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Report No: PAD00141

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US\$61.216 MILLION

TO THE

STATE OF ESPÍRITO SANTO

WITH A GUARANTEE FROM THE FEDERATIVE REPUBLIC OF BRAZIL

FOR AN

ESPÍRITO SANTO DIGITAL ACCELERATION PROJECT

APRIL 25, 2024

Digital Development Global Practice
Latin America And Caribbean Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective April 18, 2024)

Currency Unit = Brazilian real (BRL)

5.243 BRL = US\$1

0.191 US\$ = BRL 1

FISCAL YEAR

January 1 - December 31

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ABBREVIATIONS AND ACRONYMS

ALESP	Legislative Assembly of Espírito Santo (<i>Assembléia Legislativa do Estado do Espírito Santo</i>)
AM	Accountability Mechanism
APIs	Application Programming Interfaces
CDP	Carbon Disclosure Project
CIDES	Integrated Center for Social Defense (<i>Centro Integrado de Defesa Social</i>)
CIODES	Integrated Operational Center for Social Defense (<i>Centro Integrado Operacional de Defesa Social</i>)
CPF	Country Partnership Framework
DA	Designated Account
DD	Digital Development
DFIL	Disbursement and Financial Information Letter
DPI	Digital Public Infrastructure
E&S	Environmental and Social
EDGE	Excellence in Design and for Greater Efficiencies
ESA	Environmental and Social Assessment
ESCP	Environmental and Social Commitment Plan
ESF	Environment and Social Framework
ESInet	Emergency Services Network
ESRS	Environmental and Social Risk Summary
ESS	Environmental and Social Standards
ESTS	Environmental and Social Technical Specifications
FIFA	<i>Fédération Internationale de Football Association</i>
FM	Financial Management
FMA	Financial Management Assessment
FMIS	Financial Management Information System
GBV	Gender-Based Violence
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIIP	Good International Industry Practices
GoES	Government of Espírito Santo
GPM	Management Office for the Protection of Women (<i>Gerência de Proteção à Mulher</i>)
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
IA-CM	Internal Audit Capability Model
ICR	Implementation Completion and Results Report
ICT	Information and Communication Technologies
IERP	Integrated Emergency Response Platform
IFR	Interim Financial Report
IP	Internet Protocol
IPF	Investment Project Financing
IPSAS	International Public-Sector Accounting Standards
IRR	Internal Rate of Return
IT	Information Technology

LDO	Budget Guidelines Law (<i>Lei de Diretrizes Orçamentárias</i>)
LGPD	Personal Data Protection Law (<i>Lei Geral de Proteção de Dados Pessoais</i>)
LOE	Annual Budget Law (<i>Lei Orçamentária Anual</i>)
MIC	Middle-Income Country
MiniCom	Ministry of Communications (<i>Ministério das Comunicações</i>)
NAP	National Adaptation Plan
NBCASP	Brazilian Accounting Standards Applicable to the Public Sector (<i>Normas Brasileiras de Contabilidade Aplicadas ao Setor Público</i>)
NDC	Nationally Determined Contribution
NGEN	Next Generation Emergency Numbers
NIST	National Institute of Standards and Technology
OECD	Organization for Economic Cooperation and Development
PDO	Project Development Objective
PFM	Public Financial Management
PIPCP	Implementation Plan for Asset Accounting Procedures (<i>Plano de Implantação dos Procedimentos Contábeis Patrimoniais</i>)
PIU	Project Implementation Unit
PLOA	Provided for in the Annual Budget Law (<i>Previsto na Lei Orçamentária Anual</i>)
POM	Project Operational Manual
PMU	Project Management Unit
PPA	Multi-Year Plan (<i>Plano Pluri-Anual</i>)
PPSD	Project Procurement Strategy for Development
PRODEST	Institute of Information and Communication Technology of the State of Espírito Santo (<i>Instituto de Tecnologia da Informação e Comunicação do Espírito Santo</i> , originally State Company for Data Processing or <i>Empresa Estatal de Processamento de Dados</i>)
PSAP	Public Service Answering Point
PUE	Power Usage Effectiveness
SAFF	Physical Financial Monitoring System (<i>Sistema de Acompanhamento Físico Financeiro</i>)
SBC	Special Bidding Commission
SC	Steering Committee
SEA	Sexual Exploitation and Abuse
SECONT	Secretariat of Control and Transparency (<i>Secretaria de Controle e Transparência</i>)
SECTI	Secretariat of Science, Technology, Innovation and Professional Education (<i>Secretaria da Ciência, Tecnologia, Inovação e Educação Profissional</i>)
SEFAZ	Treasury Secretariat (<i>Secretaria da Fazenda</i>)
SEG	Secretary of State for Government (<i>Secretaria de Estado do Governo</i>)
SEP	Secretariat of Economy and Planning (<i>Secretaria de Economia e Planejamento</i>)
SESP	Secretariat for Public Security and Social Defense (<i>Secretaria da Segurança Pública e Defesa Social</i>)
SH	Sexual Harassment
SIGEFES	Integrated Financial Management System of the State of Espírito Santo (<i>Sistema Integrado de Gestão de Finanças do Espírito Santo</i>)
SOE	Statement of Expenditures
STEM	Science, Technology, Engineering, and Math
STEP	Systematic Tracking of Exchanges in Procurement
STN	National Treasury Secretariat (<i>Secretaria do Tesouro Nacional</i>)
SUBCAP/SEP	Subsecretariat for Fundraising, Secretariat of Economy and Planning (<i>Subsecretaria de Captação de Recursos, Secretaria de Economia e Planejamento</i>)

TOR	Terms of Reference
UECI	Internal Control Execution Unit (<i>Unidade Executora de Controle Interno</i>)
UNESCO	United Nations Educational, Scientific and Cultural Organization
WBG	World Bank Group



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DATASHEET

BASIC INFORMATION

Project Beneficiary(ies) Brazil	Operation Name Espírito Santo Digital Acceleration Project		
Operation ID P180462	Financing Instrument Investment Project Financing (IPF)	Environmental and Social Risk Classification 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 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"/> Alternative Procurement Arrangements (APA)	<input type="checkbox"/> Hands-on Expanded Implementation Support (HEIS)

Expected Approval Date 17-May-2024	Expected Closing Date 30-Jun-2029
Bank/IFC Collaboration Yes	Joint Level Complementary or Interdependent project requiring active coordination

Proposed Development Objective(s)

To strengthen digital infrastructure resilience, to modernize emergency management, and to improve digital public infrastructure in the State of Espírito Santo.

**Components**

Component Name	Cost (US\$)
Component 1: Resilient Data Infrastructure and digital skills	19,167,000.00
Component 2: Strengthening of Digital Public Infrastructure	15,200,000.00
Component 3: Modernize the Emergency Management System	39,000,000.00
Component 4: Project Management	3,000,000.00

Organizations

Borrower: State of Espírito Santo
 Implementing Agency: Secretaria de Estado da Ciência, Tecnologia, Inovação, Educação Profissional,

PROJECT FINANCING DATA (US\$, Millions)**Maximizing Finance for Development**

Is this an MFD-Enabling Project (MFD-EP)? No

Is this project Private Capital Enabling (PCE)? No

SUMMARY

Total Operation Cost	76.52
Total Financing	76.52
of which IBRD/IDA	61.22
Financing Gap	0.00

DETAILS**World Bank Group Financing**

International Bank for Reconstruction and Development (IBRD)	61.22
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Non-World Bank Group Financing

Counterpart Funding	15.30
Borrower/Recipient	15.30



Expected Disbursements (US\$, Millions)

WB Fiscal Year	2024	2025	2026	2027	2028	2029	2030
Annual	0.00	6.12	12.24	18.36	15.30	7.65	1.53
Cumulative	0.00	6.12	18.36	36.73	52.03	59.69	61.22

PRACTICE AREA(S)

Practice Area (Lead)

Digital Development

Contributing Practice Areas

CLIMATE

Climate Change and Disaster Screening

Yes, it has been screened and the results are discussed in the Operation Document

SYSTEMATIC OPERATIONS RISK- RATING TOOL (SORT)

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



POLICY 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

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

E & S Standards	Relevance
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	Relevant
ESS 10: Stakeholder Engagement and Information Disclosure	Relevant
ESS 2: Labor and Working Conditions	Relevant
ESS 3: Resource Efficiency and Pollution Prevention and Management	Relevant
ESS 4: Community Health and Safety	Relevant
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Not Currently Relevant
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Not Currently Relevant
ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Relevant
ESS 8: Cultural Heritage	Relevant
ESS 9: 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

Legal Covenants

Sections and Description

Schedule 2 Section I.A.1.a Establish and thereafter operate and maintain, throughout Project implementation, a PMU within SECTI with functions, resources and composition acceptable to the Bank, as further detailed in the Project



Operations Manual and the ESCP, which shall be responsible for overall Project coordination, implementation, reporting and supervision, including with respect to procurement and contract management, monitoring and evaluation, financial management (accounting and disbursement procedures), environmental and social management, and stakeholder engagement.

Schedule 2 Section I.A.1.b Not later than sixty (60) days after the Effective Date, complete, in a manner acceptable to the Bank, the staffing of the PMU (including the hiring of consultants) as set out in the Project Operations Manual and the ESCP.

Schedule 2 Section I.A.2.a Establish, or cause to be established (as applicable), and thereafter operate and maintain, or cause to be operated and maintained (as applicable), throughout Project implementation, PIUs within PRODEST, SEG and SESP, with functions, resources and (subject to paragraph (b) below) composition acceptable to the Bank, as further detailed in the Project Operations Manual, to implement their respective parts of the Project as set out in Article III of this Agreement

Schedule 2 Section I.A.2.b Not later than ninety (90) days after the Effective Date, complete, in a manner acceptable to the Bank, the staffing of the PIUs (including consultants) as set out in the Project Operations Manual.

Schedule 2 Section I.A.3 Not later than ninety (90) days after the Effective Date, the Borrower shall establish, and thereafter operate and maintain, throughout Project implementation, the Steering Committee with functions, resources and composition acceptable to the Bank, as further detailed in the Project Operations Manual, which shall be responsible for Project oversight, strategic guidance, coordination and monitoring of progress.

ESCP ESS 1.3 Disclose and adopt the final ESA no later than 60 days after the Effective Date. Thereafter implement the measures established in the ESA throughout Project implementation.

ESCP ESS 2.1 Submit the LMP for the Bank’s prior review and no objection, adopt and disclose the LMP no later than 60 days after the Effective Date and subsequently implement it throughout the project.

ESCP ESS 10.1 Submit the final SEP for the Bank’s prior review and no objection, adopt, and disclose the SEP no later than 60 days of the Effective Date, and thereafter implement the SEP throughout Project implementation.

ESCP ESS 10.2 Establish the grievance mechanism no later than 60 days after the Effective Date, and subsequently maintain and operate the mechanism throughout Project implementation.

Conditions

Type	Citation	Description	Financing Source
Effectiveness	Article 5.01	The PMU has been established and its Key Staff hired or designated, all in a manner acceptable to the Bank;	IBRD/IDA
Effectiveness	Article 5.01	The PIUs have been established and their Key Staff hired or designated, all in a manner acceptable to the Bank;	IBRD/IDA
Effectiveness	Article 5.01	The Cooperation Agreement has been entered into in form and	IBRD/IDA



		substance acceptable to the Bank, and all conditions precedent to its effectiveness (if any) have been verified	
Effectiveness	Article 5.01	The Project Operations Manual has been prepared, approved and adopted in form and substance acceptable to the Bank.	IBRD/IDA



I. STRATEGIC CONTEXT

A. Country Context

Brazil Context

1. **Brazil's economic activity continued to recover after negative Gross Domestic Product (GDP) growth in 2014-2019 and the drastic impact of COVID-19.** GDP growth slowed to 2.9 percent in 2023, after having achieved the rates of 4.8 percent in 2021 and 3.0 percent in 2022, on the back of robust private consumption, still supported by a strong labor market, fiscal stimulus to social transfers, and by a favorable external environment benefiting exports, especially for the agriculture sector. With economic activity slowing since the second half of 2023 and 2023's unusually high agricultural output not being matched in 2024, GDP growth is expected to moderate to 1.7 percent in 2024. Medium-term growth projections remain at around two percent per year based on the expected levels of total factor productivity growth.

2. **In 2023, the poverty rate (US\$6.85 per day) fell to 21.3 percent, linked to improvements in economic conditions and social protection policies.** Unemployment decreased to 7.4 percent, the lowest since 2014. The Bolsa Família Program helped reduce poverty: its coverage expanded by two million families, reaching 21.3 million, with the average monthly transfer increasing from R\$394.48 to R\$670.36. Finally, the real minimum wage increased by 2.8 percent, boosting the incomes of about 24.5 percent of the households in the bottom 40 percent, with at least one formal worker.

3. **Brazil has one of the highest climate risk index scores among 182 countries, making it highly vulnerable to natural disasters and extreme weather events.** Although deforestation decreased by 22.7 percent in the Amazon region, climate change risks are still pressured by the high levels of land use emissions in the Amazon and Cerrado ecosystems. Brazil's greenhouse gas (GHG) emissions are driven by land use change (41 percent) and agriculture (31 percent). Climate change is altering temperature and rainfall patterns in the country, resulting in reduced water availability and extended droughts; it could push another 800,000 to 3 million Brazilians into extreme poverty as soon as 2030.

State Context

4. **Espírito Santo has suffered the negative economic effects of the COVID-19 pandemic but has recovered at a fast pace in the last two years.** In 2021, its GDP ranked 14th highest among the 27 states¹. Espírito Santo's GDP was heavily affected by the COVID-19 pandemic, experiencing a 4.4 percent decrease at the end of 2020, as its main contributions to its GDP are drawn from services (54 percent). The state's GDP recovered quickly, with a 7 percent yearly GDP growth at the end of 2021 according to estimates, compared to the 5 percent national-level GDP growth. The extractive industries segment of the state's economy has grown more than 200 percent since 2002, in real terms, generating a massive increase in royalty revenues for the state during the same period.

5. **In comparison to other Brazilian states, Espírito Santo has maintained a healthy fiscal position during and after the COVID-19 outbreak, maintaining sound fiscal management and high payment capacity.** In 2021, the state received the highest creditworthiness evaluation (*Capacidade de Pagamento*, literally "payment capacity") rate from the Federal Government. The state was able to face the challenges caused by the COVID-19 pandemic without significant financial concerns due to its strong fiscal position before the outbreak and the Federal Government's emergency fiscal support in 2020. In 2023, Espírito Santo has the 7th highest available fiscal space among all Brazilian states.

6. **Although Espírito Santo experiences less poverty relative to other Brazilian states, inequalities persist.** The state spans a territorial extension of 46,090km² in the southeast region under the Atlantic Forest (*Mata Atlântica*) biome and

¹ Produto Interno Bruto - PIB, IBGE/2024. <https://www.ibge.gov.br/explica/pib.php>



encompasses 78 municipalities. It hosts a population of almost four million (roughly 89.1 inhabitants per km²) and is ranked Brazil's 13th most populated state. While poverty is lower than national levels and the state posts a high Human Development Index (0.757), inequality remains high. In 2021, approximately 25 percent of residents lived under the US\$5.5 poverty line, and approximately 7.5 percent of the state population lived under the US\$1.9 extreme poverty line.

7. **Despite efforts at making improvements, gender disparities in key areas, including the gender digital gap and high incidence of gender-based violence (GBV), remain a challenge in Brazil and in Espírito Santo.** In Espírito Santo, the digital gender gap is particularly stark between urban and rural areas. While women in urban areas have more access to the internet than men (48.1 percent of men compared to 51.9 percent of women), the situation reverses in rural areas with a pronounced gap (52.7 percent of men compared to 47.3 percent of women).² Overall, data in Brazil show that even in instances where women have more access to the internet than men, the proportion of women using internet for professional and/or productive activities (32 percent) is much lower than that of men (44 percent). This is particularly true among women of low-income and living in rural areas.³ The lack of access to digital accounts deprives women from being users of digital services, as these accounts constitute an entry point to become users and benefit from digital services. Importantly, access to digital services is particularly important for women's economic empowerment as women can benefit from government programs, and other public and private services, all of which lead to increased access to educational, skill-building, and entrepreneurial opportunities.

8. **In addition, GBV, an extreme manifestation of inequality in norms and power dynamics, is a major concern in Brazil.** In 2022 alone, Brazil registered 1,437 femicides, nearly one victim every six hours, the highest number registered since the promulgation of the Femicide Law in 2015.⁴ That same year, Espírito Santo registered a femicide rate of 1.7, above the national average of 1.4.⁵ At the federal level, Brazil has made significant progress in combatting GBV by passing groundbreaking legislation. However, inconsistencies exist between legislation and the documentation of the actual experiences of women. For instance, nearly 60 percent of homicides of women are classified as femicides in the Federal District, compared to 35 percent in Espírito Santo, and 9 percent in Ceará.

9. **Espírito Santo faces significant climate change impacts compounded by deforestation and land degradation.** Climate change is altering temperature and rainfall patterns in the state, resulting in reduced water availability, extended droughts and floods, and mass movements, negatively affecting socio-environmental vulnerable communities. Strengthening resilience to climate change and protection of natural assets, especially fragile ecosystems such as Mata Atlântica biome, is essential for environmentally sustainable economic growth. The main climate hazards likely to adversely affect infrastructure deployed under the project are increasing temperatures, floods, extreme precipitation patterns, water scarcity, and sea-level rise. For example, climate-induced water scarcity and sustained elevated temperatures would adversely affect the performance of cooling systems in data centers and result in a possible overheating of critical equipment, decreased data processing capacity, and device failures.

10. **More green, inclusive growth will be critical for Brazil's post-pandemic recovery, a paradigm shift that many subnational governments are aiming for.** A few state governments have pledged to the Race to Zero Global Campaign by committing to decarbonize and achieve net zero carbon dioxide (CO₂) emissions by 2050. Among them, the Government of the State of Espírito Santo (GoES) issued a decree in August 2021 announcing its plans to approve a state Climate Change

² *Pesquisa Nacional por Amostra de Domicílios Contínua*, IBGE/2023. <https://www.ibge.gov.br/estatisticas/sociais/trabalho/17270-pnad-continua.html>. Although official Brazilian statistics do not report data for gender access at the state level, a review of the sample available for the state of Espírito Santo, including 15,656 respondents was conducted indicatively.

³ I'd blush if I could. Closing Gender Divide in Digital Skills through Education, Equals Global Partnership, United Nations Educational, Scientific and Cultural Organization (UNESCO), 2019

⁴ Law 13.104/2015. https://www.planalto.gov.br/ccivil_03/_ato2015-2018/2015/lei/l13104.htm

⁵ Fórum Brasileiro de Segurança Pública FBSP. Anuário Brasileiro de Segurança Pública 2023. <https://forumseguranca.org.br/wp-content/uploads/2023/07/anuario-2023.pdf>



Plan and a Strategic Plan for Emergency Actions to respond to extreme climatic events, as well as to update its greenhouse gas (GHG) inventory within a 12-month period. The State has approved the first stage of the State Climate Change Plan, the strategic planning and actions that will guide projects in the second stage of the Plan.⁶ It also joined the Alliance for Climate Action⁷ in January 2021 and is a signatory of the Carbon Disclosure Project (CDP).⁸ Additionally, in 2019, the state created the Capixaba Climate Change Forum to promote climate change dialogue and cooperation between different sectors, promoting efforts to meet NDC targets and the Paris Agreement.

B. Sectoral and Institutional Context

11. **Brazil has developed a policy and regulatory framework for the telecom industry led by the Brazilian Ministry of Communications (*Ministério das Comunicações, MiniCom*) and the National Telecommunications Agency (*Agência Nacional de Telecomunicações, ANATEL*).** MiniCom is responsible for the formulation of national telecommunications policy at the federal level. ANATEL is the regulator of the telecommunications industry, a financially autonomous, administratively independent agency under the umbrella of MiniCom, but with no hierarchical subordination. The General Telecommunications Law of 1997 (No. 9472) was enacted following the decentralization of telecom activities and lays the foundation for the organization of the telecom sector, creating the regulatory agency and outlining its responsibilities. ANATEL⁹ has the authority to regulate, inspect, and issue authorizations for the execution of telecom activities in Brazil; as well as impose administrative penalties in the event of a violation of the telecom regulation. A new Telecoms Law (Law No. 13.879) was passed in 2019 updating the country's regulatory framework with the goal of broadening investment opportunities in the sector. However, the role of ANATEL remained unmodified.

12. **The Data Protection legislation applies to all sectors and levels of government in Brazil (federal, state, and municipalities).** Dated as of August 14, 2018, the Personal Data Protection Law (*Lei Geral de Proteção de Dados Pessoais, LGPD*) regulates the processing of personal data, in physical or digital media, and establishes rules on the collection, storage, processing, and sharing of personal data relating to natural persons. According to the LGPD, personal data are considered information that identifies or, when associated with other data, allows the identification of a natural person (Article 5, I of the LGPD). In this regard, one of its biggest assets is the provision of a general law, which applies to all sectors and levels of government that encompasses the processing of personal data. This robust legal framework covers state level regulations and is particularly relevant to ensure a trusted and safe environment in the deployment of digital government services.

13. **Espírito Santo is aiming to connect all municipalities to the state public fiber backbone, and improve online services, thus increasing the use of public data infrastructure.** However, it still needs to improve the resiliency (including cyber and climate) of its public data infrastructure to support safe and trustworthy service delivery. The state, like Brazil, has a developed digital sector but with a significant urban-rural connectivity gap. The information and communication technology (ICT) legal and regulatory framework is dictated at the federal level with minimum space for local regulation, which is limited to antenna installation. The state has 19.8 fixed broadband subscriptions per 100 inhabitants. The fixed broadband market in Espírito Santo is vibrant with 20 active providers. Claro holds 21.9 percent of the market share followed by Vivo (14.6 percent) and Oi (11.4 percent). The state has 98.8 mobile subscriptions per 100 inhabitants, and

⁶ *Plano de Descarbonização e Neutralização das Emissões de GEE do Espírito Santo.* https://impactoclima.ufes.br/sites/impactoclima.ufes.br/files/field/anexo/executive_summary.pdf

⁷ Network of national alliances dedicated to increasing public support for addressing the climate crisis and engaging national governments to support 1.5° C-aligned national climate targets. <https://www.alliancesforclimateaction.org/>

⁸ A non-profit organization that leads the global disclosure system for investors, companies, cities, states, and regions to manage their environmental impacts. <https://www.cdp.net/>

⁹ ANATEL oversees (a) regulating the use of unique codes for emergency calls, (b) the usage of spectrum for radiocommunications, and (c) the regulation of disaster communications.



the mobile market is dominated by Vivo with 65.7 percent of the market share, followed by Claro (27.8 percent) and Tim (5.2 percent). The Institute of Information and Communication Technology of the State of Espírito Santo (*Instituto de Tecnologia da Informação e Comunicação do Espírito Santo*, PRODEST, originally State Company for Data Processing or *Empresa Estatal de Processamento de Dados*)¹⁰ plans to connect all municipalities in the state with the public fiber network by the end of 2024. The public company also hosts an internet exchange point. According to its mandate, PRODEST cannot act as a retailer and provide internet to private users. Despite this constraint, promoting open access to allow internet service providers to access PRODEST's fiber network could help close the coverage gap in the state.

14. **PRODEST owns and manages one Tier 3 data center located in Vitória, which currently hosts most state data and operates as a colocation facility for other public bodies.** As of today, it uses 80 percent of its available capacity, which is close to its technical limit. The Government continues to increase its provision of public services digitally, rapidly increasing the demand for data storage and analysis. In this regard, a newly approved law 1064¹¹ authorizes PRODEST to commercialize colocation services to municipalities and other public entities. It is estimated that in a few years the data center will be at a critical juncture and unable to serve the needs of the state government. Moreover, the absence of a backup facility raises a significant risk as the data center represents 'a single point of failure' in case of cyber-attacks, extreme climate events, or natural disasters.

15. **As Espírito Santo expands connectivity to all municipal governments, the need for resilient public data infrastructure will increase.** Brazil has a vibrant and dynamic data center and cloud industry with private and public actors playing an important role. The presence of the main data centers (for example: Ascenty, Equinix, Scala Data Centers, Ava Telecom, and Quantico) and cloud players (for example: Google, Microsoft, and Amazon Web Services) makes Brazil the leading market in the region. In 2021, the local data center market was valued at US\$520 million, and it is expected to reach US\$705 million by 2025, reaching 50 percent of the Latin American market. The main trend for the public sector is to follow a hybrid strategy with public agencies hosting their most sensitive data in state-owned data centers while partially relying on private sector providers.

16. **A large usage gap remains, including use of public online services, due to the low digital skills in the population at large.** Nationally, almost half (44 percent) of the unconnected are offline because they do not know how to use the internet. Women in Brazil score very poorly in terms of digital skills and science, technology, engineering, and math (STEM) training plans, and they are also under-represented in these fields, comprising 37 percent of engineering and only 14.6 percent of computer science graduates. Women are also under-represented in these sectors in terms of employment, they account for only 20 percent of ICT and digital-related employment and earn up to 34 percent less than men in the sector. The state of Espírito Santo is in line with the national and regional averages that highlight limited digital literacy as the principal obstacle to closing the usage gap. Unless the usage gap is addressed, with particular attention to the digital gender gap (see below), the State's digital transformation plan could leave part of the population further behind, which would exacerbate existing inequalities. In a recent study¹² conducted by the *Centros de Referência em Tecnologias Inovadoras* (CERTI) for Espírito Santo, several challenges that hinder the digital innovation ecosystem were identified. Among them, the study highlights the lack of angel investing and seed funding: low capacity that hinders entrepreneurs' opportunities to access financing, lack of entrepreneurship culture, and existing incubation and acceleration services mismatched to demands in the sector. The state has developed a strategy that includes building capacity of entrepreneurs and ICT professionals, stimulating the innovative ecosystem, and creating mechanisms to increase financing for viable startups and market. In 2023, the Secretariat of Science, Technology, Innovation and Professional Education (*Secretaria da Ciência, Tecnologia, Inovação e Educação Profissional, SECTI*) ran a pilot incubation acceleration program, which supported 30 startups in 16 subsectors from 104 applicants. Of the supported projects, only eight were submitted by

¹⁰ See Abbreviations and Acronyms table at the beginning of the document for the derivation of PRODEST's acronym.

¹¹ https://prodest.es.gov.br/Media/prodestnovo/Legislacao/Lei%20Complementar%201064_2023.pdf

¹² Planejamento do Ecossistema de Inovacao da Grande Vitoria. Relatório Executivo, CERTI, 2023.



woman,¹³ a participation that will need to rise to increase startups founded by women, or those in which women have C-suite positions.

17. **Espírito Santo has made important advances in digital policies, but still needs a strong, safe and trusted digital public infrastructure (DPI) by strengthening its interoperability platform and its authentication mechanisms.** Brazil has made significant advances to make digital services available to the population, helping boost savings and promote efficiency. According to the 2022 E-Government Development Index, Brazil ranks 49th of 193 countries (0.7910) above the international average (0.61). Brazil was also ranked 16th in the Organization of Economic Co-operation and Development (OECD) digital government ranking, presenting a digital government index higher than the average of the OECDs (OECD, 2020). One of the most significant milestones in the Brazilian journey was the launch of the gov.br portal in 2019. By July of 2023, the gov.br portal had integrated 176 governmental portals and centralized 4780 digital services to citizens. Moreover, 150 million individuals created digital accounts, and the portal receives around 200 million visitors monthly. The Digital Government Strategy (*Estratégia de Governança Digital*) of the Federal Government guides the actions of all federal agencies. State and municipal governments are encouraged to join and integrate their platform to gov.br.

18. **Despite advances at the federal level, Espírito Santo still faces challenges in taking advantage of digital transformation.** In 2023, Espírito Santo ranked 10th out of the 26 states in the Federal District Government Ranking on Digital Service Offering compared to the 11th position in 2022 and 5th position in 2021. Also, 41 percent of people consulted in a satisfaction survey in Espírito Santo reported being 'dissatisfied' or 'neutral' about existing digital services provided. The same survey reports that almost 40 percent (39.6) had difficulties using digital services due to the lack of and low quality of services, interoperability, and data exchange. Currently, only 7 of 51 agencies at the state level share data, and most of the state agencies still work in silos replicating information, losing opportunities to gain efficiency.

19. **Since 2015, the State has invested in improving safe and trusted digitally available government services and developing an authentication platform to facilitate access to digital services, but results have been uneven.** Currently, there are two portals: *Acesso Cidadão* (<https://acessocidadao.es.gov.br/>), and *Conecta Cidadão* (<https://conectacidadao.es.gov.br/>), which serves as a catalogue of services. However, the existence of two portals creates limitations and reservations among users. The GoES offers 291 digital services distributed across 58 websites, many of which are maintained by disparate entities and structures and lack visual identity standardization and process optimization. Inconsistencies in information and the lack of user-friendliness in accessing digital services are problems to be addressed. For example, individuals need to introduce their data on several websites resulting in increased costs for information technology (IT) maintenance, storage, and efficient use of data. Although there is no strategy at the state level for digitalization of services, the GoES has compiled a list of the 100 most requested services, but the statistics are inaccurate and incomplete.

20. **The GoES aims to strengthen DPI by providing end-to-end services, in a unique portal integrated with gov.br.** Based on the Federal Law 13.460 which establishes requirements and parameters for the delivery of public services including the need for a catalog of services (*Carta de Serviços ao Usuário*), the GoES plans to digitize --end-to-end-- 580 services including the redesign of the 291 existing services. The state aims to improve the current interoperability platform to increase the number of agencies sharing information while optimizing the currently developed application programming interfaces (APIs). The two existing portals will be replaced by a new one that uses the interface of the gov.br platform to facilitate access. Access will be streamlined and secured by providing a digital account to residents and citizens of the state linked to their identification number using a unique authentication platform. This will enable the provision of enhanced and modern digital services for all individuals of the state, bridging the divide among vulnerable groups.

¹³ Information provide by SECTI.



21. **Furthermore, as an effort to modernize service provision, the GoES is transitioning its emergency service systems across the state, leading digital transformation in this sector.** Emergency numbers provide completely free services for anyone in Brazil. Brazil has a myriad of emergency numbers, of which the 190 (Military Police) number for emergencies is the best known. Additional emergency numbers including 192 (ambulance), 193 (firefighters), 199 (civil defense), and 180 (GBV) are also commonly used. Today, more than 80 percent of emergency calls in Brazil come from mobile devices, most of them smartphones. However, some new generation services, such as advanced mobile location, have not been integrated into the emergency response system.

22. **Globally, the emergency services sector is among the forerunners to adopt new digital technologies aimed at optimizing service provision.** An increasing emphasis on inter-service collaboration drives the need for digital transformation. The rise in new challenges require people, processes, and technologies to align. There is a need for more collaboration, data consolidation, and a people-centric approach to managing the emergency response system.

23. **The State of Espírito Santo has had a functioning emergency center since 2004, facilitating a coordinated response in case of crises or major events and local emergencies.** In July 2004, the Integrated Operational Center for Social Defense (*Centro Integrado Operacional de Defesa Social, CIODES*) was created as an emergency service agency that integrates the daily work of the Military Police, Civil Police, Military Fire Department, Municipal Civil Guard of Vitória, Department of Justice, and Federal Highway Police in a single physical structure. In 2010, the emergency center was expanded to involve more agencies and provide more agile and efficient responses through the extension of this integrated center, CIODES SUD. In addition, by being exposed to major events such as the *Fédération Internationale de Football Association (FIFA) World Cup* in 2014, the Olympic Torch Relay in 2016, and the FIFA U-17 World Cup Brazil in 2019, the state consolidated its expertise on integrated crisis responses and management, improving its performance.

24. **The two operating centers (CIODES and CIODES SUD) have 104 operators receiving and dispatching around 8,000 calls per day,** using a network of 31 computers and 31 telephones at the 190- call center. The call center operates 24/7 with some excellent key performance indicators (3 percent abandoned calls and 1 second average call answering time). All calls come from four different lines (190, 197, 193, and 191) that individuals use to report an emergency and/or cases of violence. However, CIODES still uses software for managing emergency calls implemented in 2004 that is yet to be updated. Both emergency centers only have infrastructure and personnel to manage emergency calls from 25 out of 78 municipalities in Espírito Santo. In addition, Espírito Santo operates the Mobile Emergency Care Service (*Serviço de Atendimento Móvel de Urgência*), whose purpose is to assist the population in cases of risk to life. This service provides 24/7 assistance and is staffed by specialized professionals.

25. **Regarding GBV-related calls, Espírito Santo has a corresponding call incident code known as G14 - Maria da Penha Law (federal law protecting women from domestic violence),** which is generated as a red alert. Callers are advised to report the incident to Line 180. This channel is coordinated by the Women's Call Center of the Secretariat for Public Security and Social Defense (*Secretaria da Segurança Pública e Defesa Social, SESP*). Though the state provides response to Line 180 calls, these calls are yet to be fully integrated into the emergency protocols. Under the modernization plan, supported by the project, GBV response protocols will be fully integrated into the emergency protocols.

26. **In its plan for digital transformation, the GoES has proposed the consolidation and modernization of its emergency services through the construction of a new integrated emergency center that will allow the state to improve physical and technological infrastructure, enhance its response to crises, and cover all 78 municipalities in the state.** The new center will include new physical spaces and workstations, and enhanced digital technologies, tools, and platforms to improve procedures and work processes between agencies. These technologies will allow the GoES to manage a higher volume of calls coming from municipalities not currently covered while improving accuracy by incorporating geolocation



functionalities in upcoming calls. Also, the new center is expected to host a Computer Emergency Response Team to support cyber resilience at the center and other agencies in the State.

C. Relevance to Higher Level Objectives

27. **The proposed project is consistent with the World Bank Group (WBG) Country Partnership Framework (CPF) for Brazil (FY24-FY28)¹⁴.** The project's proposed actions would, directly and indirectly, contribute to all three High-Level Objectives (HLO). Financing the construction of an additional climate resilient data center (Component 1) directly supports HLO 1: Greater Productivity and Employment by expanding and modernizing infrastructure (Objective 1.4). Creating a centralized public service portal and an integrated database (Component 2) contributes to HLO2: Greater Inclusion of the Poor and Underserved Populations by enhancing access to essential public services and products and supporting sustainable livelihoods among disadvantaged groups (Objectives 2.1 and 2.2). Modernizing the Emergency Management System (Component 3) aligns with HLO 3: Greener Economy with Reduced Vulnerability to Climate Shocks by improving the climate resiliency of the State (Objective 3.3). Component 3 also supports the cross-cutting objective of Opportunities for Women by strengthening the responses to GBV and providing a gender-sensitive approach in disaster management.

28. **The project is aligned with Brazil's National Adaptation Plan (NAP) and Nationally Determined Contribution (NDC),¹⁵ as well as Espírito Santo's Decarbonization and GHG Emissions Neutralization Plan, and therefore is consistent with the country's national and state-level decarbonization and adaptation commitments.** Both Brazil's NDC and Espírito Santo's Decarbonization and GHG Emissions Neutralization Plan commit to achieve climate neutrality by 2050. Brazil aims to reduce GHG emissions by 37 percent by 2025 and by 50 percent by 2030 unconditionally compared to 2005 levels while strengthening the resilience of its people and sectors to climate change. Supporting the use of clean technology and enhancing energy efficiency are two of the Strategy Guidelines listed in Espírito Santo's Decarbonization Plan. The proposed project will support the climate mitigation goals by deploying energy-efficient infrastructure and IT equipment and promoting the use of renewable energy for both the data center and emergency center. Among the NDC's actions is the establishment of adaptation plans to ensure the resilience of the population and infrastructure. Moreover, the NAP's strategic actions include developing a systemic approach to prevention, mitigation, preparation, response, and disaster recovery actions as well as establishing closer coordination among federal, state, and municipal authorities for reducing disaster risks and providing support for affected communities. This project will directly contribute to these climate adaptation efforts at both the national and state levels by deploying climate-resilient data infrastructure in Espírito Santo to address the climate risks, namely extreme weather events, floods, and elevated temperatures identified in the Climate and Disaster Risk Screening Assessment. It will also establish a modernized Emergency Management System that will increase coordination between emergency response units and enhanced response efficiency for climate events.

29. **The proposed project also contains initiatives in line with major priorities for World Bank participation, such as addressing gender disparities and expanding women's agency, increasing resilience to climate change, promoting inclusiveness, responding to crisis and COVID-19-related shocks, enabling private capital, supporting the proposed Accelerating Digitalization Global Challenge Program, the WBG Evolution and , and the Regional Action Plan 2021-2025 (RGAP) for Latin American and Caribbean¹⁶.** It will apply a gender lens to the improvement of DPI and tackle the gender gap in access and use of digital services by increasing women's access to and use of the public digital authentication platforms through improvement in digital literacy and skills, as well as strengthening the existing emergency response systems supporting women in cases of GBV, in accordance with the (existing and upcoming) WBG's Gender Strategy.

¹⁴ <https://documents1.worldbank.org/curated/en/099031824151014222/pdf/BOSIB1a9c64a780861b8d01b824b30cdb50.pdf>

¹⁵ Brazil NDC 2022, <https://unfccc.int/sites/default/files/NDC/2022-06/Updated%20-%20First%20NDC%20-%20%20FINAL%20-%20PDF.pdf>

¹⁶ Under the Regional Action Plan 2021-2025 (RGAP) for Latin American and Caribbean, the Project will tackle (i) Attracting More Young Women into STEM Fields, (ii) Improving Women's Access to Quality Employment, and (iii) Preventing and Addressing Violence Against Women and Girls (VAWG).



Additionally, the project will operationalize the objectives of the Global Priority Program by investing in secure and inclusive DPI and training public officials and individuals on digital skills for productive jobs while positively affecting climate change adaptation and will therefore contribute to the objectives set by the Country Climate and Development Report, the World Bank Climate Change Action Plan and the Bank’s Green, Resilient and Inclusive Development approach. Overall, the project will make a significant contribution to achieving the WBG’s Evolution Roadmap by providing an opportunity to obtain lessons learned from a middle-income country (MIC) that could be applied in low-income countries, as it aims to provide Espírito Santo with the tools to face current and future global challenges. It supports private sector growth under a Maximizing Finance for Development approach and promotes collaboration across the WBG following a One WBG approach to increase private capital enabling. The project invests in the upgrade and modernization of public digital solutions that foster economic growth, efficiency increases, and new digital jobs. The expansion of the data infrastructure will follow the open access principle, enabling and promoting the participation of private sector entities in the data infrastructure market. The project directly aligns with the Bank’s Global Challenge Program (GCP)’s strategic Focus Area 3: Select High-Impact Digital Services, by leveraging the State’s digital foundations to increase the number of people using digitally enabled-services.

II. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

30. To strengthen digital infrastructure resilience, to modernize emergency management, and to improve digital public infrastructure in the State of Espírito Santo.

PDO Level Indicators

31. Achievement of the project’s results will be measured through the following Project Development Objective (PDO)-level indicators:

- (a). Number of data centers built according to energy-efficiency standards.
- (b). Number of municipalities attended by the CIDES maintaining current levels of quality (Number)
- (c). Number of People using digitally enabled services.
 - Percentage of which are women using digitally enabled services.

B. Project Components

32. The proposed project will be structured as a US\$76.52 million Investment Project Financing (IPF) operation comprising a US\$61.216 million IBRD loan and US\$15.304 million in state counterpart funding.

33. The project will comprise four components summarized in Table 1.



Table 1. Component Structure and Costs (US\$, millions)

Component	IBRD	Counterpart	Total
Component 1: Resilient Data Infrastructure and digital skills	13.467	5.700	19.167
Component 2: Strengthening of Digital Public Infrastructure	7.950	7.250	15.200
Component 3: Modernize Emergency Management System	37.000	2.000	39.000
Component 4: Project Management	2.646	0.354	3.000
Front-End Fee	0.153		0.153
Total (without Front end fee)	61.216	15.304	76.520

34. **Component 1: Resilient data infrastructure and digital skills (US\$19.167 million of which US\$13.467 million IBRD).** This component will strengthen the data infrastructure resiliency of Espírito Santo, providing the state with a state-of-the-art publicly owned green data center. The increasing use of digital solutions, and generation and usage of data requires the establishment of modern storage facilities that meet the appropriate cybersecurity standards and provide the storage and computing power required to analyze and obtain insights from those data. The project will finance the construction of a data center that will be owned and managed by PRODEST, based on a series of feasibility studies which will assess the (a) the demand; (b) technical characteristics of the identified location; and (c) data center’s design options. Additional technical assistance will focus on other topics such as data protection based on the existing legislation, legal and regulatory frameworks, and cybersecurity. This component will also provide training on digital skills together with the private sector to better equip individuals to adapt to the digital economy and strengthen the innovation and entrepreneurial ecosystem and supporting the increase in demand for resilient data infrastructure.

35. **Subcomponent 1.1: Technical assistance (US\$1.3 million, IBRD).** This subcomponent will provide technical assistance required to define the data center’s final design and operations based on international guiding principles and standards. The data center will replicate the same ownership and operation models of the existing PRODEST data center. Colocation activities will be available to other public entities and bodies and municipalities, but the current legal framework does not allow service provision to the private sector. A non-exhaustive list of the studies financed by this subcomponent includes: (a) demand assessment for the services of the Data Center; (b) technical assessment of the new data center¹⁷; (c) a public sector cloud migration strategy; (d) technical assistance to support the adherence to and strengthening of the enabling laws and regulations on data protection and cybersecurity (including combatting cybercrime) and related issues to promote trust to enable the local digital economy and safeguard the rights of individuals; (e) cloud computing; (f) technical and financial consultancies to support project implementation; and (g) open access feasibility assessments of the PRODEST fiber backbone.

36. **Subcomponent 1.2: Support to development of a resilient data center (US\$14.02 million of which US\$8.32 million IBRD).** This subcomponent will finance the construction of a low-carbon and climate-resilient data center, helping increase the resiliency and redundancy of the existing data infrastructure in Espírito Santo while helping PRODEST address a growing demand for data storage and computing services. Currently, local public services rely on a single-entry point (PRODEST data center in Vitória) which, if targeted or affected by cyber-attacks or climate disaster, converts to a single point of failure, affecting the continuity of operations with negative consequences on the economy and sustainability. At

¹⁷ The technical assistance includes defining the design and operation of the data center to comply with international best practices for energy efficiency and climate resiliency such as ‘ITU-T L.1300 best practices for green data centers and determining measures that are technically and financially feasible to incorporate.



the same time, PRODEST oversees the program *ES Inovador*, which aims to digitalize the local economy and public services. The existing data center will not be able to manage the increasing amount of data derived by the state's digital transformation as it is already operating at 80 percent of its total capacity. Hence, a new facility is needed to assist Espírito Santo's digital journey. The expansion of the state's data infrastructure will enrich the data capacity of the state and ensure that data are safe and available in case of climate events. Initial estimates suggest some saving can accrue once the final feasibility and design studies are completed. The estimated costs for the data center are US\$14 million. Savings will be reallocated within the project activities.

37. **A preliminary technical assessment resulted in the identification of a modular approach to develop the green data center allowing a future expansion and targeting a Tier 3 certification.** As of today, the PRODEST data center requires approximately 178 kW of energy consumption. The main activities in the new data center will be colocation, hosting, and telecommunications services, providing real time redundancy to the existing data center. Assuming a 100 percent growth in power over 10 years, PRODEST data center facilities built within this project will be able to consume up to 356 kW following a scalable approach.¹⁸ To meet this requirement, this subcomponent will finance up to 40 racks, with an average density of energy consumption around 8.9 kW per rack, a target power usage effectiveness (PUE) of 1.4 (see annex 2), and 52 minutes annual maximum downtime.

38. **The data center will be constructed in a location that to ensure its resilience and security,** including a reliable supply of water and electricity that meets the system's demands, as well as access to high-capacity fiber-optic backhaul. The decision on the Data Center will follow to social and environmental criteria. The data center location selection and design will contemplate the adoption of renewable energies and water cooling to minimize GHG emissions and water usage. Renewable energies will be assessed to function as backup in case of electricity shortages (for example, batteries charged by renewable energy generation). The introduction of water cooling would help reduce emissions and improve energy efficiency. A high-efficiency water chiller with an appropriate condenser is typically the most efficient cooling option for higher densities. The data center will achieve Excellence in Design and for Greater Efficiencies (EDGE¹⁹) sustainable building and operation certification post-construction. During the equipment purchasing, construction, and post-implementation phases of the project, the processes of the EDGE certification standard will be followed.

39. **Subcomponent 1.3: Digital skills (US\$2.847 million, IBRD).** This subcomponent aims to strengthen digital skills, including through the provision of training, to better equip individuals to adapt to the digital economy and online activities. The development of digital skills is a key element of digital transformation, and it helps minimize disruption of basic public services (for example, education and health) in the event of climate-induced disasters and other external shocks such as the COVID-19 pandemic. Individuals with significant digital skills are better equipped to perform daily activities online and are therefore more resilient to climate events that interrupt the delivery of basic services. Beneficiaries of this subcomponent are on both the demand and the supply sides. Individuals will have the chance to advance their digital skills and access a more sophisticated digital ecosystem. The project will develop women-targeted trainings to strengthen their digital skills and ease their access to online basic services and digital accounts and to a more sophisticated digital ecosystem. These activities will contribute to closing the digital gender gap (see below for more details). Specific training for public sector workers will provide skills to deliver better services and optimize the operations with the PRODEST data centers. Climatic-specific training on how to continue operating data infrastructure services in the case of an interruption caused by climatic shocks/disasters will also be provided to public sector workers. The provision of training will leverage existing programs from the state and will contemplate alliances with universities to facilitate delivery.

¹⁸ Scalability can be achieved in different ways, such as adding more servers, upgrading hardware, using virtualization, or leveraging cloud services.

¹⁹ The data center will achieve EDGE or similar green certification during construction and operation.



40. **Subcomponent 1.4: Digital projects acceleration platform (US\$1 million, IBRD).** This subcomponent will finance a seed fund linked accelerator program that serves digital start-ups. The main objective is to support a better innovation ecosystem coordination and better service provision by the local public and private sectors, expanding access to early-stage financing in more nascent regional markets. By strengthening the local digital entrepreneurial and innovation ecosystem, this component will contribute to the World Bank's Global Priorities Program objective to generate jobs applying intermediate and advanced digital skills and supporting start-ups that can help develop data-driven digital products and services. In addition, it will be aimed at enhancing ongoing innovation initiative and startup support programs led by the GoES. In line with the recommendations of the 2021 World Development Report on Data for Better Lives, the program will encourage the use of new public datasets and public goods. It is expected that a competitively selected equity-backed accelerator will launch a series of acceleration programs targeting digital initiatives at an early growth stage and work in close cooperation with a local partner to ensure knowledge transfer and local institutional capacity building. This program is expected to be developed jointly with the International Finance Corporation.

41. **Component 2: Strengthening of Digital Public Infrastructure (DPI) (US\$15.2 million of which US\$7.95 million IBRD).** This component will finance the acquisition of hardware, software, and consulting services for the Digital Transformation Secretary (*Secretaria de Transformação Digital*) from SEG to develop the unique portal of services of Espírito Santo. The project will support the state to expand access to digital services to individuals, businesses, and government by establishing an interoperability platform and a services portal. This component aims to enhance the resiliency and preparedness of the state's community by providing individuals and businesses with resilient personalized end-to-end digital public services from all government entities in a single platform that ensures service access and continuity in case of climate events or disasters. All goods and services acquired for this component will meet international energy efficiency certification requirements at least one level above Brazilian standard set by the Brazilian Steering Committee of Indicators, such as Energy Star.

42. **Subcomponent 2.1: Enhancing software solutions to improve service delivery. (US\$7.25 million of which US\$ 0 IBRD)** This subcomponent will finance goods and services for the (a) implementation of the interoperability platform to facilitate sharing data across government agencies; (b) development of a unique portal to improve access to digital public services; (c) integration of the portal with the national platform gov.br and adoption of solutions for online authentication and e-signature; and (d) adoption of artificial intelligence solutions to provide personalized information to individuals accessing the portal and facilitating the process of providing feedback about the quality of services while helping create an automated process for data analysis.

43. **Subcomponent 2.2: Hardware to support the operation of the services portal infrastructure (US\$5.75 million, IBRD).** This subcomponent will finance the acquisition of goods and services that meet energy efficiency certifications at least one level above Brazilian standards set by the Brazilian Steering Committee of Indicators, such as Energy Star (see below), for the operation of the interoperability platform and the unique portal, including database management software, security tools, and data management software. The hardware will contribute to creating a robust and resilient environment to meet the technological demands of the services portal, including servers, storage, and backup systems,²⁰ which are pivotal in ensuring data integrity and safeguarding. A virtualization system²¹ will also be procured to optimize hardware usage and simplify the management of computing resources. SEG will be the beneficiary of this investment, but the equipment will be hosted and operated by PRODEST strengthening the links between Components 1 and 2 of the Project.

²⁰ Backup systems will enable service continuity in case of risk of disruption from extreme climate events.

²¹ Virtualization software enables physical hardware to create multiple virtual machines on a single physical machine, simulating dedicated resources. It leads to more efficient use of physical resources, better scalability, and reduced costs.



44. **Subcomponent 2.3: Design and implementation of software applications and consulting services according to GoES's needs (US\$2.2 million, IBRD).** The subcomponent will finance goods and services to (a) improve and develop end-to-end digital services; (b) develop software (applications in accordance to the state's needs), including improvement of existing and new APIs; (c) create a data standard repository, and perform data extraction, transformation, and load (ETL) to ensure effective data exchange among the systems; (d) redesign of the state existing digital interfaces to ensure they are aligned with the national portal gov.br and promote an inclusive digital citizen centric user experience, helping reduce the digital gap, including the digital gender gap especially in rural areas (see below); (e) train public servants in the use of the services portal; (f) conduct communication campaigns to reach out to end- users and to promote the use of the unique portal, especially for vulnerable groups (e.g., indigenous population, rural women and elderly people); and (g) technical assistance to develop a methodology and functionality to co-create and design digital services with civil society. The communication campaigns will include participatory mechanisms to include the people perspective in the design of digital services.

45. **The unique services portal will consolidate all government information and services on a single integrated platform.** Espírito Santo's portal will be integrated with the federal platform gov.br. It will streamline procedures and enhance accessibility, allowing access to the catalog of services provided by federal agencies and from Espírito Santo State. Moreover, the integration will enable the use of functionalities of the gov.br platform, such as digital authentication. The unique services portal of Espírito Santo will be built based on the best web portal security practices, protecting individuals' personal data and privacy, following all national level policies, and the system's integrity. It will be hosted by PRODEST's data center (Component 1), and its cybersecurity will be covered by PRODEST's infrastructure and staff.

46. **The unique services portal implementation will prioritize the implementation of digital services considering high-demand services and the most impactful cost-benefits for individuals.** The user's collaboration and evaluation will be stimulated, and usage statistics will be used to improve the user journey in the portal allowing for a comprehensive user feedback system. Special attention will be given to ensuring accessibility and quality service for women, persons with disabilities, and vulnerable individuals and groups.

47. **Component 3: Modernize Emergency Management System. (US\$39 million of which US\$37 million IBRD).** This component will support the expansion and modernization of the operational management processes of the emergency response and preparedness system in the State of Espírito Santo through the construction of the "Integrated Center for Social Defense (*Centro Integrado de Defesa Social, CIDES*)" and the development and integration of all the systems and procedures for the management of emergency calls. The construction of a new emergency center will allow the state to improve physical and technological infrastructure, enhance its response to crises, and respond to emergency calls from all 78 municipalities in the state (currently CIODES is responding to calls from just 25 municipalities), while allowing the integration of additional agencies, including SUMA 192 (emergency medical services) and full integration of the GBV Line 180 (see below). The digital transformation of this sector should provide best practices to further develop digital transformation use cases by the state.

48. **This component will also include the deployment of enhanced digital technologies, tools, and platforms to improve procedures and work processes between agencies.** These technologies, together with the revision and enhancement of the response protocols and the creation of new protocols for rising uncategorized climate emergencies, will allow the State of Espírito Santo to offer advanced next generation emergency response services. All digital hardware procured under this component will be energy efficient following best practice international recommendations for energy efficiency and meeting levels above standards established by the Brazilian Steering Committee of Indicators and levels of energy efficiency (see below), and the *Programa Nacional de Conservação de Energia Elétrica* Seal in the categories available, such as Energy Star.



49. **As vulnerability to natural hazards grows and given Espírito Santo’s climate-sensitive location (hosting the *Mata Atlântica* biome, holding 5 percent of Brazil’s coastline, and therefore being increasingly prone to floods and extreme precipitation events), the modernization of the Emergency Management System will upgrade the holistic and coordinated response to climate emergencies** engaging all the necessary first response entities interdependently, optimizing response resources, and maximizing the response effectiveness to each climate-related emergency. Establishing joint coordination protocols with State’s Center for Risk and Disaster Management will be key with respect to this. This component aims to support Espírito Santo in optimizing its response to climate-related disasters, by modernizing and expanding the state’s emergency center and designing precise and comprehensive response protocols that involve the cooperation of all first-response entities for each type of event. The emergency center will benefit from more precise and better-quality information due to the introduction of the geolocation of emergencies. This will allow improved identification of gradual climate change trends and events and link them to their effective emergency management. A unified approach and response to emergency response and management will create interoperable responses that are critical in emergency response.

50. **The modernization of emergency numbers management will be based on the Next Generation Emergency Numbers (NGEN) international models (commonly referred to as NG911 or NG112) which aim to diversify the ways individuals can contact and communicate with emergency services while enriching those services’ abilities to process and leverage the information citizens provide.** The success and reliability of 190 and the other emergency numbers will be improved with the implementation of NGEN, as it will enhance emergency number services to create a faster, more resilient system that allows voice, photos, videos, and text messages, and caller location information. All personal data will be subject to rigorous data protection standards and in compliance with the LGPD.

51. **Subcomponent 3.1: Centralized Emergency Response Technical Integration Plan and Feasibility Studies. (US\$0.543 million, IBRD)** This subcomponent contemplates the elaboration of final feasibility studies and drafting bidding documents for the construction and operationalization of the Espírito Santo centralized emergency response system which includes the construction of CIDES premises, and the implementation of all the systems and procedures required. It will also provide funding for the supervision of services and works for the design and building of the CIDES, including monitoring of environmental and social (E&S) requirements, and following international best practices on energy efficiency for the construction of new buildings according to Level 1 EDGE²² certification.

52. **Subcomponent 3.2: Design, build and operationalization of the “Integrated Center for Social Defense (CIDES)” US\$33.411 million, IBRD).** This subcomponent will finance the designing, building the premises and operationalizing the emergency response system by providing the necessary physical infrastructure to enhance the capacity of the targeted first response emergency entities in the state to effectively plan and respond to emergencies, including climate emergencies. To date, the existing center does not have sufficient resources and tools to respond to the current and future challenges, including those associated with climate change (see below for details), and it needs to evolve to a next-generation center capable of handling the emergency call expansion in the state for the next 20 years. All structural elements under this subcomponent are necessary to improve coordination, communication, and collaboration of best practices between all competent entities. The project will attain the EDGE certification for buildings and follow the EDGE standards for emergency center’s equipment acquisition, building, and implementation to achieve final certification post-construction.

53. **Subcomponent 3.3: Development and integration of all the systems and procedures for the management of emergency calls. (US\$5.046 million of which US\$3.046 million IBRD).** This component will finance the development and integration of all state systems and procedures for the management of emergency calls through the establishment of the Integrated Emergency Response Platform (IERP). This subcomponent is aimed at maintaining an integrated, interoperable,

²² The center will be built to Level 1 EDGE certification or similar certification standard.



and coordinated system, essential to increase the effectiveness of emergency response activities and to distribute roles and responsibilities effectively. In addition, it will implement training on local climate events and impacts and capacity building for climate change preparedness for emergency center operators to ensure service continuity in case of climate shocks.

54. **The IERP will include the hardware, specialized software, and secure communications necessary to guarantee the correct answer and management of emergency calls at the Public Service Answering Point (PSAP).** The IERP will receive, categorize, transfer, and perform the traceability of the calls that are transferred to the central offices of the first response entities that will maintain their functional independence. One of the new crucial functionalities that the IERP will implement is geolocation. This functionality will allow the benefit of knowing the precise and real-time geographical location of the individual who reports an emergency to the PSAP at CIDES. Through the development of specific unified responses to geolocated climate events, the project will strengthen Espírito Santo's response to climate-related disasters (see annex 2).

55. **The IERP will also include the enhancement and implementation of an IP-based Emergency Services Network, (ESInet), which will enable NGEN services to manage a large volume of information to and from callers.** This private network now needs to be expanded, particularly the radio communications to reach more first responders, and will be enhanced with new core services (such as location services) to enable improved connectivity between the CIDES and the emergency first response units.

56. **Component 4. Project Management. (US\$3 million of which US\$2.643 million IBRD).** This component will provide support for the management and implementation of the project, including: (a) project coordination; (b) procurement and financial management (FM); (c) implementation of E&S risk management measures; (d) Monitoring and Evaluation (M&E); (e) support of training and advisory/audit services needed; and (f) public information; citizen engagement, and communication. Special attention will be devoted to promoting equal participation of women in all decision-making bodies under the project and contributing to tackling barriers to recruitment, retention, and promotion.

C. Project Beneficiaries

57. **The project will benefit the State of Espírito Santo as a whole, particularly disadvantaged individuals, women, businesses, the public sector, and government officials.**

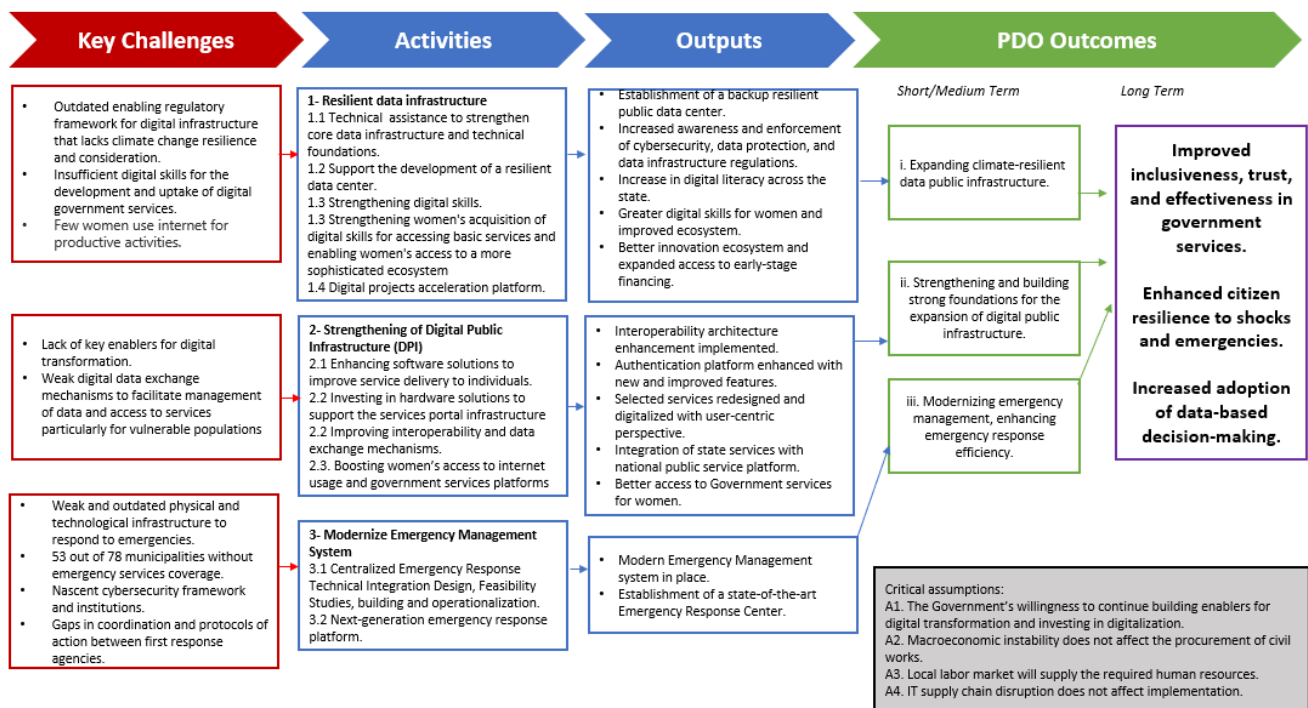
- (a) **Individuals.** Individuals (citizens and non-citizens) from 53 municipalities in Espírito Santo will for the first time be covered by the State's integrated emergency response system brought on by the construction of a new emergency center. All 78 municipalities in the State will draw on the improvement and modernization of the infrastructure and procedures for emergency planning and response in the State. Poor, disadvantaged, and excluded populations will benefit from the expanded and integrated access to the State's digital services. In addition, individuals will benefit from better digital services by reducing time to access to services and facilitate the interactions with the government.
- (b) **GBV victims.** GBV victims and women at risk of being victims of intimate partner violence will have better knowledge and awareness of the services provided by the GBV hotline, reduced waiting times for these services, and a more efficient and effective service across all the municipalities in the state. Additionally, women will benefit from women-targeted digital skills trainings, enhancing their inclusion in the digital economy.



- (c) **Businesses.** Businesses will benefit from better and more reachable government digital services. IT and digital technology businesses will benefit from contracts for infrastructure and IT deployment, allocated competitively.
- (d) **Public sector.** The state and national-level public administration will benefit from the project by having its efficiency boosted, taking advantage of the extended data infrastructure, and reaching more individuals and businesses.
- (e) **Government officials.** Public servants will benefit from the training to operate and make functional the modern technologies financed by the project, promoting the development of advanced IT skills.

D. Results Chain

Figure 1. Theory of Change



58. **Figure 1 provides the Theory of Change for the project.** It articulates and links the country specific development challenges faced by Espírito Santo, proposed activities, expected outputs, and outcomes that can be tracked and measured through the PDO and intermediate indicators.

E. Rationale for Bank Involvement and Role of Partners

59. **The project's design builds upon lessons learned from previous and ongoing projects,** such as the Strengthening Data Infrastructure to Close the Digital Gap in Argentina Project (P178609), the Peru Centralized Emergency Response System Project (P170658), and the Uganda Digital Acceleration Project - GovNet (P171305). The design of this Project is based on replicating common solutions and lessons learned across countries with a common objective and framework. The project benefits from the WBG's experience in managing regional and national digital and ICT projects as well as from implementation of telecommunications sector reform, development, and regional connectivity projects in the Caribbean, Europe and Central Asia, South Asia, and East Asia Pacific. Moreover, the project will leverage the lessons learned during



the preparation and the first phases of implementation of P178609, particularly in relation to the financing of public-owned data centers and to the design of digital skills trainings. Finally, it will rely on the lessons learned from the ongoing project in Peru about the establishment of an Emergency Response System Project (P170658). Specific lessons reflected in the design include a focus on (a) country priorities and ownership; (b) a strong policy/regulatory environment and safeguards for citizens; (c) a flexible program that can adapt to a changing environment; and (d) strong but lean implementation arrangements with effective performance monitoring.

60. **Coordination is key, especially for Components 2 and 3.** Coordination between agencies to define criteria and relevance of digital services that would be digitalized is critical to creating an effective and actionable road map to strengthen DPI as has been shown in the Ghana Digital Acceleration Project (P176126). Similarly, defining coordination bodies within the first-response units that would be involved in the construction and operation of the emergency center is critical to ensure that protocols, data sharing mechanisms, and procedures comply with the requirements from all agencies and promote mutual agreements as was shown in the Centralized Emergency Response System Project (P170658).

61. **Knowing the context and having a flexible approach could facilitate project implementation.** Based on the Espírito Santo Integrated Sustainable Water Management Project (P130682) and the Centralized Emergency Response System Project (P170658), the team has learned that each context would be different while conducting the procurement process and it is necessary to be flexible to adapt to each country/state context. For example, a turnkey emergency center for climatic crises was successfully procured under the P130682 project, while the Peru project has divided the procurement process to attract more private companies. A deep understanding of the political and private sector context could help better define the procurement processes and expedite the implementation.

62. **Aligning objectives from different public agencies could boost the results of expanding the public-owned data infrastructure.** Involving public sector agencies whose services will rely on PRODEST data centers and defining common practices in data storage and analysis could generate synergies and achieve better outcomes. This lesson was learned during the preparation of the Strengthening Data Infrastructure to Close the Digital Gap in Argentina Project (P178609).

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

63. **The Secretariat of Science, Technology, Innovation and Professional Education (SECTI) will be responsible for overall Project implementation and coordination with other participating institutions, for which a Project Management Unit (PMU) within SECTI has been created²³.** The PMU will be responsible for Project coordination, implementation and supervision, including procurement and contract management, monitoring and evaluation, financial management (accounting and disbursement procedures), and environmental and social management. The PMU will be established, and its Key Staff will be hired or designated prior to effectiveness. Additional staff of the PMU including the hiring of individual consultants, as set out in the Project Operation Manual and the ESCP will be hired, in a manner acceptable to the Bank, not later than 60 days after effectiveness. An external consulting firm and/or individual consultants will be hired to support the PMU in carrying out Project management activities, as set out in the Operational Manual.

64. **Technical support to the PMU will be provided by PRODEST, SEG and SESP in the preparation of the terms of references/technical specifications and contracts supervisions and management.** More specifically, PRODEST will

²³ Espírito Santo Official Journal, <https://ioes.dio.es.gov.br/portal/visualizacoes/html/9020/#e:9020/#m:1397035>



support the PMU with activities under Component 1 except with Subcomponents 1.3 and 1.4 which will be implemented by SECTI; SEG with Component 2; and SESP for the modernization of the emergency service under component 3. All other activities are under the exclusive technical responsibility of SECTI.

65. **A Project Steering Committee (SC) will be chaired by the State Secretariat of Economy and Planning (Secretaria de Economia e Planejamento, SEP)** and comprises of high-level representatives from the three beneficiary/partner entities (PRODEST, SEG, and SESP) and SECTI, the PMU’s general coordinator. The SC will be created by decree, not later than 90 days after effectiveness. It will be responsible for Project oversight, strategic management, ensuring inter-agency collaboration, mediating conflicts and monitoring progress.

66. **Cooperation agreements. The SECTI will enter into cooperation agreements with PRODEST**, all under terms and conditions acceptable to the Bank, that establish their respective roles and responsibilities in Project implementation.

67. **Coordination arrangements. The SECTI will enter into coordination arrangements with each of the implementing agencies responsible for the technical supervision and implementation of project activities as set forth in the Project Operation Manual (POM).** The partners agencies will rely on their organizational structure and staff and will assign a focal point by effectiveness. An initial version of the POM was reviewed by the WB team before negotiations. The implementation arrangements are established by Decree Nº 5682-R, from April 18th, 2024²⁴.

68. More detailed information is available in Annex 1.

B. Results Monitoring and Evaluation Arrangements

69. **The M&E system is designed to assess whether implementation of the project is on track to achieve its objectives and expected results.** Progress in the achievement of project results will be measured by tracking the indicators established in the Results Framework (see RESULTS FRAMEWORK AND MONITORING). The PMU will bear the primary responsibility for M&E and will establish standardized formats and guidelines for data collection and reporting, supplemented by surveys as required (for instance to gather gender statistics), and organize training sessions for project stakeholders in their use. Implementation of project activities will be documented in progress reports prepared by all the PIUs and submitted to the World Bank ahead of each implementation support mission. In addition to reporting on intermediate and outcome indicators, regular project progress reports will include information on disbursement, implementation of the annual workplan and budget, FM, procurement, E&S, and risk management. In addition, the selection of indicators will facilitate future measurement of the project, including a potential impact evaluation study.

C. Sustainability

70. The project’s sustainability will be ensured by using private sector-led, market-based mechanisms for resource allocation and by supporting capital investments in shared public infrastructure and platforms that can reduce long-run costs of public service delivery.

Table 2. Sustainability Mechanisms According to Component

Component	Sustainability Mechanism
Component 1	A resilient data center infrastructure will enhance the trust in data-intensive activities and increase the service availability, scale, and capacity of the state technology park. These infrastructures are all part of an ecosystem that encompasses both public and private sectors and its connections to domestic and international backbones. Higher availability

²⁴ Espírito Santo Official Journal, <https://ioes.dio.es.gov.br/portal/visualizacoes/html/9020/#e:9020/#m:1397035>



	rate of services implies the resilience of the entire ecosystem with benefits for both private and public infrastructure.
Component 2	The selection of digital services to improve the DPI will include a broad involvement of stakeholders to support the digital strategy. The digitalization process will rely on close collaboration and coordination with other government agencies, municipalities, and the private sector. Moreover, the project foresees a broad communication campaign to promote usage. Similarly, the project will support the design and implementation of a two-way communication strategy with the public (citizens and non-citizens) to hold consultations and provide feedback.
Component 3	A modern and data-oriented Emergency Management System makes it possible to spread the benefits of the project to society. It implies lower pressure over public and private health facilities and increases the welfare of the population.
Component 4	Implementation will leverage existing structures, teams, and processes wherever possible to avoid creating an additional burden on the Government. Capacity building within the Government through training will allow for a sustainable continuation of activities beyond project closing.

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis

71. **The project supports the key components needed to accelerate the GoES’s digitalization journey.** The main project outputs include building a green data center, strengthening interoperability platforms and digital services, providing digital skills training, and modernizing the Emergency Management System. Moreover, the project will enable advanced data analytics to integrate information systems supporting agency services and data-driven decision making, along with other core government processes and services.

72. **Component 1 finances a green data center designed with the most efficient and resilient technologies.** The new data center, owned and managed by PRODEST, will serve as the main data center while providing additional storage and computing power. A new facility will follow a modular approach. This data center will operate as disaster-resistant facility and follow recovery time objectives, while complying with the maximum tolerable downtime specified by user organizations. It will be designed, constructed, and implemented to receive EDGE certification post-construction or similar sustainability certification.

73. **The technical design will follow the best international cybersecurity standards.** The facilities financed by this project will include physical security, cybersecurity protection by means of network firewalls and application firewalls and export of logging and alarms for integration into PRODEST’s Security Information and Event Management. Cybersecurity protection should follow and be compliant with accepted international information system security standards or frameworks such as the National Institute of Standards and Technology (NIST) Cybersecurity Framework, International Organization for Standardization (ISO) 27001, NIST 800-53v5 (Security and Privacy Controls for Information Systems and Organizations), or available state security control.

74. **For Component 2, technical design is based on advancing the use of shared DPI to accelerate the digitalization of services.** In this regard, Subcomponent 2.1 will increase access to user-friendly, integrated, end-to-end digital public services through a multichannel approach focusing on integrating the state platform to the federal platform gov.br. Subcomponent 2.2 will ensure the required infrastructure to provide trustworthy, secure, and inclusive digital public



services. Subcomponent 2.3 will provide capacity to the state to continue digitizing services, create APIs to enhance interoperability and provide training targeting civil servants to ensure the full realization of the digital transformation agenda. Special attention will be paid to leveraging existing infrastructure and solutions, strengthening data requirements, and promoting privacy and cyber-resilience.

75. **Component 3 will finance the modernization of the state's Emergency Management System by improving the emergency response capacity** through the construction of the CIDES, an integrated emergency response center, and the development and integration of all the systems and procedures for the management of ordinary, urgent, and emergency calls to 190, 192, 193 and another emergency number. This will allow the population to access emergency services more quickly, consequently increasing service provision efficiency while reducing response time. The building will be designed and constructed with the objective of receiving post-construction EDGE certification or similar.

76. **The modernization of the emergency numbers management will be based on the NGEN international models (commonly referred to as NG911 or NG112) which describe digital, IP-based systems that replace the analog emergency number infrastructure that has been in place in many countries for decades.** The success and reliability of 190 and the other emergency numbers will be improved with the implementation of NGEN, as it will enhance emergency number services to create a faster, more resilient system that allows voice, photos, videos, and text messages to flow seamlessly from the public to the emergency numbers network. NGEN will also improve Espírito Santo's ability to help manage call overload, natural disasters, and transfer of 190 calls based on caller location data.

77. **The project meets the Paris Alignment requirements on both mitigation and adaptation.**

- (a) **Assessment of adaptation risks.** The Climate and Disaster Risk Screening Tool was used to identify climate and disaster risks, such as flooding, anticipated increases in maximum temperature, and extreme rainfall patterns, which could potentially negatively affect the infrastructure implemented through the project. Adaptation risks were considered in the project design.
- (b) **Reduction of adaptation risks.** Material risks from climate hazards have been mitigated through available technically feasible and economically viable alternatives in the project design. As a result, the following activities have been incorporated into the project to support adaptation to climate risks: network and energy backup systems in the emergency center and data center design to assure business continuity in face of disruptions due to climate events, and structural climate adaptation strategies, such as using weatherproof materials, raised floors for server racks, and overall climate-resilient design for infrastructure to endure floods, implementing interoperable and redundant data hosting to avoid data losses. Additionally, under Component 2, universal access to improved quality of climate data and information, and the geolocalization of climate emergencies through the new emergency center will enable strengthened coordination and enhanced response to climate change-related shocks. The risks associated with climate hazards are all reduced to an acceptable level by the adaptation strategies.
- (c) **Assessment of mitigation risks.** The project components will support Brazil and Espírito Santo's decarbonization objectives. Project components are universally aligned except for data centers and buildings. Considering the country's decarbonization trends, the project components are not expected to increase risks of carbon lock-in in the long term: the financed physical infrastructure can adapt to being powered by cleaner energy sources as they become available.
- (d) **Reduction of mitigation risks.** All digital equipment procured under Components 1, 2, and 3 will be of the latest technology surpassing current energy efficiency standards. The data center will achieve energy efficiency performance levels equivalent to EDGE certification for data centers that will make it low risk: it



will utilize natural gas generators instead of diesel generators (which incur a 21 percent GHG reduction), implement a closed-circuit water-cooling system (reducing the water usage by 90 percent and increasing energy efficiency), obtain power from on-site photovoltaic energy facilities, and increase the rack density, which reduces and optimizes the need for direct cooling. Specifically, the data center will be built to reduce the PUE to a 1.4 level, incurring a more than a 20 percent decrease with respect to Espírito Santo’s ASHRAE Zone.²⁵ The emergency center will be built to receive EDGE 1 certification energy efficiency standards for buildings²⁶ and will utilize renewable energy sources to the extent possible. Together, these steps ensure that the operation will not have a negative impact on the nation's shift to low-carbon development pathways, and consequently, that the mitigation risks have been reduced to low levels.

Economic and Financial Analysis

78. **Investments in the data center, public web service portal, emergency response systems, and other subcomponents of the project are anticipated to bring significant economic benefits to the state of Espírito Santo.** Two primary factors are expected to directly contribute to the overall value added by the project. The efficiency of the state's cost allocation in providing public services and the is cost savings related to the mitigation of life loss due to the implementation of improved emergency system. Cash flow projections have been estimated for a 10-year period, with a discount rate set at 27.4 percent. The summarized results estimates are as follows:

- Lower bound forecasted scenario: Internal rate of return (IRR) of 12 percent.
- Upper bound forecasted scenario: IRR of 28 percent.

Table 3. Summary of Project Results by Scenarios in 10 years

Key Takeaways	Lower Bound	Higher Bound
State savings due to digital services (US\$, million) ^a	52.00	70.86
Life Loss Mitigation (US\$, million) ^b	42.79	60.14

79. **The digitalization of public services is expected to result in significant cost savings.** This includes reducing administrative costs associated with human resources dedicated to direct public service and handling requests, as well as expenses related to physical space, printing, and postage, among others. The cost-cutting measures are projected to be implemented progressively over the next 10 years, with yearly performance improvements corresponding to the project's implementation.

80. **Additionally, the project aims to mitigate the costs associated with loss of life by improving emergency services response.** This is based on factors such as the statistical value of life for a working person, records of life-threatening incidents, and the expansion of service provision to all 78 municipalities in the State of Espírito Santo. The project anticipates a gradual enhancement of system efficiency over the next 10 years, in line with the project’s implementation.

81. **The investment is expected to have a positive impact on job creation in the State of Espírito Santo.** It is estimated that the project implementation will result in the creation of approximately 2,800–3,500 new direct jobs over the course of 10 years. These figures specifically represent the estimated direct job creation and do not consider the additional ‘induced’ jobs and indirect job creation resulting from the inputs required for the proposed interventions.

82. **It is worth noting that these figures are considered conservative estimates.** The project’s scope has the potential to not only create new jobs but also contribute to the development of digital skills, generate indirect effects on state

²⁵ Espírito Santo is in ASHRAE Zone 3A of PUE 1.95 which is the baseline PUE.

²⁶ Local building energy efficiency codes that meet EDGE 1 certification requirements will be applied, if available.



revenue, and improve the overall welfare of the population. However, due to a lack of available data, these variables were not included in the estimates.

83. **Besides the economic impact, the project estimates a reduction of CO₂ equivalent emissions of about 0.376–0.432 million tons during the 10-year forecast and the creation of up to 259 permanent jobs in the new data center facility.** Estimates for emissions and job creation are based on Brazilian benchmarks and the emissions records provided by Brazil's System for Estimating Greenhouse Gas Emissions (*Sistema de Estimativa de Emissões de Gases de Efeito Estufa*)²⁷ data and available references for a typical data center²⁸ development and operation. Jobs estimation refers only to the data center's operation according to its purpose of serving public clients only.

B. Fiduciary

(i) Financial Management

84. **The World Bank performed a Financial Management Assessment (FMA) of the FM arrangements for the Espírito Santo Digital Acceleration Project (P180462).** The FMA was conducted according to Bank Policy: Investment Project Financing and Bank Directive: Investment Project Financing and the Financial Management in Bank Financed Operations and Other Operational Matters, issued and effective on March 10, 2023.

85. **The scope of the FMA included (a) an evaluation of existing FM systems to be used for project monitoring, accounting, and reporting; (b) a review of staffing arrangements; (c) a review of the flow of funds arrangements; (d) a review of internal control mechanisms in place, including internal audit; (e) a discussion with regard to reporting requirements; and (f) a confirmation of the external audit arrangements.** FM arrangements should emphasize governance controls applicable to the project components. This approach considers current procedures, norms, and institutional capacity. It emphasizes simple procedures, with a high degree of transparency and accountability, and decision-making and management responsibilities at the direct administration level.

86. **The FMA concludes** that (a) the FM arrangements for the proposed project are considered adequate; (b) the funds flow, disbursements, monitoring, auditing, and supervision arrangements have been designed in a way to respond to the project's implementation arrangements; and (c) the residual FM risk associated with the project is rated as Moderate. There are no FM-related conditions for board approval, and effectiveness.

87. **The FMA identified the following risks to the achievement of the PDO:** (a) four entities will implement the project, and the PMU has no experience implementing World Bank's projects; (b) the Physical Financial Monitoring System (*Sistema de Acompanhamento Físico Financeiro*, SAFF) system will need to be customized so the project transactions can be migrated from the state's Financial Management Information System (FMIS) allowing the generation of interim financial reports (IFRs) according to the World Bank's format (that is, category, component, and subcomponent); and (c) there is a lack of sufficient budget to finance planned project activities.

88. **The above risks' mitigation measures are the following:** (a) the PMU needs to be established and staffed exclusively for the project to guarantee a good working flow, and the World Bank will provide close FM support supervision and training; (b) SAFF needs to be acquired for this project; and (c) the Procurement Plan should be adjusted to the available budget, and the PMU should request a supplemental budget based on a realistic implementation.

²⁷ <https://plataforma.seeg.eco.br/>.

²⁸ https://biz.loudoun.gov/wp-content/uploads/2021/03/Data_Center_Report_2020-1.pdf.



(ii) Procurement

89. Procurement under the project will be conducted in compliance with the World Bank’s Procurement Regulations for IPF Borrowers (Procurement Regulations), dated September 2023. The procurement of all activities will be conducted by SECTI, through a Special Bidding Commission (SBC). The project-benefiting institutions are responsible for the technical aspects of their respective activities and for managing the contracts. Training on the World Bank’s Procurement Regulations will be provided before implementation begins, as this project covers the procurement of goods, works, consulting services, and non-consulting service contracts.

90. Procurement arrangements shall follow all particularities and context described in the Project Procurement Strategy for Development (PPSD), which will be finished and submitted by the borrower before negotiations. Consideration will be given to sustainable procurement and gender aspects in procurement. Based on the PPSD, a Procurement Plan has been prepared by the borrower and approved by the World Bank, covering the first 18 months of project implementation. The PMU will specify appropriate roles and responsibilities of the technical and procurement specialists.

91. The procurement risk associated with the project is rated as Moderate. A procurement capacity assessment has been completed in September 2023 to appraise the capacity of SECTI to implement procurement actions and to review the organizational structure underlying project implementation and the interaction between the PMU and the project-benefiting institutions. SECTI has a well-functioning procurement team, with experience in procuring goods and services, but no experience with World Bank regulations. Project agencies have some experience in selecting consulting services. Mitigation measures to ensure a satisfactory arrangement are provided under below.

C. Legal Operational Policies

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Area OP 7.60	No

D. Environmental and Social

92. The screening of the E&S risks and impacts of the proposed list of activities agreed with the borrower indicates that this is currently considered a Moderate-risk project under the World Bank’s Environmental and Social Framework (ESF), where both environmental and social risks are Moderate and sexual exploitation and abuse/sexual harassment (SEA/SH) risk rating is Low. The following standards were found relevant during project preparation: ESS 1—Assessment and Management of Environmental and Social Risks and Impacts, ESS 2—Labor and Working Conditions, ESS 3—Resource and Efficiency and Pollution Prevention and Management, ESS 4—Community Health and Safety, ESS 7—Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities, ESS 8—Cultural Heritage, and ESS 10—Stakeholder Engagement and Information Disclosure. A detailed analysis of the relevance of each of the applicable Environmental and Social Standards (ESS) is presented in the project’s Environmental and Social Review Summary (ESRS).

93. Physical interventions comprise the construction and operation of the CIDES and one data center. The selected site for the CIDES does not offer potential adverse risks and impacts on the surrounding community and the environment



are not likely to be significant, and eventual marginal adversities due to civil works to be carried out should be limited to the site locations, are temporary and reversible, and can be controlled or mitigated by the adoption of standard good international industry practices (GIIP) as defined in the WBG Environmental, Health and Safety Guidelines. The site is located in an urban consolidated zone, away from environmentally sensitive areas. On the other hand, the site of the data center is still not defined however, it will be selected based on the same criteria to the CIDES, for example, located away from environmentally sensible areas, or unoccupied state-owned properties.

94. **As such, the potential risks and impacts and issues have the following characteristics: (a) predictable and expected to be temporary and/or reversible; (b) low in magnitude; (c) site specific, without the likelihood of impacts beyond the actual footprint of the project; and (d) low probability of serious adverse effects to human health and/or the environment.** The project's risks and impacts can be mitigated in a predictable manner, with well-known E&S control and mitigation measures. During project preparation, the municipality of Vitoria requested the completion of a neighborhood impact assessment as a licensing requirement for the construction of the CIDES. While the borrower is still discussing with the municipality the scope of the term of reference (TOR), according to the World Bank request, the PMU has already completed the first draft of the project's Environmental and Social Assessment (ESA). This document is comprehensive and includes an assessment of the project's impacts, applicable mitigation measures following local regulations, and GIIP and Environmental and Social Technical Specifications (ESTS) for civil works contractors. The same procedure will be undertaken once the location of the data center is selected. Other activities of the project comprise procurement of new equipment/data processing systems, digitalization of government services in a single portal, and overall technical assistance, which are not expected to result in significant downstream environmental risks and impacts—e-waste resulting from outdated/non-usable equipment will be managed according to the applicable environmental legal requirements. More detailed information can be found in the appraisal ESRS.

95. **The project is expected to have positive social impacts as it aims to strengthen digital infrastructure resilience, modernize emergency management, and improve DPI in the State of Espírito Santo.** With a more robust and resilient infrastructure, the project will help improve the Government's overall digital service delivery to all citizens in the state as well as bring more quality and agility to the state's response to emergencies in all 78 municipalities in Espírito Santo once all the services become integrated. The modernization of the Emergency Management System will increase coordination between existing emergency response units and the services they provide. Thus, it is expected that the current services will be maintained but with improved response efficiency. An overall social risk is the potential social exclusion of women, youth, persons with disabilities, Indigenous peoples, and other members of vulnerable groups to project benefits, especially due to the digital divide. The borrower is tackling these issues by consulting with target groups about the main government services used by them and designing ways of facilitating their use (especially on the accessibility and user experience fronts) and maintaining the provision of services physically until the state can reach all groups and locations with facilitated digital platforms (totems) to be installed after project implementation. On the civil works to be supported by the project, the key social risks are related to the surrounding communities' health and safety, but the impacts associated with these risks will be localized and will not be significant and can be prevented and/or mitigated in a predictable manner, implementing the measures set in the ESTS—part of the ESA. The project will not entail any land acquisition, resettlement, or associated livelihood impacts and is not expected to promote labor influx.

96. **Based on the context, the ongoing stakeholder engagement, and the project E&S risk rating, the borrower has developed and disclosed an ESA and Stakeholder Engagement Plan,** as draft versions, during the project's preparation stage. The draft ESA and SEP were disclosed on the Bank's website on October 3, 2023. Labor Management Procedures will be required no later than 60 days after project effectiveness as well as the disclosure of the final versions of the ESA and SEP. A draft Environmental and Social Commitment Plan (ESCP) was prepared in collaboration with the client and has been disclosed both in the World Bank website and the website of the GoES before appraisal. The final version of the ESCP



has also been disclosed in the Bank’s website after negotiations on April 19, 2024. The client disclosed the final version of the ESCP on April 22, 2024²⁹.

97. **The Stakeholder Engagement Plan includes a description of the grievance redress mechanism (GRM).** Project-related grievances received through available channels will be managed by the General State Ombudsman and its Sectoral Ombudsman in each of the participant secretariats and agencies. A specific protocol for tagging project-related grievances will be created, and training on the GRM protocols will be offered to all relevant staff.

98. **Citizen engagement.** The project has integrated citizen engagement mechanisms such as direct consultations with stakeholders and multilevel grievance mechanism procedures for the effective uptake and resolution of complaints. Citizen engagement through effective GRMs will also be monitored by tracking the percentage of grievances registered that received an adequate response within 30 days. Consultations with agencies, industry operators, and population groups were conducted during preparation and will continue during implementation. In addition, Component 2 of the project will rely on using citizen-centric design methodologies which keep citizens continuously engaged in the development process to assure services that are well accepted and adopted by citizens.

V. GRIEVANCE REDRESS SERVICES

99. **Grievance Redress.** Communities and individuals who believe that they are adversely affected by a project supported by the World Bank may submit complaints to existing project-level grievance mechanisms or the Bank’s Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed to address project-related concerns. Project affected communities and individuals may submit their complaint to the Bank’s independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of Bank non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints through dispute resolution. Complaints may be submitted to the AM at any time after concerns have been brought directly to the attention of Bank Management and after Management has been given an opportunity to respond. For information on how to submit complaints to the Bank’s Grievance Redress Service (GRS), visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the Bank’s Accountability Mechanism, visit <https://accountability.worldbank.org>.

VI. KEY RISKS

100. The overall risk of the proposed operation is rated as Moderate. All risk categories are assessed as Moderate or Low.

²⁹ Link to ESCP GoES website:

https://secti.es.gov.br/Media/Secti/ESMaisInteligente/P180462_ESCP_for%20negotiations_18apr2024.pdf



VII. RESULTS FRAMEWORK AND MONITORING

PDO Indicators by PDO Outcomes

Baseline	Period 1	Period 2	Closing Period
Strengthen the digital infrastructure resilience in the State of Espírito Santo			
Number of new data centers built according to energy-efficiency standards (Number)			
May/2024	Oct/2027	Oct/2028	May/2029
0	0	1	1
Modernize emergency management in the State of Espírito Santo			
Number of municipalities attended by the CIDES maintaining actual levels of quality (Number)			
May/2023	Oct/2027	Oct/2028	May/2029
25	25	25	78
Improve digital public infrastructure			
People using digitally enabled services (Number of people) ^{CRI}			
Mar/2024	Oct/2027	Oct/2028	May/2029
2,300,000	2,683,000	2,760,000	2875000
> People using digitally enabled services – Youth (Number of people) ^{CRI}			
Mar/2024			May/2029
			57,000
> People using digitally enabled services – Female (Number of people) ^{CRI}			
Mar/2024			May/2029
736000			1427500

Intermediate Indicators by Components

Baseline	Period 1	Period 2	Closing Period
Component 1: Resilient Data Infrastructure and digital skills			
Number of contracts for the data center services between PRODEST and Espírito Santo municipalities (Number)			
May/2024	Oct/2027	Oct/2028	May/2029



0	20	30	40
Average service uptime of data center (Percentage)			
May/2024	Oct/2027	Oct/2028	May/2029
0	0	0	99.99
Data center capacity added (MW) (Megawatt)			
May/2024			May/2029
0			TBC
➤ of which is green (Megawatt)			
May/2024			May/2029
0			100
Number of individuals trained through digital skills programs (basic and advanced) (Number)			
May/2024	Oct/2027	Oct/2028	May/2029
0	1,000	2,000	3,000
➤ Number of women who increased their knowledge and are assessed to have improve their employment-linked digital skills (basic and advanced). (Number)			
May/2024	Oct/2027	Oct/2028	May/2029
0	500	1,000	1,500
Component 2: Strengthening of Digital Public Infrastructure			
Number of agencies sharing data in the state interoperability platform (Number)			
May/2024	Oct/2027	Oct/2028	May/2029
6	10	20	25
Number of digital services in the new unique portal (Number)			
May/2024	Oct/2027	Oct/2028	May/2029
291	380	500	570
Number of authentications in services provided in the new unique portal (Number)			
May/2024	Oct/2027	Oct/2028	May/2029
0	500,000	1,000,000	2,500,000
User Satisfaction with the new digital services included in the unique portal (Percentage)			
May/2024	Oct/2027	Oct/2028	May/2029
0	60	70	70
Component 3: Modernize the Emergency Management System			
Number of emergency response agencies/entities integrated in CIDES. (Number)			
May/2024	Oct/2027	Oct/2028	May/2029
5	6	7	8
Number of Next Generation Emergency Number (NGEM) services implemented in the Integrated Emergency Response Platform (IERP). (Number)			



May/2024	Oct/2027	Oct/2028	May/2029
0	1	2	3
Integrated Center for Social Defense (CIDES), designed, built and in operation. (Yes/No)			
May/2024			May/2029
NO			YES
Centralized Emergency Response Technical Integration Plan and Feasibility Study developed. (Yes/No)			
May/2024	Oct/2027	Oct/2028	May/2029
NO	YES	YES	YES
Improved GBV emergency services protocols integrated to the new platform, CIDES (Yes/No)			
May/2024			May/2029
No			Yes
Call abandoned rate (Percentage)			
May/2024			May/2029
3			3
Time to answer (Seconds)			
May/2024			May/2029
1			1
Component 4: Project Management			



Monitoring & Evaluation Plan: PDO Indicators by PDO Outcomes

Strengthen the digital infrastructure resilience in the State of Espírito Santo	
Number of data centers built according to energy-efficiency standards (number).	
Description	Data centers built within the scope of this Project according to international energy efficiency standards (number). Regarding energy efficiency standards, this refers to Power Utilization Efficiency factor of 1.4 or less.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data Collection	PRODEST
Improve digital public infrastructure	
People using digitally enabled services (number)	
Description	The number of people or businesses who use new or enhanced digitally enabled services through the project. This includes new digitally delivered services as well as enhancements to existing digitally delivered services (i.e., those delivered through digital technologies such as internet, cloud computing, AI, etc.), provided by the public or private sector. The number of business beneficiaries will be converted into an estimated number of people for the purpose of aggregation. Corporate Indicator is disaggregated by Women and Youth.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data Collection	PRODEST and SEG
People using digitally enabled services – Youth (Number of people)	
Description	There is no baseline for youth disaggregated data available specifically on digital accounts to access digital enabled services. Baseline and target estimates will be confirmed during the first year of implementation.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data	PRODEST and SEG



Collection	
People using digitally enabled services – Female (Number of people)	
Description	There is no baseline sex disaggregated data available specifically on digital accounts to access digital enabled services. According to studies, in Brazil, 32% of women use internet for productive activities compared to 44% of men, which leads to the assumption that there are fewer women than men using digital accounts. Hence, the target set up in the Results Framework is based on the 32% figure. The Project will help address the lack of sex-disaggregated data. Estimates will be confirmed during the first year of implementation.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data Collection	PRODEST and SEG
Modernize emergency management in the State of Espírito Santo	
Number of municipalities attended by the CIDES maintaining actual levels of quality (number).	
Description	Number of municipalities covered by the emergency services provided by the new central CIDES with the same level of quality existing in at project appraisal. Level of quality is defined as maintaining call abandon rate (% of calls not answered by the CIDES) and time to answer calls (Average length of time to answer an emergency call).
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data Collection	SESP

Monitoring & Evaluation Plan: Intermediate Results Indicators by Components

Component 1: Resilient Data Infrastructure	
Number of contracts for the data center services between PRODEST and Espírito Santo municipalities (Number).	
Description	The main objective of the new data infrastructure within the scope and built by this Project is to fulfill the public sector demand. This indicator tracks the uptake of usage of the data center by Espírito Santo municipalities.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data	PRODEST



Collection	
Average service uptime of data center [Percentage].	
Description	The new data infrastructure within the scope and built by this Project will need to comply for the whole project duration with a 99.99% percent availability, equal to maximum 52 minutes downtime. The term downtime is used to refer to periods when a system is unavailable.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data Collection	PRODEST
Number of individuals trained through digital skills programs (basic and advanced)	
Description	This indicator measures the total number of individuals trained and received at least one certificate as part of the digital skills training supported through the project.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data Collection	SECTI
Number of women who increased their knowledge and are assessed to have improve their employment-linked digital skills (basic and advanced) (Number).	
Description	The increased knowledge will be measured by a test before and after the training. (We will refine the modalities and details of the test).
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data Collection	SECTI
Data Center Capacity added (MW)	
Description	Additional power of data centers operated. Subindicator “of which is green” included. Green will be based on data centers that conform to options 1 and/or 2 of the Paris alignment methodology. https://worldbankgroup.sharepoint.com/sites/parali/SitePages/PublishingPages/Toolkits.aspx .
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data	PRODEST



Collection	
Component 2: Strengthening of Digital Public Infrastructure	
Number of agencies sharing data in the state interoperability platform (number).	
Description	This indicator measures the number of agencies sharing data using the interoperability platform. Calculation formula: Total number of direct or indirect government agencies in ES with at least one information system sharing data using the interoperability platform.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data Collection	SEG
Number of digital services in the new unique portal (number).	
Description	This indicator measures the total number of digital services offered in the new unique portal.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data Collection	SEG
Number of authentications in services provided in the new unique portal (number).	
Description	This indicator measures the total number of successful authentications performed to access services using the new unique portal.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data Collection	SEG
User Satisfaction with the new digital services included in the unique portal.	
Description	This indicator measures the level of user satisfaction with the new unique portal created under the project.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.



Collection	
Responsibility for Data Collection	SEG
Component 3: Modernize Emergency Management System	
Number of Next Generation Emergency Number (NGEM) services implemented in the Integrated Emergency Response Platform (IERP). (number).	
Description	This indicator measures the total number of new NGEN services/functionalities (like advance mobile location, integration of radio communications, etc) implemented in the IERP. Calculation formula: total number of next generation services or functionalities implemented by the integrated platform that were not in place before the project.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data Collection	SESP
Centralized Emergency Response Technical Integration Plan and Feasibility Study developed.	
Description	This indicator measure the finalization of component 3.1 of the Project, the development of plans and feasibility studies required for Component 3.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data Collection	SESP
Number of emergency response agencies/entities integrated in CIDES.	
Description	This indicator measures the number of new emergency response agencies/entities operating within the new emergency response center (CIDES). The baseline are the agencies already operating in CIODES and CIODES Sul. Calculation formula: number of agencies/entities which sign an agreement (or similar) to be part of CIDES operations.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data Collection	SESP



Call abandoned rate (Percentage)	
Description	% of calls not answered by CIDES. Calculation formula is number of answered calls / number of received calls. Good quality standard requires less than 10%.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data Collection	SESP
Time to answer (seconds)	
Description	This indicator measures Average length of time to answer an emergency call. Best practice requires less than 10 second response time.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data Collection	SESP
Integrated Center for Social Defense (CIDES), designed, built and in operation.	
Description	This indicator measure the finalization of component 3.2 of the Project, the building and operation of the CIDES.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data Collection	SESP
Improved GBV emergency services protocols integrated to the new platform, CIDES	
Description	Measures the implementation and integration of GBV services in the upgraded emergency management system.
Frequency	Yearly
Data source	Espírito Santo Government Data
Methodology for Data Collection	Data and information collected and provided by the Government.
Responsibility for Data Collection	SESP



ANNEX 1: Implementation Arrangements and Support Plan

COUNTRY: Federative Republic of Brazil
Espírito Santo Digital Acceleration Project

Project Implementation Arrangements

- The Secretariat of Science, Technology, Innovation and Professional Education (SECTI) will be responsible for overall Project implementation and coordination with other participating institutions.** In Espírito Santo, the SECTI promotes, supports, and coordinates the policies on development of scientific research, technology, innovation, and professional education. It aims to improve the population's quality of life, economic growth, and social inclusion through promoting knowledge, innovation, and education. Its activities include the formulation and implementation of policies and programs on development and use of technology and innovation and provides technical orientation to the various executive branch agencies while providing resources for research and innovation, support to start-ups and entrepreneurship, promotion and dissemination of scientific knowledge, and improvement of professional education and training. SECTI will host a Project Management Unit which was created by a State Decree (Decree 5682-R April 18,2024). The PMU is responsible for overall Project management and coordination with the other participating institutions. This includes Project implementation and supervision, procurement and contract management, monitoring and evaluation, financial management (accounting and disbursement procedures), and environmental and social management. The preparation of financial reports (IFRs) and disbursement requests will also be under the responsibility of the PMU, based on inputs from other participating institutions. The PMU will comprise a project coordinator, a FM specialist, a procurement specialist, a M&E specialist, an E&S specialist, a legal specialist, an operational and administrative specialist, and a communication specialist, as further detailed in the POM. It will be staffed by full-time, tenured personnel drawn from the state government. An external consulting firm and/or individual consultants will be hired to support the PMU in carrying out its functions.
- The partner agencies (implementing agencies) are SEG, SESP and PRODEST.** They will be responsible for providing technical support in the preparation of the terms of references/technical specifications, contracts supervisions and management relying on their organizational structure and staff to do so. Each has already established a team responsible for project implementation headed by a project manager and focal point. The teams' composition and responsibilities are detailed in the POM. The beneficiary/partner agencies will implement those activities in close coordination with the PMU to ensure implementation quality and timeliness. None of the beneficiary agencies have experience in monitoring and implementing World Bank projects, although they have experience with other multilateral financing banks.
- SEG holds a multifaceted role within the state's governance structure and plays a pivotal role in streamlining administrative processes, fostering technological innovation, and enhancing the efficiency of governmental operations.** Furthermore, it offers technical guidance to various executive bodies in their modernization efforts. Moreover, it is also in charge of the Digital Transformation Secretary (*Secretaria de Transformação Digital*) that oversees IT governance in Espírito Santo, including the '*Conecta Cidadão*' portal that provides information and services to citizens, entrepreneurs, investors, and rural producers. **SESP is responsible for the standardization, definition, planning, supervision, coordination, execution, and control of government actions that ensure the maintenance of order and public safety in the state.** Among other duties, SESP is responsible for fire prevention and extinction; the provision of public emergency assistance; and the planning, coordination, and execution of civil defense actions, in permanent coordination with other public bodies. **PRODEST is a public company that operates under the GoES.** It is responsible for providing technological



and communication solutions to various government agencies, such as hardware and software management, data center management, network management, and digital security. Its mission is to propose, test, and innovate in ICT solutions, collaborating to promote an agile state, integrated, and connected to society. State Law 3,043/1975 transformed the existing State Company for Data Processing into the State Company PRODEST, aiming to improve the effectiveness of technology use in the state public administration. To strengthen its position in the Espírito Santo State public sector, the complementary Law 315/05 changed the institution into an autonomous government organization, creating the current PRODEST in 2005. The organization is linked to SEG. To facilitate the implementation of the Project SECTI will enter into a Cooperation Agreement with PRODEST for implementation of activities under component 1. The Cooperation Agreement will need to enter into force as a condition to project effectiveness. This agreement includes: (a) the responsibilities of PRODEST with respect to Project implementation, and (b) the obligation of PRODEST to carry out its respective activities under the Project in accordance with (i) the Loan Agreement, (ii) the Project Operations Manual, (iii) the Anti-Corruption Guidelines, (iv) the Procurement Regulations, and (v) the applicable provisions of the ESCP.

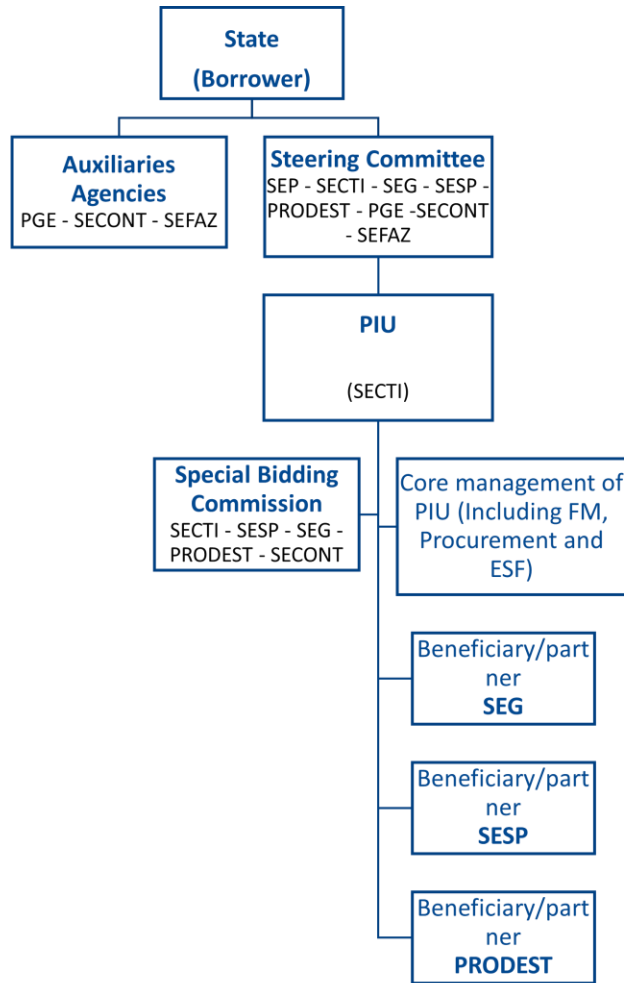
Coordination

4. **The Project SC** will be chaired by the State Secretariat of Economy and Planning (*Secretaria de Economia e Planejamento*, SEP) and comprises of high-level representatives from the Subsecretariat for Fundraising (*Subsecretaria de Estado de Captação de Recursos*), the beneficiary/partner entities (PRODEST, SEG, and SESP) and the SECTI, the PMU's general coordinator. The SC operates at a strategic, consultative level and ensures the project's alignment with Government policy and directives. It will hold quarterly meetings to fulfill its responsibilities, including tracking project activities; monitoring and assessing progress to ensure that targets, disbursements, and expected results are reached as agreed; providing institutional support to the PMU and implementing agencies, including ensuring that appropriate human resources are in place; monitoring compliance with World Bank policies and guidelines; reviewing and approving key project documents, such as the POM and annual budget; recommending strategies to resolve bottlenecks during Project implementation; documenting decisions made; and referring issues, as necessary, for deliberation by higher authorities. In fulfilling its functions, the SC will be supported by an Executive Secretariat led by the Subsecretariat for Fundraising, Secretariat of Economy and Planning, whose responsibilities will include coordinating and undertaking tasks assigned to the SC. SUBCAP/SEP has extensive experience in managing externally financed operations, and the proposed SC model reflects a similar arrangement to the one in place for the Espírito Santo Integrated Sustainable Water Management Project (P130682).

5. **An SBC will be created under SECTI.** It will be responsible for advice and to provide support on procurement processes for all project components.



Figure 1.1 – Project Implementation Arrangements



Note: PGE: Attorney General’s Office of the State of Espírito Santo (*Procuradoria-Geral do Estado do Espírito Santo*); SECONT: Secretariat of Control and Transparency (*Secretaria de Controle e Transparência*)

6. **Component 4 will strengthen the State’s capacity to conduct project activities.** To this end, it will finance the provision of technical assistance, consulting and non-consulting services, training, and goods to the PMU and the other implementing agencies necessary for the effective implementation of the respective activities under their mandate. This component will likewise support training aimed at qualifying professionals directly or indirectly involved in World Bank procurement policies in the development of TORs, budget and costs, contract management, supervision, project M&E, disbursement, and controls, as well as implementation of ESS.

7. Table 1.1 sets out the corresponding functional roles and responsibilities under each project component.



Table 1.1. Implementation Arrangements

Component	Technical Implementation	M&E	ESS	Procurement	Contract Management	FM
Component 1	PRODEST	PRODEST	PRODEST	SECTI (PMU)	PRODEST, SECTI	SECTI (PMU)
Component 2	SEG	SEG	SEG	SECTI (PMU)	SEG	SECTI (PMU)
Component 3	SESP	SESP	SESP	SECTI (PMU)	SESP	SECTI (PMU)
Component 4	SECTI (PMU)	SECTI (PMU)	SECTI (PMU)	SECTI (PMU)	SECTI (PPMU)	SECTI (PMU)

Financial Management

1. The World Bank performed a Financial Management Assessment of the FM arrangements for the Espírito Santo Digital Acceleration Project (P180462). The FMA was conducted per *Bank Policy: Investment Project Financing and Bank Directive: Investment Project Financing* and the Financial Management in Bank Financed Operations and Other Operational Matters issued and effective on March 10, 2023.

2. The scope of the FMA included (a) an evaluation of existing FM systems to be used for project monitoring, accounting, and reporting; (b) a review of staffing arrangements; (c) a review of the flow of funds arrangements; (d) a review of internal control mechanisms in place, including internal audit; (e) a discussion with regards to reporting requirements; and (f) a confirmation of the external audit arrangements. FM arrangements should emphasize governance controls applicable to the project components. This approach considers current procedures, norms, and institutional capacity. It emphasizes simple procedures, with a high degree of transparency and accountability, and decision-making and management responsibilities at the direct administration level.

3. **Implementing Entity:** The FM responsibilities for the PMU include (a) preparing and obtaining approval of project FM arrangements; (b) coordinating and supervising project implementation; (c) preparing and submitting Project interim unaudited financial reports (IFRs) for monitoring to the World Bank; (d) preparing and providing all financial documentation and Project reports requested by external auditors and World Bank staff; and (e) preparing, updating, and ensuring that the Project Operational Manual (POM) is observed. The PMU has no previous experience in working with the Bank’s projects. The financial management team in the PMU will participate in all Bank’s fiduciary and disbursement training throughout the project life.

4. **Staffing:** During project preparation, the Financial Management activities were under the responsibility of SECTI’s current finance team (Head of Sector Financial Group, the Deputy Manager of Mobilization for Innovation, and the Manager of Science, Technology, and Innovation and Support) from the Executive Analyst and Advisor to the Undersecretariat of State of Fundraising - SUBCAP - SEP. The PMU at SECTI will be formed by five team members, following agreed percentage dedicated to the Project:



Item No.	Finance Team Members	Project Allocation	Type of Employment
1	Financial and Administrative Manager	100%	Civil Servant
2	Budget Manager	20-30%	Civil Servant
3	Financial Administrative	15-20%	Civil Servant
4	Budget Analyst	100%	Consultant
5	Financial Specialist	100%	Consultant

5. **Planning and Budgeting:** State’s budget process is clearly defined, follows Law 4.320/64, and aligns with IPSAS standards. The budget cycle includes the planning and implementation of all government activities, which are to be reflected in the PPA, LDO, and LOA. The entire process of elaboration of the LOA, PPA, and LDO is carried out by the SEP,¹ with the participation of all state agencies. The PPA 2024-2027 was approved by the Legislative Assembly of Espírito Santo (“ALESP – *Assembléia Legislativa do Estado do Espírito Santo*”) on November 14, 2023 – Law No. 11.955 - <https://planejamento.es.gov.br/plano-plurianual-ppa/ppa-2027>. The procedures in place to plan Project activities, prepare related budgets, and collect information from the units in charge of Project execution are adequate. The PLOA 2024, which includes the specific budget lines for this Project was also approved on December 12, 2023 – Law No. 815/2023.

6. However, even though the state budget procedures are working appropriately, and the budget amounts were timely approved at the beginning of each year, since 2019³⁰, due to fiscal constraints, only 50% of the annual approved budget is released at the beginning of the year (“*contingenciamento orçamentário*”), with the remaining amount subject to request of supplemental budget limits.

7. SEP agreed with the following mitigation measures to avoid project implementation delays: (i) hold intensive project monitoring meetings; (ii) provide budget and financial training to the project’s PMU Secretariat’s GPO,³¹ starting in February 2024; (iii) review rule 04 regarding budget variations and additional credit; (iv) coordinate joint management meeting among the teams of the SEP sub-secretariats (SUBEO,³² SUBEPP,³³ and SUBCAP);³⁴ and (v) create a new monitoring report models in SIGEFES – ES Public Finance Management System, to monitor budget implementation. In addition, the PMU should work closely with the Procurement team and the State finance Secretariat to request timely supplemental budget to ensure that the procurement plan is realistic and aligns with the available approved budget.

8. The project’s budgeting, accounting, and financial transactions will be processed through the integrated SIGEFES (Integrated Public Finance Management System of Espírito Santo), used by all state institutions that receive/transfer

³⁰ As noticed throughout the implementation of “Águas e Paisagens - P130682

³¹ “Grupo de Planejamento e Orçamento” or Planning and budgeting Group

³² “Secretaria de Orçamento” or Budget Secretariat

¹⁶ “Subsecretaria de Planejamento e Projetos” or Undersecretary of Planning of Projects

¹⁷ “Subsecretaria de Captação de Recursos” or Subsecretariat for Fundraising

¹⁸ At the commitment stage (*empenho*) proposed expenditure is verified to ensure that spending proposals have been approved by an authorized official, that funds have been appropriated in the budget, that sufficient funds remain available in the proper category of expenditure, and that the expenditure is proposed under the correct category. At the verification stage (*liquidação*) the documentary evidence that the goods have been received or that the service has been performed is verified. Before the payment stage (*pagamento*) confirmation is needed that a valid obligation exists, that the competent person has signed that the goods or services have been received as expected, that the invoice and other documents requesting payment are correct and suitable for payment, and that the contractor is correctly identified. These controls are built into the SIGEFES system.

¹⁹ Solução para Administração Física e Financeira de Projetos

²⁰ “Plano Operacional Anual” or Annual Operating Plan



government funds. A specific ledger of accounts is created in the SIGEFES system under each executor for budget and financial reasons to identify the source of funds. All payments will follow the official commitment (“*empenho*”), verification (“*liquidação*”), and payment (“*pagamento*”) routines³⁵. The budget preparation and expenses are fixed based on the revenue forecast, and the Planning, Budget, and Finance Management Department conducts the monitoring of budget execution. All executing agencies will execute their budget by observing the monthly fiscal budget limits determined by the SEP. No payments shall happen outside SIGEFES. The project budgeting and accounting will follow current States’ rules, and may be identified under the following accounts:

Program	0017 - Strengthening Scientific, Technological Research and Innovation
Actions	2366 - Universalization of Digital Technologies
Products	Integrated Center for Social Defense of ES
	Realized Project Management
	Single Service Portal and integrated database made available and maintained

9. In parallel, the SAFF, utilized to monitor the state’s projects, will consolidate the project’s accounting entries for monitoring and reporting purposes. The SAFF system is a secure, efficient, and transparent environment tool to plan, implement, and monitor the annual budget exercise. It also allows monitoring of the POA³⁶ and the primary bidding data. The reports are generated using the Business Intelligence (BI) tool built into the SAFF system. The new web-based version of the SAFF system allows the online consultation of the information, and access will be made available to all Project executors. This system has been used by other Bank’s finance operations, including the active Project “Águas e Paisagens – P130682,” and is considered satisfactory.

10. **Accounting:** The state of Espírito Santo follows: (i) the Brazilian Accounting Standards Applicable to the Public Sector (*Normas Brasileiras de Contabilidade Aplicadas ao Setor Público-NBCASP*); (ii) Law 4.320/64, that establishes certain high-level accounting principles (*Normas Brasileiras de Contabilidade Técnica Aplicada ao Setor Público-NBCT SP*); and (iii) the Accounting Manual Applicable to the Public Sector (*Manual de Contabilidade Aplicada ao Setor Público-MCASP*) issued under Law 10.180 of February 6, 2001 and Decree 3.589 of September 6, 2000. Both the NBCASP and MCASP were revised via Portaria STN 467 of August 6, 2009, and updated in 2013 to incorporate the text of the International Public-Sector Accounting Standards (IPSAS), with adaptations for the Brazilian context.

11. The state of Espírito Santo has satisfactory accounting arrangements, controlled through the integrated Budget, Accounting and Financial system called SIGEFES, in line with the National Treasure Secretariat rules. The SEFAZ IT department manages SIGEFES. SIGEFES was implemented in 2014, which was the result of the consolidation and



integration of three technologically outdated systems: (a) “*Sistema Integrado de Administração Financeira dos Estados e Municípios do Espírito Santo*” or the integrated financial administration system for the states and municipalities, (b) - “*Sistema Integrado de Planejamento*” or the integrated financial planning, and (c) “*Sistema do Plano Plurianual*,” the Pluriannual Plan System. The SIGEFES is a modern solution developed in contemporary language and aimed at web environments, allowing a high degree of process automation and ease of generating management reports. The system guarantees the state government compliance with the accounting standards required by the National Treasury Secretariat for convergence with the international standards. It provides more transparency to the financial and budget management in the executive and legislative branches by converging all information on expenditures and investments directly to the Court of Auditors, Public Prosecution, and Court of Justice.

12. The World Bank evaluated the robustness of the SIGEFES. Although it follows the current national accounting procedures, it does not allow monitoring of the project’s transactions per category, component, and subcomponent. Since any customization will not be finalized in time for this project’s initial date, the project will follow the accounting arrangements established for the project - P130682 *Águas e Paisagens* – Phase 1 and the latest approved project P176982 - *Águas e Paisagens* – Phase 2, which will be implemented with the financial management system called SAFF. The SAFF system should be fully operating within ninety days after loan effectiveness. All project transactions will be booked in the SIGEFES state system and the SAFF system. The PMU will reconcile the project’s accounting records monthly from SIGEFES and SAFF systems.

13. **Internal Controls:** SECTI will hold the primary fiduciary responsibilities for the project, and the agreed PMU staffing will be appropriate to ensure the segregation of functions. The internal control structure at SECTI includes one dedicated person to the internal controls’ area/process under the UECI structure, reporting to SECONT. In addition to SECTI having an Internal Control Execution Unit (“*Unidade Executora de Controle Interno, UECI*”), the Secretariat of Control and Transparency (*Secretaria de Controle e Transparência, SECONT*), is the unit responsible for supporting the state’s direct and indirect agencies on legal procedural compliance for contracting public expenditures and complying with the public information access law. Therefore, for project purposes, SECONT will be responsible for the internal audit compliance-related functions and specific aspects of internal control. The project will be included in the Annual Audit Plan (PAINT³⁷) system within one month after loan effectiveness.

14. For project purposes, all payments will follow acquisition, verification of invoices, and payment routines. The transaction processing (recording annual budgets, budget commitments, and payables and authorizing payments and internal control reviews) will be done by SECTI only. SEFAZ-Espírito Santo will manage the project’s bank account in US dollars. And SECTI will manage the project bank account in R\$. Other internal control mechanisms include reviewing and reconciling payments, proper access to systems, segregation of functions, and observation of internal administrative codes and procedures. The project’s bank accounts should be reconciled daily by the PMU. A staff who does not process or approve payments will review all unusual items and take them to the responsible official for approval.

15. In addition, the PMU will ensure that all the projects’ assets acquired with the loan’s funds will be accounted for. The PMU will ensure, for the whole time of project implementation, that there is a control in place that guarantees all purchased assets by each implementing agency are: (a) used only for the project’s activities; and listed in an inventory record; (b) each asset is given an individual master record and number (that is recorded as an individual asset and depreciated according to its individual useful life); (d) physical inventory control is performed annually for these assets and reconciled with the respective control accounts; and (e) the asset is maintained in good condition. The Project’s assets

³⁷ “Plano Annual de Auditoria Interna” or Internal Audit Plan



will be accounted for through SIGEFES, SIGA/Asset System, and SAFF. Since these systems are not integrated, the PMU will ensure that all records within the three IT systems are reconciled every month.

16. To strengthen the internal audit functions in all entities that execute the state budget, SECONT is implementing international best practices, including the IA-CM (Internal Audit Capability Model) methodology.³⁸ Based on the report “Self-Assessment - Review 2 - Level 2 and Level 3 / Implementation of the IA-CM Methodology”, received from SECONT, the following goals were included: 1) to have mastery and institutionalization from Level 2 to the end of the CY 2023; ii) mastering Level 3 by the end of 2024, and iii) institutionalizing Level 3 by the end of 2025. To confirm the institutionalization of Levels 2 and 3 activities, it will be necessary to conduct a peer self-assessment in 2023 and 2025, respectively. The Bank supports achieving Level 3 by the Project’s Mid-Term-Review.

17. **Anticorruption Arrangements:** The Brazilian Anticorruption Law (Federal Law 12,846) establishes civil and administrative liability for legal entities for acts of corruption. It implements the OECD Anti-Bribery Convention, strengthens anticorruption enforcement, and is broadly in line with (and, in some respects, even stricter than) similar legislation found in other jurisdictions—such as the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act. Brazil’s Law represents a significant step, exposing companies—not just individuals—to liability and fines for the first time. SECTI and all implementing state agencies shall also observe the Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants (dated as of October 2006; revised as of July 1, 2016) that set the general principles, requirements, and sanctions applicable to persons and entities which receive, are responsible for the deposit or transfer of, or take or influence decisions regarding the use of the loan proceeds. SECTI and state agency staff involved in project implementation must observe the highest standard of ethics and take all appropriate measures to prevent and refrain from engaging in sanctionable practices. SECTI and state agency staff must report allegations of fraud and corruption in using the loan proceeds, maintain appropriate fiduciary and administrative arrangements, cooperate with World Bank investigations, take timely and proper action to address the problem and follow other applicable government-related rules and guidelines.

18. The project’s internal control system will be documented in the POM which will reflect the detailed staff duties, procedures, and guidelines for disbursements, payments, approvals, commitments, and reporting, which a draft should be forwarded to the Bank for Bank’s review before Negotiations. The POM should be prepared by the PMU, approved by the Bank, and maintained/updated throughout the Project’s life.

19. **Funds Flow and Disbursement Arrangements:** The disbursement of project funds will be processed following World Bank procedures as stipulated in the Legal Agreement and the Disbursement and Financial Information Letter (DFIL). Funds will be disbursed in respect of eligible expenditures incurred or to be incurred under the project and will be disbursed following agreed financing percentages. The proposed funds flow and disbursement arrangements were considered satisfactory. They will be streamlined within the project to facilitate execution, avoid unnecessary incremental operational arrangements, and rely on PFM country systems as much as possible. The following disbursement methods may be used to withdraw funds: (a) reimbursement, (b) advance, and (c) direct payment, with the advance method being the primary disbursement method. Disbursements will be documented based on Statement of Expenditures (SOEs). The Designated Account (DA) ceiling will be variable based on the forecast needed for six months, recalculated every three months. Summary of Expenditures - SOEs will also document reimbursements. Direct Payments will be documented by

³⁸ IA-CM is a framework that identifies the fundamentals for effective internal auditing in the public sector. IA-CM intends to ensure internal audit becomes an integral component of effective governance in the public sector and helps organizations achieve their objectives and account for their results. IA-CM consists of five levels, tied to leading practices, and level 3 (integrated) is where internal audit management and professional techniques are uniformly applied following international rules.

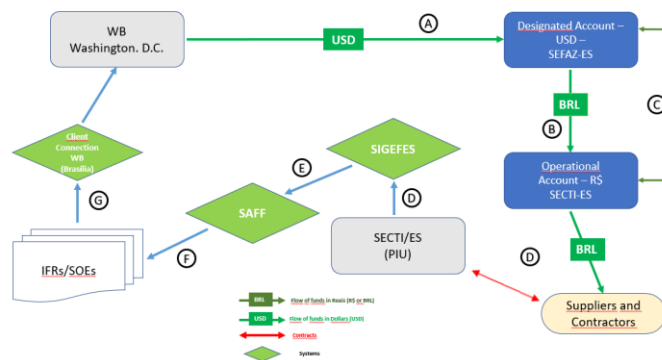


Records (copy of the invoices). The frequency for reporting eligible expenditures paid from the DA is quarterly. Direct Payments will be documented by records (copies of the invoices).

20. SEFAZ-ES will open a segregated DA³⁹ in “Banco do Brasil” in Brasília, in the name of the state of Espírito Santo, to receive loan funds in USD. An operational account, exclusive to the project, will also be opened in Banco do Brasil, in Vitória, in local currency (Reais) in the name of SECTI to receive the transfers from SEFAZ-ES and pay suppliers and contractors. These accounts should be opened within thirty day of loan effectiveness. SEFAZ-ES will manage the Bank account in US Dollars, and SECTI will manage the operational account in Reais, as per the flow of funds chart below.

21. Below is the flow of funds which will be included in the POM-draft before Negotiations:

Figure 1.1. Flow of Funds



Note:

- A. SEFAZ will open a segregated DA, in US dollars, in *Banco do Brasil*, located in Brasília, in the name of the State of Espírito Santo to receive loan funds in US dollars and disbursements in US dollars.
- B. SECTI-Espírito Santo will also open an operational account in *Banco do Brasil*, in Reais (Brazilian reais) located in Vitória, exclusive for the project, to process local currency payments to suppliers’ and contractors’ bank accounts.
- C. Based on the cash flow forecast for the next six months, SECTI will request SEFAZ an advance of the loan resources upon the TTL’s approval.
 - C1. SEFAZ will request *Banco do Brasil* (Brasília) withdraw of the loan resources to the bank account in US dollars and then transfer the corresponding amount in local currency to its current account.⁴⁰
 - C2. SEFAZ requests to *Banco do Brasil*, through a bank order, to transfer funds (in local currency) from its bank account to the project’s Operating Account.
- D. Upon receipt of goods and rendered services, the PMU receives the respective invoices. SECTI reviews the documentation and authorizes it for payments. The receipt of goods and rendered services and their invoices must be recorded in the accounting state system – SIGEFES.
- E. Simultaneously, the PMU will also book the receipt of the goods and rendered services, its invoices, completion of the bidding and contracting of suppliers and contractors, and the payments in the SAFF system

³⁹ To be opened within 30 days of loan effectiveness.

⁴⁰ The movements in foreign and national currencies are recorded in the foreign currency account opened at Banco do Brasil, with the generation of the respective exchange contract. SEFAZ will forward these documents to the PMU, which is responsible for reporting. to the international creditor institution.



manually. SECTI will be responsible for reconciling both accounts in Reais and US dollars. All documents are available for the external auditors’ purposes.

- F. The consolidated IFRs and SOEs are generated through the SAFF system in Reais (for local accounting purposes) and US dollars.
- G. The IFRs and SOEs are submitted to the Bank via the Client Connection system.

22. The counterpart funds will be executed by SEFAZ-ES and monitored by SECTI-ES. The PMU will include the process to monitor the counterpart funds in the POM.

23. Retroactive financing will be allowed for this project up to an aggregate amount not to exceed twenty percent of the loan amount for payments made for expenditures one year before the signing date of the Loan Agreement, in line with applicable IPF policies.

24. The project has informed that the front-end fee will be financed from the Loan Proceeds.

25. The loan will also have a four-month grace period after the closing date, during which the World Bank will accept withdrawal applications relating to project transactions incurred before the closing date. The Minimum Application Size for Direct Payments will be US\$500,000.00 equivalent. All disbursement details will be reflected in the DFIL. The table below specifies the categories of eligible expenditures that may be financed out of loan proceeds. The Financial Management unit in the PMU will maintain the information required for the compilation of Statements of Expenditure.

26. The table below specifies the categories of eligible expenditures that may be financed out of the proceeds of the Loan.

Table 1.2. Disbursement Categories Table:

Category	Amount of the Loan Allocated (Expressed in USD)	Percentage of Expenditures to be financed. (Inclusive of Taxes)
(1) Works and goods for the Project	45,681,000	100%
(2) Operating Costs, Training Costs, consulting and non-consulting services for the Project	15,381,960	100%
(3) Front-end Fee	153,040	Amount payable pursuant to Section 2.03 of this Agreement in accordance with Section 2.07 (b) of the General Conditions
(4) Interest Rate Cap or Interest Rate Collar premium	0	Amount due pursuant to Section 4.05 (c) of the General Conditions
TOTAL AMOUNT	61,216,000	

27. **Financial Reporting:** The project’s transactions will be accounted in SIGEFES. However, the SAFF system will generate the IFRs for monitoring and audit purposes, in local currency (BRL) and US dollars, on a cash basis (although the state also follows accrual accounting) following project design (by category, component, and subcomponent). SAFF will adequately control, account for, report on, and manage the proposed project’s transactions.



28. As a result, the PMU will ensure the timely production of semiannual IFRs for further submission to the World Bank within 60 days after the end of each semester. The IFRs will be generated from the SAFF system. SECTI should submit for the Bank's validation the IFRs (the automated format and content) no later than sixty days after loan effectiveness.

29. Accordingly, the format and content of the IFRs will cover the following items:

- IFR 1 - Sources and Uses of Funds by Project category, cumulative (project-to-date, year-to-date, and for the period) versus actual expenditures, including a variance analysis,
- IFR 2 - Uses of Funds by Project Component and Subcomponent, cumulative (project-to-date, year-to-date, and for the period) versus actual expenditures, including variance analysis,
- IFR 3 - DA bank reconciliation and Bank statements,
- IFR 4 – Disbursement Forecast.

30. **External Auditing:** The Court of Auditors of the state of Espírito Santo is the public body that conducts the accounting, financial, budgetary, operational, and patrimonial inspection of the state, municipalities, and entities of the direct and indirect administration, regarding aspects of legality, legitimacy, and economy.

31. Specifically, for this project, annual financial statements will be audited by independent auditors, satisfactory to the World Bank, by acceptable auditing standards. The external audit will be conducted according to the TOR acceptable to the World Bank (prepared by the PMU and approved by the World Bank) by International Standards on Auditing issued by the International Auditing and Assurance Standards Board of the International Federation of Accountants or national auditing standards if, as determined by the World Bank, these do not significantly depart from international standards. The audited financial statements will be prepared by accounting standards acceptable to the World Bank (that is IPSAS or national accounting standards where, as determined by the Bank, they do not significantly depart from international standards).

32. According to the World Bank's guidelines, the auditors will also have to prepare a Management Letter, where any internal control weaknesses will be identified, contributing to strengthening the control environment. The auditor's report will be submitted to the World Bank no later than six months after the closing of the fiscal year, and the annual audit may be financed out of the loan proceeds. Specific audit TOR will be prepared by SECTI and submitted to the World Bank's no objection within 30 days of the signature of the Legal Agreement. In addition, SECTI should appoint external auditors within 90 days of loan effectiveness.

33. The general conditions require the borrower/recipient to retain all records (contracts, orders, invoices, bills, receipts, and other documents) evidencing eligible expenditures and to enable the World Bank's representative to examine such records. They also require the records to be retained for at least one year following receipt by the World Bank of the final audited financial statement required by the Legal Agreement or two years after the closing date, whichever is later. borrowers/recipients are responsible for ensuring that document retention beyond the period required by the Legal Agreement complies with their government's regulations.

34. **Conditions or nonstandard/significant financial covenants (that is Relevant issues to be included in the Legal Documents):** There are no other FM-related conditions for Board and Effectiveness.



Procurement

50. **Procurement will be conducted in accordance with the Procurement Regulations.** The project entails the procurement of works, goods, non-consulting services, information systems, and consulting services contracts. The World Bank will provide specific training on the World Bank's Procurement Regulations before the implementation starts. The TOR and technical specifications for all relevant contracts will also be prepared before the start of implementation. The World Bank will review TOR for the selection of consulting firms. Procurement arrangements will follow the PPSD document). The project's procurement arrangements will be included in the POM.

51. **Procurement of civil works.** Civil works procured under the project will include, among others, civil works for installations under a design and build or turnkey approach.

52. **Procurement of goods and non-consulting services.** Non-consulting services and goods procured under the project will include, among others: IT, network, communication, training, workshops, and seminars; and logistics, such as hotel services, catering, and travel services. Such procurement may be carried out in accordance with the method known as Electronic Auction (*Pregão Eletrônico*), provided (a) documents are acceptable to the World Bank and in accordance with the Procurement Regulations; (b) documents include anti-corruption clauses; and (c) the process is carried out under an e-procurement system previously approved by the World Bank.

53. **Selection of consultants.** Consulting services under the project will include technical assistance and advisory services of various natures and purposes, including engineering services, studies and diagnostics, and software and system development-related services, among others. The methods used for the selection of consulting firms should be established according to the nature and complexity of the assignments, attractiveness to the target market and estimated budget of the services.

54. **Mandatory procurement bidding documents.** Standard Procurement Documents shall be used for all contracts subject to international competitive procurement and those contracts as specified in the Procurement Plan tables in the Systematic Tracking of Exchanges in Procurement (STEP) system. For bidding processes with a national market approach, bidding and request of quotations documents will be agreed with the World Bank and included in the POM.

55. **Operating Costs** will include those recurrent costs that an implementing agency would not have incurred if not for the project (for example, utilities, administrative and project implementation staff, office maintenance, and others). Operating Costs will be procured following the World Bank's Procurement Regulations, including planning using the STEP System. Per diem, staff related expenses, and other project implementation related expenses will utilize any implementing agency's administrative procedures acceptable to the Bank and outlined in the POM.

56. **Procurement arrangements.** The beneficiary agencies (PRODEST, SECTI, SEG and SESP) are responsible for elaborating terms of reference and technical specifications. The PMU and SBC is responsible for elaborating the bidding documents and requests for proposals and conducting the procurement/selection processes. The project team will count on a focal point in each beneficiary agency responsible for developing the project's procurement packages, including among other activities: (a) consolidating the procurement packages for consulting services; (b) issuing requests for expressions of interest, requests for proposals, and procurement notices; (c) conducting opening and negotiations sessions, when applicable; and (d) consolidating evaluations and inputs from the technical evaluations.

57. **Anticorruption.** All bidding documents and respective contracts regardless of the procurement method are required to have the anti-corruption clause as a condition for eligibility of expenditures.



58. **Procurement Plan.** The borrower has prepared a Procurement Plan for the first 18 months of project implementation, which provides the basis for the procurement processes. The use of the STEP system is mandatory to manage the Procurement Plan. This plan will be approved by the World Bank before the end of Negotiations. The Procurement Plan will be updated in agreement with the World Bank on an annual basis or as required to reflect actual project implementation needs and improvements in institutional capacity.

59. **Summary of PPSD.** Based on the strategy developed and low-risk and low-value activities planned so far, it is expected that the activities will be carried out with the following arrangements: (a) Works: carried out through request for bids and request for proposals - National Approach; (b) Goods and non-consulting services: the project plans to finance the procurement of goods to be acquired through request for bids, request for quotations- National Approach and e-reverse auction (*Pregão Eletrônico*), with bidding documents acceptable to the World Bank; (c) consulting services: the project will finance, *inter alia*: consulting activities, software development, studies, supervision and data collection. Quality cost-based selection, least cost based selection, and consultant's qualifications-based selection are the most appropriate selection methods, but this approach can be reviewed against the finalized ToR. Any change in the conditions described in this strategy must necessarily be reflected in this document and in the Procurement Plan.

60. **Procurement supervision during implementation.** In addition to the prior review supervision to be conducted from World Bank offices, the World Bank will undertake at least one early supervision mission to visit the field and conduct post review of procurement actions.

61. **Procurement assessment.** The World Bank team conducted a Procurement Assessment to evaluate the capacity of the PMU to implement procurement actions and to review the organizational structure underlying project implementation and the interaction between the PMU and project benefiting institutions. SECTI is the PMU's central unit for the execution, coordination, and monitoring of procurement processes and for overall Project implementation and monitoring. The agencies' responsibilities will include, among others: procurement planning, implementation, and monitoring, ensuring of quality of bidding documents, and participation in bid evaluations. The World Bank reviewed the organizational structure for project implementation and the interaction between project staff responsible for technical aspects and PMU staff skills, quality, and adequacy of supporting and control systems, and suitability of applicable laws, rules, and regulations. The assessment determined that SECTI has a well-functioning procurement team, with experience in procuring goods and services, but no experience with World Bank regulations. Because of this, the procurement staff designated for the project should be, ideally, kept exclusively within the implementation agencies to assist project implementation, especially in the PMU. In addition, a procurement consultant with experience in World Bank procedures should be hired on an *ad hoc* basis to assist during critical stages of the procurement processes. **Based on the information provided at preparation, the procurement risk is Moderate.**

Implementation Support Plan and Resources Required

62. **The Implementation Support Plan is based on the project's risk profile, the lessons learned from previous operations with the State of Espírito Santo, and digital projects of similar scope.**

63. **Biannual World Bank implementation support missions will be complemented by continuous dialogue on project progress and challenges.** A monthly implementation support call will provide regular updates on project progress, during the first year of implementation. This interaction will cover technical and non-technical aspects of implementation, including FM, procurement, and ESCP. Implementation Status and Results Reports will be filed every six months. The World Bank will continue to provide fiduciary, ESF and other project-related training as needed.



64. **The Implementation Support Plan will be reviewed annually to ensure that it continues to meet the implementation support needs of the project.** A midterm review will be undertaken. The main purpose of it will be to review progress and determine whether the project design continues to be relevant as well as the implementation arrangements. Changes to the Loan Agreement may require a project restructuring. The World Bank will work with the PMU and designated officials to clarify the necessary requirements for a project restructuring. Any changes to the project that require amendments to the Loan Agreement will require a formal request from the Government’s signatory.

65. **Six months before the closing date of the operation, the Government will commence the preparation for its Implementation Completion and Results Report (ICR).** An ICR author from the World Bank will participate in the final implementation support mission and gather the necessary information to prepare the World Bank ICR.

Table 1.3. Resources Requirements

Focus	Skills Needed
Project management and project implementation support coordination	Team leader
Compliance with ESS and management of E&S risks	Environmental and social development specialists
Technical oversight of works and contracts and quality review of TOR, technical reports, and bidding documents	Task team leader and technical specialists (data center, DPI, and digital transformation of emergency services); externally hired consultants as needed
Procurement review of bidding documents/implementation support	Procurement specialist
FM supervision/implementation support	FM specialist

Table 1.4. Implementation Support Plan

Skills Needed	Number of Staff Weeks per Year	Number of Trips per Year
Task team leader	20	2 (3 trips in the first 2 years of implementation)
Co-task team leader	12	2
Digital infrastructure specialist	6	2 (3 trips in the first 2 years of implementation)
DPI specialist	6	2 (3 trips in the first 2 years of implementation)
Gender specialist	2	0
Climate change specialist	2	0
FM specialist	3	2
Procurement specialist	3	2
Environmental specialist	2	2
Social development specialist	4	2
Operations support	6	1
Short-term consultants (local) to support project management, oversight of civil works, technical expertise on green data centers, digital transformation of emergency response, support to procurement, and contract management	8	0



ANNEX 2: Climate Annex

Climate Vulnerability Context

1. The project is susceptible to temperature increases, flooding, water scarcity, and extreme precipitation, among other effects of climate change, potentially compromising service continuity and implying the need to improve its resilience to climate risks. According to predictions, precipitation in Espírito Santo will increasingly start to show more extreme patterns. Climate change may adversely affect water supply availability –essential for data centers’ cooling systems- due to altering precipitation patterns. Competition for water resources and more energy-intensive cooling methods may result from water scarcity. Additionally, extreme precipitation events may result in increased hazards of riverine and flash flooding, which entails a severe risk to the project’s physical infrastructure (data infrastructure and emergency center). Additionally, Espírito Santo holds 5 percent of Brazil’s coastline,⁴¹ making the state extremely vulnerable to rising sea levels caused by increasing temperatures and other effects of climate change, which could result in costly equipment damage of the emergency center and data center facility and service disruptions. In Espírito Santo, the observed mean annual temperature has risen by 0.82 °C in 40 years, reaching 23.39 °C in 2021.⁴² Similar to the country-level projections, projected mean annual temperatures in Espírito Santo are expected to increase exponentially in the coming years, reaching 24.69 °C in 2050 and 25.53 °C in 2100.⁴³ Temperature increases can burden cooling systems in data centers, resulting in decreased performance and a possible overheating of critical equipment, leading to decreased data processing capacity and device failures.

Table 2.1. Adaptation and Mitigation Activities financed under the project.

Adaptation and Mitigation activities financed under the project
Component 1. Resilient Data Infrastructure (IBRD financing: US\$13.620 million)
Subcomponent 1.1: Technical assistance (IBRD financing: US\$1.3 million)
Technical assessment of the new data center <ul style="list-style-type: none"> • Technical assistance will lead to the construction of the new data center following international energy efficiency and resiliency standards to make the facility resilient to climate shocks and events and guarantee data availability and service continuity.
Subcomponent 1.2: Support to development of a resilient data center (IBRD financing: US\$8.320 million)
Adaptation: <ul style="list-style-type: none"> • The current Tier 3 data center located in Vitória currently hosts most state data and does not have a backup facility, therefore it is susceptible to ‘a single point of failure’ in case of extreme climate events, or natural disasters. Measures to enhance redundancy (such as/including backup data storage facility) will be added to enable continuity of operations. • Climate-risk assessment will be conducted to determine climate-informed choice for data center site-selection that will consider water resource availability among-other climate factors and risks. • The closed-circuit waster cooling technology/strategy and the data center location will help address the climate risk of water scarcity/water availability. • ICT equipment will incorporate climate and disaster resilient features (for example, weather-resistant materials and waterproof coverings for all equipment to withstand extreme weather events.) and will comply with disaster response requirements.

⁴¹ 392 km of extension out of the country’s total of 7,501.

⁴² From 22.57 °C in 1981 to 23.39 °C in 2021.

⁴³ Climate Change Knowledge Portal CCKP, Mean Climate Projections, Scenario SSP2-4.5: <https://climateknowledgeportal.worldbank.org/country/brazil/climate-data-projections>.



<ul style="list-style-type: none"> Renewable energy-powered (batteries charged by renewable energy generation) back up will be added in case of power disruption due to extreme climate events. The decentralization of the state’s data infrastructure will ensure the availability of climate data, improving the forecasting and monitoring of climate events for better disaster and response management. <p>Mitigation:</p> <ul style="list-style-type: none"> The new energy efficient data center will comply with international best practices on energy efficiency, and will achieve EDGE data center Certification, along with sustainable building and operation certification post-construction. Espírito Santo has ASHRAE Zones 1A/2A/3A which equate to PUE of 1.95 (baseline PUE for Espírito Santo). The new data center under this project will achieve 1.4 PUE target which will significantly (significantly higher than 20%) improve the energy performance levels of the data infrastructure system in the state and resulting in lower CO2 emissions per year. To achieve EDGE Certification standards, the data center will provide a statement of clear, comprehensive, and stringent climate performance requirements; quality control by at least two independent experts from certifying entities at each stage of certification, and final certification in post-construction of data center buildings. Implementation of waste electrical and electronic equipment will reduce the GHG impacts caused by end-of-life electronic and electrical equipment by following climate-informed e-waste policies about repair, recycling, and reuse principle. The new data center’s cooling system will rely on closed-circuit water cooling, the most energy-efficient cooling option for high densities, reducing water usage and increasing energy efficiency⁵. On-site photovoltaic plants as a backup for power supply will be installed.
Subcomponent 1.3: Digital skills (IBRD financing: US\$3 million).
<ul style="list-style-type: none"> Climatic-specific training on how to continue operating the PRODEST data infrastructure system in the event of disruption from climate shocks/disasters will be provided to public sector workers.
Subcomponent 1.4: Digital projects acceleration platform (IBRD financing: US\$1 million)
<ul style="list-style-type: none"> The seed fund linked accelerator program will prioritize serving climate-focused digital start-ups that develop digital technologies for climate change adaptation and mitigation.
Component 2: Strengthening of Digital Public Infrastructure (DPI) to improve service delivery to individuals, businesses, and government (IBRD financing: US\$7.95 million)
Subcomponent 2.1: Enhancing Data infrastructure to improve service delivery to individuals. (IBRD financing: US\$0 million)
<p>implementation of the interoperability platform to facilitate sharing data across government agencies.</p> <ul style="list-style-type: none"> The development of an analytics unit under this activity will include climate data allowing for evidence-based climate decision-making, enhancing the response to climate disasters and shocks. Data interoperability will include unified access to climate data and information, enabling a coordinated response to shocks caused by climate change.
Subcomponent 2.2: Hardware to support the operation of the services portal infrastructure. (IBRD financing: US\$5.75 million)
<ul style="list-style-type: none"> All digital hardware procured under this component will be certified energy efficient (such as Energy Star that’s known to be highest level in the international performance labelling system/standard) and at a level substantially higher than the current voluntary standards established by the Brazilian Steering Committee of Indicators and levels of energy efficiency (PROCEL Energy Saving Seal⁴⁴, which identifies the most energy efficient equipment in the Brazilian market).

⁴⁴ IEA (2019). PROCEL Energy Saving Seal.



<p>Subcomponent 2.3: Implementation of a software factory and consulting services oriented to developing software applications according to GoES’s needs. (IBRD financing: US\$2.2 million)</p> <ul style="list-style-type: none"> • Goods purchased under this component will be energy-efficiently certified (e.g., Energy Star, which is recognized as the highest level in the international performance labeling system/standard), and at a level significantly higher than the energy-efficiency standards set by the Brazilian Steering Committee of Indicators and levels (PROCEL Energy Saving Seal).
<p>Component 3: Modernize Emergency Management System (IBRD financing: US\$37 million)</p>
<p>Subcomponent 3.2: Design, build and operationalization of the “Integrated Center for Social Defense (CIDES)” (IBRD financing: US\$ 33.41 million).</p>
<p>Mitigation:</p> <ul style="list-style-type: none"> • CIDES will achieve level 1 EDGE building certification, including post-construction final certification. The project will achieve EDGE certification for buildings, and EDGE standards and protocols will be followed during the emergency center’s equipment acquisition, building, and post-implementation to achieve final certification post-construction. • The design and building of CIDES will prioritize renewable energy sources to limit GHG emissions. • All digital hardware procured under this component will be certified energy efficient (such as Energy Star that’s known to be highest level in the international performance labelling system/standard) and at a level substantially higher than the standards established by the Brazilian Steering Committee of Indicators and levels of energy efficiency (PROCEL Energy Saving Seal⁷, which identifies the most energy efficient equipment in the Brazilian market). <p>Adaptation:</p> <ul style="list-style-type: none"> • The expansion and modernization of the emergency center will broaden the response capabilities to climate-related shocks in Espírito Santo, making the State capable of responding to more complex climate emergencies. • 53 municipalities in Espírito Santo will start to be covered by the State’s Emergency Management System, benefiting from an integrated response to climate shocks and disasters. • The emergency center will be built to meet climate resiliency standards to guarantee service continuity in case of climate shocks. • Trainings on climate preparedness and response will be given to emergency center operators.
<p>Subcomponent 3.3: Development and integration of all the systems and procedures for the management of emergency calls (IBRD financing: US\$3.04 million)</p>
<p>Adaptation</p> <ul style="list-style-type: none"> • The IERP will make possible a holistic and coordinated response to climate emergencies, involving all first-response entities and distributing roles to respond as quickly and effectively as possible to climate shocks. • The geolocation of emergency calls will boost response efficiency to climate events and will allow effective tracking of climate event trends to enhance response management. • The design of response protocols will precisely identify and classify all climate-related emergencies, creating specific integrated responses for each of them, increasing the efficiency of the emergency response.



ANNEX 3: Gender Analysis

Economic Opportunities and participation

1. Labor force participation of women in Latin America and the Caribbean is one of the lowest in the world, and at 43 percent, Brazil falls slightly above the regional average.⁴⁵ Despite having high levels of formal education, women participate less in the labor market due to societal and economic constraints. On average, Brazilian women earn 25 percent less than men and face more obstacles in accessing the labor market and professional growth.⁴⁶ In Espírito Santo, 57.3 percent of women participated in the workforce, compared to the participation rate of men (77.1 percent), made starker by societal preference for men to hold high-level positions, higher unemployment rates among women, discrimination when they are mothers, and the responsibility assigned to women with regard to family and household duties.⁴⁷ These disparities are even greater in rural areas, where women face greater unemployment rates and lower salaries than their urban counterparts. In the poorest income brackets, where women's labor participation is lower, they are more often the ones who contribute the most resources to the household. Employment is also segregated by gender: women represent only 11 percent of people employed in the industry sector yet make up a whopping 85 percent in the service industry, and they do not have consistent access to leadership positions.⁴⁸

Gender-Based Violence

2. GGBV in Brazil is at one of the highest levels in Latin America and is present in all states and across all socioeconomic strata. Brazil consistently ranks as one of the most dangerous countries both regionally and globally for GBV, with a murder rate of 3.9 per 100,000 female inhabitants in 2022.⁴⁹ At the height of the COVID-19 pandemic, 1 in 4 Brazilian women over 16 (24.4 percent) said they suffered some type of violence or aggression, totaling to about 17 million women who have suffered physical, psychological, or sexual violence during 2020-2021.⁵⁰ In that same period, 50 percent of respondents reported having seen a woman suffer some type of violence in their neighborhood or community and 73.5 percent of Brazilians believed that violence against women increased during the pandemic.⁵¹ In response to the quarantine and isolation measures, in addition to the states of São Paulo and Rio de Janeiro, in Espírito Santo the Secretariat for Public Security made [Delegacia Online](#), a digital registration platform, available to GBV survivors, allowing them to register the incident without needing to physically present themselves in a police station.⁵² If survivors are able to press charges in person, Espírito Santo also offers Specialized Police Stations for Women, structured with the aim of ensuring dignified care for women in situations of GBV.⁵³ These measures are in addition to the efforts of the Management

⁴⁵ The World Bank, 2022.

https://data.worldbank.org/indicator/SL.TLF.TOTL.FE.ZS?end=2021&locations=AR&name_desc=false&start=1990&view=chart

⁴⁶ The Gender Gap Lifecycle. <https://www.oliverwyman.com/content/dam/oliver-wyman/v2/publications/2018/september/The%20Gender%20Gap%20Lifecycle.pdf>

⁴⁷ 2019 figures. Observatório Mulheres.Empoderamento Econômico. <https://ijsn.es.gov.br/Media/IJSN/PublicacoesAnexos/notatecnica/IJSN-NT63.pdf>

⁴⁸ The Little Data Book on Gender 2019. Washington, D.C.: World Bank Group. <https://openknowledge.worldbank.org/handle/10986/31689>

⁴⁹ Anuário Brasileiro de Segurança Pública, 2023. <https://forumseguranca.org.br/wp-content/uploads/2023/08/anuario-2023-texto-07-o-crescimento-de-todas-as-formas-de-violencia-contra-a-mulher-em-2022.pdf>

⁵⁰ Visível e Invisível: a vitimização de mulheres no Brasil. 2021. <https://forumseguranca.org.br/wp-content/uploads/2021/06/relatorio-visivel-e-invisivel-3ed-2021-v3.pdf>

⁵¹ Visível e Invisível: a vitimização de mulheres no Brasil. 2023. <https://forumseguranca.org.br/wp-content/uploads/2023/03/visiveleinvisivel-2023-relatorio.pdf>

⁵² <https://g1.globo.com/es/espírito-santo/noticia/2020/03/30/durante-isolamento-ocorrencias-de-violencia-contra-mulher-podem-ser-registradas-pela-internet-no-es.ghtml>

⁵³ The state of Espírito Santo currently has 13 Police Stations Specialized in Assisting Women (Vitória, Vila Velha, Serra, Cariacica, Viana, Guarapari, Aracruz, São Mateus, Linhares, Colatina, Cachoeiro de Itapemirim, Nova Venécia and Venda Nova do Imigrante).



Office for the Protection of Women (*Gerência de Proteção à Mulher*, GPM), which has been working since 2015 to administer and support the actions and projects of the SESP aimed at combating gender-based violence. The GPM is responsible for contributing to the study, planning, implementation, monitoring, and improvement of projects and actions to combat GBV against women.

Gender Digital Divide

3. Brazil’s population, both male and female, is highly connected. In Espírito Santo, both rural and urban female-headed households have higher instances of internet connectivity and usage (64.4 percent and 86 percent, respectively) than male-headed households.⁵⁴ Despite this, they use the internet less for work. In 2020, amid the COVID-19 pandemic, 32 percent of women used the internet to conduct work-related activities compared to 44.16 percent of men.⁵⁵ Brazil scores very poorly in the fields of female digital skills and STEM training plans. Women comprise 37 percent of engineering and only 14.6 percent of computer science graduates and account for only 20 percent of ICT and digital-related employment and earn up to 34 percent less than men in the sector.⁵⁶ This trend can be explained by cultural norms that hold women more competent in social sciences and service careers, while STEM and ICT-related careers are seen as more suited to men.⁵⁷ This gap in STEM education and careers, which are becoming essential in an increasingly digitized future of work, is a challenge that must be tackled if economic gender parity is ever to be achieved. According to the Regional Center for Studies on the Development of the Information Society (*Centro Regional de Estudos para o Desenvolvimento da Sociedade da Informação*, Cetic.br), data shows that there are a number of inequalities in internet access in Brazil, including the type of equipment used to access the network. Men have more access to multiple devices, while women access the internet through cell phones, which tends to limit network functions.

Table 3.1.: Analysis of Gender Gaps

Gender Gaps	Action	Results
<p>Although women possess higher instances of internet connectivity and usage than men (62% versus 60%)⁵⁸ the proportion of women using internet for professional and/or productive activities (32%) is much lower than that of men (44%). This is particularly true for women from low-income groups.⁵⁹</p> <p>As an example, in Brazil, 87% of men have access to a financial account, compared to 81% of women.⁶⁰</p>	<p>Provide women from rural areas and from low-income segments with digital skills training and expand access to digital services and to a more sophisticated digital ecosystem.</p> <p>Under sub-component 1.3, the project will undertake a series of activities to promote women’s education and training in digital skills. These activities will include women-targeted trainings to strengthen the acquisition of digital skills to perform daily activities and to access basic services online and enable women’s access to a more sophisticated digital ecosystem.</p> <p>Under Sub-Component 2.3, the project will boost women’s access to internet usage and government services</p>	<p>PDO indicator</p> <p>People using digitally enabled services – Female (Number of people)</p> <p>Baseline = 0 Target = 50</p>

⁵⁴ <https://prodest.es.gov.br/mulheres-na-ti-opportunidades-e-desafios>

⁵⁵ <https://istoe.com.br/mulheres-sao-mais-conectadas-mas-acessam-menos-servicos-na-internet/>

⁵⁶ <https://www.maismulheres.tech/pages/sobre-a-plataforma>. 2018 figures from and PNAD – IBGE)

⁵⁷ [Gendering the digital divide: The use of electronic government services and implications for the digital gender gap](#). *Gendering the digital divide: The use of electronic government services and implications for the digital gender gap*.

⁵⁸ Bridging the Digital Gender Divide, OECD 2018 <https://www.oecd.org/digital/bridging-the-digital-gender-divide.pdf>

⁵⁹ I’d blush if I could. Closing Gender Divide in Digital Skills Through Education, Equals Global Partnership, UNESCO, 2019

⁶⁰ Brazil Gender Scorecard 2023, the World Bank



Gender Gaps	Action	Results
<p><i>Among other factors, lack of education and training in digital skills and technological literacy are at the root of gender-based digital exclusion.</i></p>	<p>platforms through the development of a unified portal of services for Espírito Santo. With this investment, the State will expand access to digital services to individuals, businesses, and government by establishing an interoperability platform and a services portal. Usage statistics will be used to improve the user experience, with special attention to ensuring accessibility and quality service for women, and other vulnerable individuals.</p> <ul style="list-style-type: none"> • <i>Data gathered from another MIC show that, when empowered with basic digital literacy and internet access, women can access government programs, which leads to greater access to educational and entrepreneurial opportunities.</i> 	
<p>Female employees face higher barriers than men to improved employment opportunities.</p> <p><i>In Brazil, while both men and women are increasing their mastery of computers, women still lag men in more complex digital skills. As women lag men in terms of mastery of practical and employment-linked digital skills, they cannot access some well-paying jobs and fully participate in the labor market.⁶¹</i></p>	<p>Provide flexible and customized ICT training to current female employees and students (as future employees), with a focus on practical skills that improve their access to employment and career development.</p> <p>Under Sub-Component 1.3, following consultations with women and civil society organizations, the project will curate and develop certified digital skills trainings. It will target female employees (Government employees and civil servants) to reduce the current gap and female students to address the gap early on and prepare them for employment. These trainings will include foundational and advanced digital skills training, as well as specific sessions on cybersecurity and other relevant topic areas.</p> <p>The project will deliver those trainings in locations that are convenient and safe for women, at times suitable for them.</p> <ul style="list-style-type: none"> • <i>Research shows that a good level of digital skills encourages women to participate in the labor market and increases their chances of having an ongoing contract.⁶²</i> 	<p>PDO indicator</p> <p>Number of women who increased their knowledge and are assessed to have improve their employment-linked digital skills (basic and advanced) (Number)</p> <p>Baseline = 0 Target = 1,500</p>

⁶¹ What policymakers should know about improving gender equality in Latin America and the Caribbean, Atlantic Council, March 29, 2023

⁶² Research performed by Cecilia Castaño applied economics professor and co-director of the master's degree in Gender Equality in Social Sciences at the Complutense University of Madrid, visiting researcher at the Massachusetts Institute of Technology, Harvard University, and the University of California, Berkeley.



Gender Gaps	Action	Results
<p>In Brazil, violence against women is at one of the highest levels in Latin America. The country ranks as one of the most dangerous countries for women in the region ⁶³ In 2022, while attempted murder of women and attempted femicide stood at 7.4 per 1,000 women in Brazil, this rate was 23.1 for Espírito Santo, making it the federative unit with the third highest rate in Brazil.</p> <p><i>Ligue 180 is a widely known national dedicated hotline that helps women in situations of violence and directs calls to appropriate state authorities. However, each federal state tailors its procedures and policies to adapt to its specific context, highlighting inconsistencies in response and action.</i></p>	<p>Impro/support implementation of the violence against women hotline within state emergency systems to better cater to incoming cases of violence against women.</p> <p>Under Sub-Component 3.2, the project will:</p> <ul style="list-style-type: none"> • Ensure stakeholder consultations with selected associations of women victims of violence, who will benefit from better knowledge of the services provided by the Ligue 180 hotline. • Review existing regional/national protocols and provide recommendations to promote a more efficient and effective response to calls received from the hotlines. 	<p>Intermediate indicator</p> <p>Improved GBV emergency services protocols integrated to the new platform, CIDES (Yes/No)</p> <p>Baseline = No Target = Yes</p>

⁶³ In Brazil, the proportion of ever-partnered women and girls aged 15– 49 years subjected to physical and/or sexual violence by a current or former intimate partner in their lifetime is 23%, compared to 25% in the LAC region. 2018 figures. <https://data.who.int/indicators/i/EOD4E17>