.5 million):** This activity will finance the digitization of specific citizen-facing services, development of a data exchange platform, and back-end integration of key systems, registries, databases, and platforms with each other. Such



an integrated data exchange platform and service bus can enable interlinkage of the cross-cutting enablers of digital government (identification, authentication, and payment platforms) as citizen-facing public services are digitized. Specific tasks include:

- (i) Back-end integration and clean-up of existing ID systems, registries, and databases using the tokenized MPID number based UIN assigned to individuals in the selected foundational ID registry (civil registry);
- (ii) Development of a government portal (web/mobile) for citizens to access digital government services;
- (iii) Business process reengineering and end-to-end digitization of citizen-facing services such as drivers' license, passport, business registration, motor vehicle registration, and other as identified;
- (iv) Development of an enterprise service bus/data exchange platform interlinking the various systems, databases, and services within Government (including those digitized above), and support for integration with the authentication layer and government payment portal;
- (v) Capacity building and training of ICT Unit staff on the use, maintenance, and enhancement of the data exchange platform developed; and
- (vi) Integration of newly digitized databases and services with the government web/mobile portal for secure access to citizens.

12. **Single window for land/property transactions (US\$3.5 million):** The activity will support the development of a one-stop-shop for land and property transactions. This includes:

- (i) Development and implementation of an Integrated Geospatial Infrastructure Framework (IGIF) and national action plan covering areas such as governance, institutions, policy, legal, financial, data, innovation, standards, partnership, capacity, education, communication, and engagement;
- (ii) Implementation and maintenance of a National Multipurpose Cadaster including cartography development and cadastral surveying;
- (iii) Recovery of paper deeds (when applicable), digitization, and indexation;
- (iv) Design and implementation of a parcel-based Land Information System with a standardized parcel-based data architecture (as recommended in the interoperability framework developed under Subcomponent 2.1) that enables interoperability of Cadaster and Land Registry information with other key datasets such as disaster risk management, building permits, and other planning information; and
- (v) Standardization and streamlining of the land transactions workflow and business processes, based on a citizen-centered, service-oriented approach ("One-stop shop") to reduce transaction time and costs of land transactions.

13. **Single window customs clearance (US\$2.0 million):** Financing for the extension of the Asycuda World platform and integration with necessary systems for permits and authorizations. The activity will also include support for training, business process reengineering, and ongoing technical support from the vendor.

14. **Tax system development (US\$9 million):** The activity will finance the implementation of a tax administration system following a modular approach (prioritizing modules/functions based on criticality). This includes:

- (i) Feasibility study to assess needs and technical requirements for the tax administration system and develop terms of references and bidding documents;
- (ii) Design and implementation of a tax administration system, following a modular approach; and



- (iii) Business process reengineering and associated training for civil servants and ITSD staff for operating and maintaining the system.

Component 3: Digital Skills and Technology Adoption

Subcomponent 3.1: Workforce-Ready Digital Skills (US\$1.0 million)

15. **This subcomponent aims to support training for employment opportunities in digitally enabled professions.** It will include a digital skills development and workforce readiness coaching program. The topics to be covered in the program will be identified through survey work to be conducted at the regional level at the project outset. They are likely to focus on areas necessary to accelerate the adoption of digital technologies in key sectors of SVG's economy such as relevant e-commerce platforms, tools for smart farming, and other sector-specific digital technologies. This subcomponent will be completed by a regional level digital skills development program and remote working placements with global firms and clients.

16. Implementation will be through a local training institution, potentially in partnership with a firm or non-profit foundation. The responsibility of this institution will include administering the trainings, providing job coaching and "soft" skills support to participants, developing partnerships with private sector industries, and facilitating the hiring of graduates. The program will include dedicated outreach and programming to attract and support the participation of women and youth at-risk. The program will be executed through a combination of in-person training and mentoring and online learning. This will enable more flexible participation by a wider range of interested individuals.

Subcomponent 3.2: Technology Adoption (US\$1.75 million)

17. **This sub-component seeks to increase adoption of digital technologies, platforms and digitally enabled business models by small and medium enterprises (SMEs).** It aims to boost the productivity and competitiveness of traditional industries, initiate a cultural shift towards modernization and innovation in the private sector, and overcome the current lack of demand for digitally skilled professionals and IT services in the regional market. Specific activities will include:

- (i) A program to accelerate the adoption of digital technologies within priority sectors (tourism, agriculture, education, etc.) including managerial training and business advisory services to selected SMEs to support digital technology and marketing investments; and
- (ii) Support for purchase of digital devices and associated digital content and training to support access among vulnerable groups and remote learning by students.

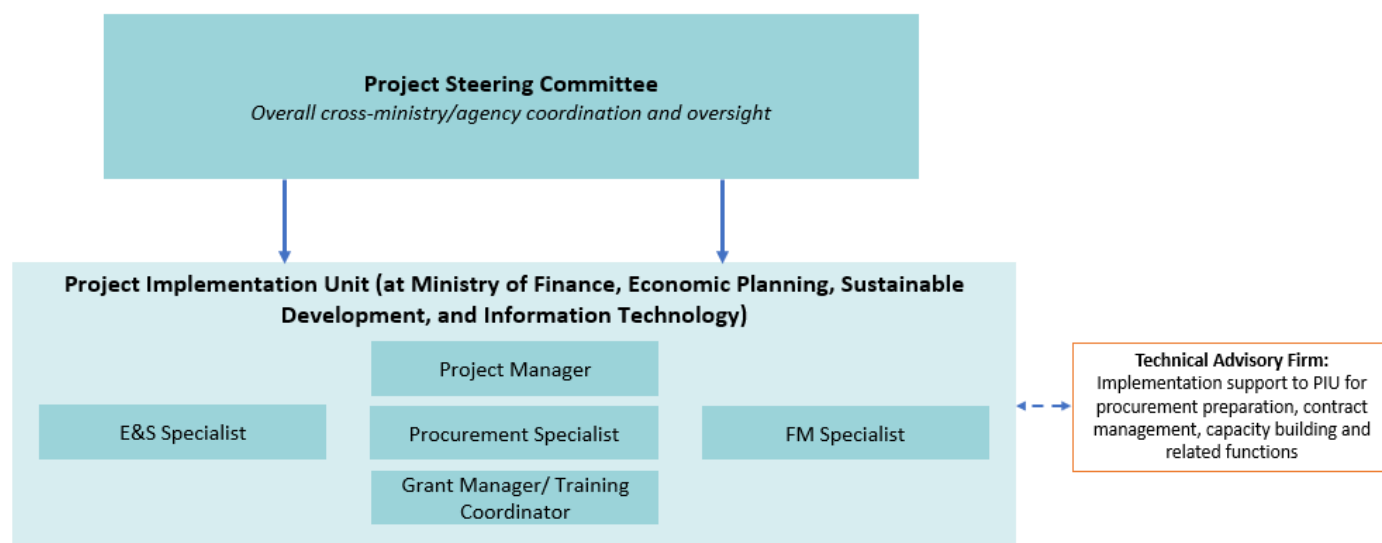
Component 4: Project Implementation Support (US\$2.5 million)

18. **This component includes support to the PIU for the implementation and management of national level project activities, including for staffing of the PIU as well as capacity building and training initiatives.** Key technical functions to be supported can include but will not be limited to project manager, technical specialists, procurement specialists, financial management specialist, environmental and social safeguards specialists, monitoring and evaluation, and communications.

National Level Implementation Arrangements

Recognizing the cross-cutting as well as technical nature of the activities being implemented, GOSVG has proposed a multi-layer implementation structure, with an independent PIU housed in the Ministry of Finance, Economic Planning, Sustainable Development, and Information Technology. The PIU will utilize existing procurement and financial management capacity within the Ministry prior to recruitment of additional dedicated specialists to augment PIU capacity. The Director, Economic Planning, Ministry of Finance, Economic Planning, Sustainable Development and Information Technology, will undertake coordination responsibilities for project implementation until a full-time project manager is recruited. An ICT technical core team from GOSVG will also work closely with the PIU so that knowledge of project outcomes is transferred to permanent technical staff, thus ensuring project sustainability. As seen in Figure A6.1 below, the project implementation arrangements account for cross-government coordination at strategic and working levels, as well as regional coordination through participation of the responsible line ministry in the regional project oversight committee. The implementation arrangements take into account lessons learned from prior project implementation experiences and includes full-time technical expertise at the PIU, in the form of a technical advisory firm, to support procurement preparation, contract management, and quality assurance for each activity being implemented, as well as capacity building of implementation staff.

Figure A6.1: Implementation arrangements – SVG





19. The following table highlights the roles and responsibilities of the various elements of the implementation arrangements agreed with GOSVG.

Table A6.1: PIU roles and responsibilities

Element	Roles and Responsibilities
Project Steering Committee (PSC)	<p>Facilitate coordination between the different ministries and regional implementation mechanism and address policy issues impacting project implementation. Responsible for overall oversight of project implementation progress, including review of annual implementation plans and progress reports.</p> <p>PSC members include: Ministry of Finance, Economic Planning, Sustainable Development, and Information Technology; Ministry of Legal Affairs; Ministry of Education, National Reconciliation, and Information; Ministry of Housing, Settlements, Land Surveys, and Physical Planning</p>
Project Implementation Unit (PIU)	<p>The PIU is housed in the Ministry of Finance, Economic Planning, Sustainable Development, and Information Technology. It will use project funds to recruit a dedicated project manager, and augment capacity for procurement, FM, and E&S, given the scale and complexity of the project.</p> <p>Additionally, the PIU will include the following role, also staffed using project funds:</p> <p><i>Training and Technology Adoption Coordinator/Grants Manager:</i> Individual responsible for implementation and oversight of Component 3 activities, in collaboration with selected implementation partner. This role will include management and oversight of the technology adoption grants program (overall coordination, processing applications, and M&E).</p>
Technical Advisory Firm	<p>Firm with responsibility for drafting of technical specifications and terms of reference for project activities being procured in coordination with relevant public and private sector stakeholders. The firm will also be responsible for training bid evaluation committee members for each activity, support contract negotiations, contract management, capacity building of implementation staff, and provide in-house advisory services pertaining to project implementation to GOSVG.</p>



ANNEX 7: Detailed Economic and Financial Analysis

1. **The economic and financial analysis presented follows a standard cost-benefit analysis (CBA) methodology.** The model relies on available secondary data and reasonable assumptions based on prior experience and anecdotal evidence from consultations and interviews conducted by the task team, to conduct a cash flow analysis and resulting financial analysis. The model also ran sensitivity assessments that quantified the benefits and costs attributable to the project against current baseline indicators. The following analysis presents the economic and financial returns of the project through identified impact pathways, based on available research on topic areas, which is followed by summaries of the financial analysis, project disbursements, and economic benefits.

2. **The project is expected to have a positive economic and financial impact, contributing to accelerated GDP growth, long term government cost savings and revenue increases, and increased citizen well-being.** The Net Present Value (NPV) of the project is estimated at US\$546 million and the project is expected to demonstrate an Internal Return Rate (IRR) of over 1000 percent over a ten-year period. The model finds that benefits will be derived starting from approximately halfway through project implementation, considering the sequencing of activities and their implementation cycles. These benefits will be derived from GDP gains driven by improved affordability and adoption of digital connectivity and services; efficiency, resilience, and financial benefits from digitization of public services and government operations, productivity and revenue/wage gains by equipping the private sector, and individuals with skills and opportunity pathways for the digital era.

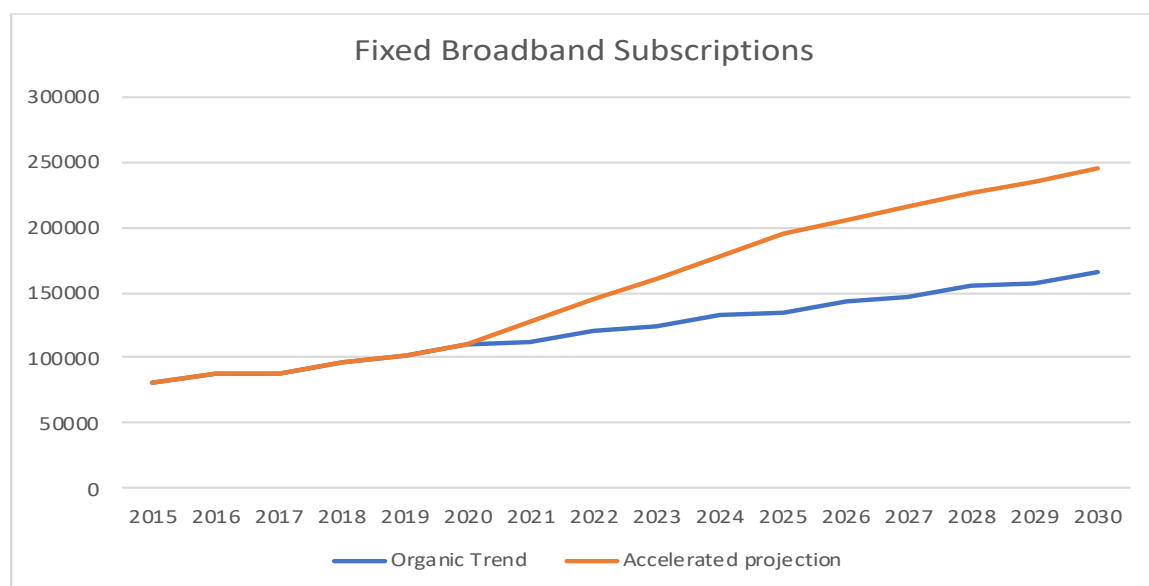
Impact Pathways

3. **Research suggests there is a positive GDP impact of increased internet penetration.**¹³ For every 10-percentage point increase in fixed broadband penetration in developing countries, a GDP increase of 1.3-1.5 percent is estimated. Legislative and regulatory reforms in the telecommunications sector financed by the project are expected to improve affordability of broadband services. Improved affordability is expected to contribute to an accelerated increase in fixed broadband penetration. At current growth trends, fixed broadband subscriptions are expected to increase from 19.1 subscriptions per 100 people in 2017 to 28.2 by 2025. With the accelerated growth curve expected as a result of project interventions, subscriptions are projected to reach 40.0 by 2025, with the overall higher trend growth persisting into future years.

¹³ World Development Report 2016: Digital Dividends, World Bank Group



Figure A7.1: Organic vs. Accelerated trend in fixed broadband penetration



4. **The model estimates GDP increase on account of improved fixed broadband penetration to range from US\$13 million in 2022 to US\$106 million in 2030.** An increase in mobile broadband uptake relative to the current trend is likewise expected to boost growth by an additional US\$2 million in 2022 to US\$24.8 million by 2030 with a 0.4 percent of GDP gain expected for every additional 10 percent increase in mobile broadband penetration above the baseline trend.

5. **The region's dependence on cash and checks, as well as fee-based retail banking business models offers an opportunity for significant savings and efficiency improvements for individuals, businesses, and governments by adopting digital financial services (DFS).** Project activities will support enabling environment improvements which are expected to increase investment, innovation, and competition in DFS. This will lead to more attractive and convenient services, lower transaction fees, and higher account adoption and transaction volumes. A McKinsey study on e-payments in India highlights the strategic benefits of DFS adoption, including better quality of services, greater use of services, reduced corruption, and accelerated pace of financial inclusion.¹⁴ Estimates for cost savings on account of reduced transaction costs range from US\$1.8 million in 2022 to US\$5.8 million in 2030 for individuals and businesses. Furthermore, the estimated consumer surplus per year is calculated at US\$0.59 million per year between 2023 to 2027.

6. **The public sector will also benefit greatly from the implementation of government electronic payment platforms which reduce transaction costs and leakages, improve productivity, and cut transaction time.** For example, it enables the delivery of cash-based social assistance programs digitally, leading to reduced leakages and transaction costs. The model references research carried out on the implementation of e-payment based social programs in Albania and India, duly adjusted for scale and regional context. Estimated cost savings for the governments are projected between US\$0.8 million in 2022 to US\$2.6 million in 2030. On the revenue side, efficiency gains in tax collection are estimated at US\$0.92million per year from 2023 to 2030.

¹⁴ McKinsey, 2010: Inclusive growth and financial security. The benefits of e-payments to Indian society.



7. **Digitization of public service delivery and government operations are expected to result in cost and time savings through gains in productivity and efficiency as well as reduction in leakages.** The World Bank's Systematic Regional Diagnostic (SRD) of the OECS highlights these benefits as well as its impact on continuity of operations of governments during emergencies through digitization. The model estimates the benefits of public sector digitization in terms of time saved and with a projected growth over time, ranging from US\$7.7 million in 2022 to US\$15.6 million by 2030.
8. **The project will also boost quality of life and citizen satisfaction by enabling digital public service delivery on account of increased ease of access, time saved, and convenience.** It will reduce the instances of manual entry errors, rework, and delays, and build confidence in public service delivery. Furthermore, digitization of government services and adoption of a digital payment platform and authentication platform linked to a unique ID number is also expected to result in improved revenue collection by increasing the volume and transparency of revenue generating services, reducing tax avoidance and reducing leakage from erroneous payments. These benefits are estimated to range from US\$1 million in 2022 to US\$2 million by 2030.
9. **The region's climate vulnerability has led to significant negative economic impacts in participating countries in recent years.** For example, damage from Hurricane Maria in Dominica in 2017 resulted in an estimated damage equivalent of as much as 200 percent of annual GDP. As highlighted in Box 2 of the Project Appraisal Document, project activities will contribute to building climate resilience of participating countries and their citizens, while also demonstrating mitigating effects through reduced greenhouse gas (GHG) emissions. Recent studies have shown that robust public sector systems, continuity of operations capabilities, and a policy and regulatory environment that promotes resilience results in significant savings by avoiding opportunity costs of climate events.¹⁵ A World Bank Group report¹⁶ also highlights the multi-faceted nature of resilience and notes the importance of "dynamic resilience," which is the ability of an economy to reconstruct and recover from climate shocks – continuity of operations being a major contributor to recovery. Improved resilience of digital infrastructure, ensuring continuity of critical communications networks, government operations, and public services, and improved response capabilities in the event of climate-related or other natural disasters through project activities are projected to represent opportunity cost savings ranging from US\$2.0 million per year from 2022 to US\$8.4 million by year 2026.¹⁷
10. **The digitization of public services and diffusion of DFS in the private sector will also have a positive impact on the climate by reducing GHG emissions from transportation.** Digitization and automation of key government services would reduce the number of physical trips citizens currently undertake to complete a transaction (currently estimated at 4 trips between offices per transaction). The model estimates a positive financial and climate impact on account of reduced trips and savings in fuel consumption at US\$0.44 million per year starting in 2023.
11. **The project will support the development of digital skills among individuals and adoption of technology and digital services among the domestic private sector in participant countries, and of a more positive environment for innovation and entrepreneurship communities to grow.** These activities are estimated to positively impact drivers such

¹⁵ Gaffney et al. 2019. Exponential Roadmap 1.5. Future Earth. Sweden. Future Earth.; Hallegatte, Stephane. 2014. Economic Resilience: Definition and Measurement. Policy Research Working Paper No. 6852. World Bank, Washington, DC. World Bank.; Hallegatte, Stephane; Rentschler, Jun; Rozenberg, Julie. 2019. Lifelines: The Resilient Infrastructure Opportunity. Sustainable Infrastructure; World Bank Washington, DC. World Bank.

¹⁶ Hallegatte, Stephane. 2014. Economic Resilience: Definition and Measurement. Policy Research Working Paper No. 6852. World Bank, Washington, DC. World Bank.

¹⁷ WBG's "Lifelines: The Resilience Infrastructure Opportunity" (June 2019) report highlights that for every US\$1 invested in resilience (of infrastructure, people, and systems), a return of US\$4 can be expected. The analysis considers 50% of the suggested returns as activities do not entail significant infrastructure investments.



as unemployment, diversification of the economy (and income of individuals), and gender balance in the workforce. The model estimated benefits as an increase in productivity and tax revenues amounting to an economic value of US\$1.57 million per year from 2022 to 2026. The economic value through employment creation (or higher individual earnings through remote work or other opportunities) during implementation of the program is estimated at US\$3.39 million per year.

Summary Tables

Table A7.1: Financial analysis summary

		Base case										
US\$ Millions		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expected Disbursements - Program Investment												
Annual	\$	-	\$ 4.47	\$ 10.40	\$ 16.42	\$ 21.57	\$ 22.20	\$ 18.89				
Projected Benefits												
Component 1: Ecosystem and Broadband Afordability												
<i>Acceleration in Broadband penetration</i>												
Increase in GDP (accelerated fixed broadband penetration)	\$	-	\$ -	\$ 13.15	\$ 30.91	\$ 48.67	\$ 65.74	\$ 73.80	\$ 81.86	\$ 89.92	\$ 97.98	\$ 106.04
Increase in GDP (accelerated Mobile BB)	\$	-	\$ -	\$ 1.99	\$ 4.01	\$ 6.02	\$ 8.04	\$ 9.39	\$ 10.45	\$ 11.51	\$ 12.56	\$ 14.80
<i>Resilience Benefit</i>												
Increase in GDP	\$	-	\$ 2.00	\$ 4.65	\$ 7.34	\$ 9.64	\$ 9.92	\$ 8.44	\$ -	\$ -	\$ -	\$ -
Used Mid-range scenario at \$4. per dolar invested												
<i>Payment Platform Benefits</i>												
Access to eMoney	\$	-	\$ -	\$ 2.14	\$ 2.37	\$ 2.73	\$ 3.27	\$ 3.91	\$ 4.03	\$ 4.55	\$ 5.10	\$ 5.75
Government	\$	-	\$ -	\$ 1.27	\$ 1.73	\$ 1.89	\$ 2.13	\$ 2.42	\$ 2.74	\$ 2.98	\$ 3.23	\$ 3.52
Component 2: Digital Government Infrastructure, Platforms and Services												
<i>Cost Savings</i>												
Cost savings	\$	-	\$ -	\$ 0.16	\$ 0.16	\$ 0.16	\$ 0.16	\$ 0.16	\$ 0.16	\$ 0.16	\$ 0.16	\$ 0.16
Productivity	\$	-	\$ -	\$ 7.53	\$ 15.07	\$ 15.07	\$ 15.31	\$ 15.31	\$ 15.31	\$ 15.31	\$ 15.31	\$ 15.44
<i>Climate - Fuel savings</i>	\$	-	\$ -	\$ 0.22	\$ 0.44	\$ 0.44	\$ 0.44	\$ 0.44	\$ 0.44	\$ 0.44	\$ 0.44	\$ 0.44
<i>Efficiencies</i>	\$	-	\$ -	\$ 1.01	\$ 2.03	\$ 2.03	\$ 2.03	\$ 2.03	\$ 2.03	\$ 2.03	\$ 2.03	\$ 2.03
Component 3: Digital Skills, Technology Adoption and Entrepreneurship												
<i>Job Creation</i>	\$	-	\$ -	\$ 1.70	\$ 3.39	\$ 3.39	\$ 3.39	\$ 3.39	\$ -	\$ -	\$ -	\$ -
<i>Market Productivity</i>	\$	-	\$ -	\$ 0.79	\$ 1.57	\$ 1.57	\$ 1.57	\$ 1.57	\$ 0.00	\$ 0.01	\$ 0.01	\$ 0.01
TOTAL BENEFIT VALUE	\$	-	\$ 2.00	\$ 34.61	\$ 69.03	\$ 91.62	\$ 112.01	\$ 120.87	\$ 117.03	\$ 126.91	\$ 136.82	\$ 148.20
Net Cash flow	\$	-	\$ (2.47)	\$ 24.20	\$ 52.61	\$ 70.06	\$ 89.81	\$ 101.98	\$ 117.03	\$ 126.91	\$ 136.82	\$ 148.20
NPV	\$	546.3										
IRR		1082%										



Table A7.2: Summary of economic benefits in present value

	PROGRAM BENEFITS (NPV US\$M)							
	GDP	Resilience	Productivity	Consumer Surplus	Climate	Cost Savings	Taxes	Employment
Component 1 - Digital Enabling Environment								
1.1 - Telecommunications: Legal and Regulatory Environment, Institutions and Capacity	\$431.90							
1.2 - Digital Financial Services (DFS): Legal and Regulatory Environment, Institutions and Capacity				\$2.22		\$32.16	\$5.85	
1.3 - Cybersecurity, Data Protection and Privacy: Legal and Regulatory Environment, Institutions and Capacity		\$25.16						
Component 2 - Digital Government Infrastructure, Platforms and Services								
2.1 - Cross-Cutting Enablers of Digital Government Operations and Services					\$2.51		\$11.43	
2.2 - Government Productivity Platforms and Citizen-Centric Digital Services			\$85.83			\$1.00		
Component 3 - Digital Skills, Technology Adoption and Entrepreneurship								
3.1 - Digital Skills-to-Jobs Pipeline								\$11.30
3.2 - Technology Adoption and Digital Entrepreneurship			\$5.25				\$5.22	
Component 4 - Project Implementation Support								
4.1 - Project Implementation Support	\$431.90	\$25.16	\$91.07	\$2.22	\$2.51	\$33.16	\$22.51	\$11.30
Total	\$619.83							



Table A7.3: Summary of benefits from project activities and metrics used

Overall benefit	Long Term Benefits (*)	Short Term Benefits	Cost savings	Comments	Metric to use/track
Component 1 - Regulatory and broadband affordability					
Broadband Affordability					
# of Broadband users	Projected benefits on increased #s	Slight Increase in penetration to digital economy		Penetration acceleration	# of Broadband users
Digital connectivity	Increase	Increase		Driven by increase in broadband use	# of Broadband users x Value of broadband transactions
Digital Ecosystem					
Revised policies (Telecom & Finance)	Transactions increase			Incremental revenue derived from transactions	# of digital payment transactions & Telecom Data users
New Policies Cybersecurity	Transactions increase			Digital "sanitation" that would boost confidence promoting citizen and foreigner investment	
Data Protection	Transactions increase				
Component 2 - Platform & Government services					
Standards and Protocols - enterprise architecture					
Revised and efficient processes & systems developments	Citizens' satisfaction		Long term savings	Government savings on speed of delivery, work hours, mistakes.	
Digital Identification & Authentication					
	Citizens' satisfaction		Long term savings	Citizen's satisfaction to easier processes and protocol to interact.	# International Tourism, number of arrivals
	Immigration & indirect tourism boost			Secure Digital processes not only to citizens but also visiting tourism boost frame of reference and increases revenue	
Payment platform	Transactions increase			Easier payment methods increases speed to process and collect funds.	# Digital payment transactions, digital income as % of GDP
Component 3 - Skills & Entrepreneurship					
Training					
e-Learning	Increase of job force capability - job creation opportunities	Increase of job force capability - job creation opportunities		Work force capacitation reduces emigration (reduces diaspora) while provides new sources of income	Adult population increase, employment rate, sources of income.
Face to face training				Programs are expected to direct focus and efforts to female population and generate gender empowerment to balance male-female ratio	# females in the workforce, ratio male/female in the workforce.
Balance male-female preparation	Empower female workforce				
Entrepreneurship					
	Create new business opportunities			Citizen's satisfaction to easier processes and protocol to interact.	# new businesses, # Female-driven businesses, traditional businesses growth
	Boost small businesses' growth including digital transactions			Secure Digital processes not only to citizens but also visiting tourism boost frame of reference and increases revenue	# of businesses within digital market



Sources used for Economic and Financial Analysis

A Government Blueprint to Adapt the Ecosystem to the Automation and the Future of Work. Marco Dondi. McKinsey & Company. Public Sector. February 2020, Report.

Broadband and Beyond in Latin America and the Caribbean. Broadband policies for Latin America and the Caribbean. A Digital Economy Toolkit. OECD, IDB 2016.

Costs and Benefits of Education and Training for the Economy, Business and Individuals. Tabatha Griffin. National Center for Vocational Education Research. Australian Government. Department of Education and Training, 2016.

Economic Impact of Online Payments. Breaking barriers across Europe. Deloitte. May 2013.

Economic Resilience. Definition and Measurement. Stephane Hallegatte. Policy Research Working Paper. The World Bank. May 2014.

E-Payments: Benefits to Indian Society. McKinsey 2010.

Exploring the Relationship between Broadband and Economic Growth. Michael Minges ictData.org, World Development Report, 2016.

Exponential Roadmap 1.5. Gaffney et al. Future Earth. Sweden. September 2019.

How a 1% DBT Commission Could Undermine India's Financial Inclusion Efforts. Pawan Bakhshi, Manoj Sharma and Graham A.N. Wright. Policy Brief #12. MicroSave. Market-Led Solutions for Financial Services. May 2015.

Impact of Broadband on the Economy. Broadband Series. ITU, 2012.

Internet for All: A Framework for Accelerating Internet Access and Adoption. White Paper prepared in Collaboration with Boston Consulting Group. World Economic Forum. April 2016.

Job Lost, Jobs Gained: What the Future of Work Will Mean for Jobs, Skills and Wages. James Manyika, Susan Lund, Michael Chui, et al. McKinsey Global Institute. November 2017, Report.

Lifelines: Resilient Infrastructure Opportunity. Sustainable Infrastructure Series. Stephane Hallegatte, Jun Rentschler and Julie Rozenberg. World Bank Group. 2019.

The Retail Payment Costs and Savings in Albania. World Bank Group. June 2018.

Unleashing the Internet in the Caribbean - Stimulating Better Access in the Region. CDS, ICTPulse. 2017.

World Development Report 2016: Digital Dividends. World Bank Group, 2017.



ANNEX 8: Building Resilience to Climate and Health Events in the Eastern Caribbean Region through Digitalization

1. Digitization of the Eastern Caribbean economy and government operations presents an opportunity to significantly strengthen the region's resilience and ability to adapt to climate change and recover more quickly from climate-related natural disasters and shocks such as the ongoing COVID-19 pandemic. It can also help the region contribute toward mitigation of GHG emissions.¹⁸ The project activities directly invest in the resilience of the economies and their citizens, and will support these objectives as follows:

Climate Adaptation and COVID-19 Response

Long term resilience:

- (i) The project will support economic diversification and transition toward a knowledge-based economy, less dependent on the island's natural resources, tourism, and in-person transactions for economic growth and employment through support for technology adoption by businesses and empowering individuals with digital skills;
- (ii) Infrastructure investments will incorporate resilience by design and telecoms regulations to be developed will set higher standards for resilience (for example, datacenters to be placed above potential floodplains, meet green energy standards, and be configured for offsite backup of data; communications networks to be designed with redundancy to allow traffic to be instantly rerouted in the event of a cable cut due to wind storm or landslide; a cloud architecture will be adopted to ensure that communications platforms and information systems can be accessed remotely from anywhere in the event that physical office locations are inaccessible);
- (iii) Access to innovative, low cost digital financial services (transaction accounts, savings, credit, insurance, remittances) will support vulnerable households, SMEs, and farmers to invest, smooth consumption over time, and mitigate the impact from climate and other shocks to their livelihoods. It will also support efficient transmission of social cash transfer funds to vulnerable households throughout the sub-region.

Disaster response, business continuity, and recovery:

- (i) The project will support the transition toward a paperless government capable of maintaining operations remotely, administering public services, and empowered with data analytics in the event of a natural disaster or a situation similar to the ongoing COVID-19 pandemic:
 - (a) A unique digital identification number will allow individuals to identify and authenticate themselves to access services if physical documents are lost or physical mobility is restricted;
 - (b) Emergency social protection payments can be made instantaneously to impacted individuals through e-wallets linked to the unique ID number;
 - (c) An integrated geospatial data platform linked with land records can inform both advanced planning and impact modeling for climate or health events, while also enabling decision making and rapid assistance targeting impacted households (for example, government can identify the impacted households or agricultural plots, know who they belong to, and make compensatory payments digitally);
 - (d) Services such as education and healthcare can be administered directly or supplemented through digital platforms in the event that physical travel is not possible, infrastructure is damaged, or

¹⁸ <https://www.weforum.org/agenda/2019/01/why-digitalization-is-the-key-to-exponential-climate-action/>



facilities are overwhelmed;

- (e) Important data will be backed up in the cloud, mitigating risk of loss of paper records and ensuring their access anywhere; and
- (f) Civil servants will be empowered to work remotely in the event of disruption of access to physical facilities, or outside of normal business hours in an emergency.

Climate Mitigation

2. Improved access to and quality of digital connectivity and services supported by the project (Component 1) will contribute to reduction in GHG emissions by enterprises and their employees by enabling e-meetings and access to core business services online and reducing the need for local and off-island travel. The Exponential Roadmap Report¹⁹ notes the potential for reduction in business flights by 50 percent or more using digital technologies, and a 50-60 percent annual reduction in commuting emissions through remote working and co-working arrangements. Likewise, the digitization of government operations and new digital public service offerings and increasing the uptake of digital payments will reduce the number of physical trips incurred to access those services and carry out transactions. This aligns with the “Avoid-Shift-Improve” approach to reducing the environmental impact of transport, with citizens “avoiding” unnecessary journeys to avail basic services. It also supports the countries’ Intended Nationally Determined Contributions (INDC) to the UN Framework Convention on Climate Change around emissions reduction from transportation. The study referenced above highlights a 3-gigaton reduction in carbon dioxide emissions if 5 percent of annual trips made by car move to foot or are avoided globally.

¹⁹ Gaffney, et al, Exponential Roadmap 1.5. Future Earth. Sweden. (September 2019). Accessed from: https://exponentialroadmap.org/wp-content/uploads/2019/09/ExponentialRoadmap_1.5_20190919_Single-Pages.pdf