

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PARAGUAY

PUBLIC POLICY SUPPORT PROGRAM FOR THE NEW ECONOMY

(PR-L1163)

LOAN PROPOSAL

This document was prepared by the project team consisting of: Manuel Fernandini (IFD/CMF), Project Team Leader; Antonio Garcia Zaballos (IFD/CMF), Alternate Project Team Leader; Pau Puig Gabarró, Enrique Iglesias, Joaquín Domínguez, Claudia Márquez, Sebastián Vargas, and Fanny Porras (IFD/CMF); Jean Eric Theinhardt (IFD/ICS); Juan Ventura (IFD/CTI); Ruth Aquino (VPC/CPR); Fernando Glasman and Jorge Seigneur (VPC/FMP); Viviana Maya and Alonso Chaverri (LEG/SGO)

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ABBREVIATIONS

ANDE	Administración Nacional de Electricidad [National Electricity Administration]
CONACOM	Comisión Nacional de Competencia [National Competition Commission]
CONATEL	Comisión Nacional de Telecomunicaciones [National Telecommunications Commission]
DGEEC	Dirección General de Estadística, Encuestas y Censos [Statistics, Survey, and Census Bureau]
DPE	Dirección de Política de Endeudamiento [Debt Policy Division]
GDP	Gross domestic product
ICTs	Information and communication technologies
IDBA	Broadband Development Index
ITU	International Telecommunication Union
kbps	Kilobits per second
LAC	Latin America and the Caribbean
Mbps	Megabits per second
MITIC	Ministry of Information and Communication Technologies
NRI	Networked Readiness Index
OECD	Organisation for Economic Co-operation and Development
PBL	Policy-based loan
pp	Percentage point(s)
SENATICs	Secretaría Nacional de Tecnologías de la Información y Comunicación [National Secretariat of Information and Communication Technologies]
SICOM	Secretaría de Información y Comunicación [Secretariat of Information and Communications]
SMEs	Small and medium-sized enterprises
UN	United Nations
WEF	World Economic Forum

PROJECT SUMMARY

PARAGUAY PUBLIC POLICY SUPPORT PROGRAM FOR THE NEW ECONOMY (PR-L1163)

Financial Terms and Conditions							
Borrower:			Flexible Financing Facility ^(a)				
Republic of Paraguay			Amortization period:	20 years			
Executing agency:			Disbursement period:	5 years			
Republic of Paraguay, through the Ministry of Finance			Grace period:	5.5 years ^(b)			
Source	Amount	%	Interest rate:	LIBOR based			
IDB (Ordinary Capital)	US\$90 million	100	Credit fee:	(c)			
			Inspection and supervision fee:	(c)			
			Weighted average life:	12.57 years			
Total	US\$90 million	100	Approval currency:	United States dollar			
Project at a Glance							
Project objective: The general objective of the program is to improve connectivity and drive the digitalization of the Paraguayan economy through the specific objectives of: (i) strengthening public policies to promote access by citizens and the private sector to digital technologies; and (ii) promoting the digital transformation of public sector services.							
This loan operation is structured as a multi tranche policy-based loan (PBL) to be disbursed in two consecutive tranches.							
Special contractual conditions precedent to the disbursement of each tranche of the loan: The disbursement of each of the two loan tranches will be subject to fulfillment by the borrower, to the Bank’s satisfaction, of the policy reform conditions established in accordance with the Policy Matrix (Annex II), the policy letter , and the conditions set forth in the respective loan contract (paragraph 3.3).							
Exceptions to Bank policies: None.							
Strategic Alignment							
Challenges: ^(d)		SI	<input checked="" type="checkbox"/>	PI	<input checked="" type="checkbox"/>	EI	<input checked="" type="checkbox"/>
Crosscutting themes: ^(e)		GD	<input checked="" type="checkbox"/>	CC	<input type="checkbox"/>	IC	<input checked="" type="checkbox"/>

^(a) Under the terms of the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes to the amortization schedule, as well as currency, interest rate, and commodity conversions. The Bank will take operational and risk management considerations into account when reviewing such requests.

^(b) Under the flexible repayment options of the Flexible Financing Facility, changes to the grace period are permitted provided that they do not entail any extension of the original weighted average life of the loan or the last payment date as documented in the loan contract.

^(c) The credit fee and the inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable policies.

^(d) SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

^(e) GD (Gender Equality and Diversity); CC (Climate Change and Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

I. DESCRIPTION AND RESULTS MONITORING

A. Background, problem addressed, and rationale

1. Macroeconomic context and state of digitalization in Paraguay

- 1.1 **Macroeconomic context.** Paraguay's economic growth was estimated at 0.2% in 2019, following a growth rate of 3.4% in 2018, and an average rate of close to 4.5% over the past 15 years. The slowdown in economic activity in 2019 was due to climate and adverse external factors, in conjunction with domestic factors. Projections are for the economy to recover in 2020 and grow 4.1%. Inflation in 2019 stood at 2.8%, the lowest rate in the past decade. The central government fiscal deficit in 2019 was 2.8% of gross domestic product (GDP), for the first time exceeding the ceiling of 1.5% of GDP introduced in the Fiscal Responsibility Law. This was a result of the countercyclical fiscal policies implemented in response to the economic recession in the first half of the year, which doubled the level of public investment. According to the draft 2020 National General Budget, it is estimated that 2020's fiscal deficit will return to 1.5% of GDP. The Paraguayan economy is vulnerable to external shocks, such as macroeconomic volatility among its regional trade partners, and commodity price fluctuations. Recent analysis by the Inter-American Development Bank found that structural challenges need to be addressed in public management and institutions, productive diversification, infrastructure, and human capital in order to ensure the sustainability of recent years' rapid growth.¹
- 1.2 **Impact of digitalization on sustainable development.** Digitalization has been transforming our societies and economies by changing how people interact, how businesses operate and innovate, and how governments design and implement policies. The scale and speed of this change is unprecedented and demands that economies and societies adapt in a timely and constructive way.² Access to new information and communication technologies (ICTs) by the countries of Latin America, and the Caribbean (LAC) has been late and incomplete, resulting in low levels of coverage, minimal digitalization of public services, limited digital transformation of the productive sector,³ and consequently, underutilization of their social and economic potential.⁴ Empirical evidence has shown, for example, that a 1% increase in the digitalization index (comprising variables for infrastructure, service connectivity, technology use, and the regulatory framework), results in a 0.32% increase in GDP.⁵ In terms of the Sustainable Development Goals, a recent

¹ IDB, (2018). "[Paraguay: Rutas para el Desarrollo.](#)"

² Navarro, J., (2018). The Digital Transformation Imperative: An IDB Science and Business Innovation Agenda for the New Industrial Revolution. Washington, D.C.

³ Ibid.

⁴ The literature shows that investments in ICTs have been responsible for much of the productivity growth in the United States since 1995. In Latin America and the Caribbean, a recent study by the Economic Commission for Latin America and the Caribbean (ECLAC) (Hofman, Aravena, and Aliaga, 2016. *TIC y su impacto en el crecimiento económico de América Latina, 1990-2013* [ICTs and their impact on economic growth in Latin America, 1990-2013]) showed that the widening gap in capital investments in ICTs is the factor most powerfully (adversely) affecting the region's differential in labor productivity with respect to the United States over the last quarter century.

⁵ "[La Digitalización. Una Clave para el Futuro Crecimiento de la Productividad en América Latina](#)". Centro de Estudios de Telecomunicaciones de América Latina.

IDB study⁶ showed that, among other effects, a 1% increase in investment in mobile telephony was associated with a 0.0135 percentage point (pp) reduction in poverty, a 0.014 pp reduction in the number of undernourished people, a 0.0145% increase in life expectancy, a 0.031 pp increase in net secondary enrollment, and an increase in the net enrollment of girls in secondary school of 0.0294 pp. For the private sector, the adoption of ICTs enables and accelerates technological development and innovation, thereby sustainably enhancing productivity through the optimization of production processes and development of new competitive advantages.⁷ At present, technological progress and innovation largely involve increased broadband connectivity^{8,9} and leveraging opportunities offered by new exponential technology disruption.¹⁰

1.3 State of digitalization and connectivity in Paraguay. The country still lags well behind the most advanced in terms of ICTs, as illustrated by its ranking 113th out of 176 countries on the 2017 ICT Development Index published by the International Telecommunication Union (ITU); and its three subindexes: “access” (118th place); “use” (113th place); and skills (110th).¹¹ Similarly, the Broadband Development Index (IDBA) ranks Paraguay 19th out of 26 Latin American and Caribbean countries.¹² Nevertheless, it is worth noting that the ITU classes the Paraguayan Internet service market as being fully competitive,¹³ reflecting the broad and dynamic participation of the private sector.

1.4 Continuing challenges. Paraguay has leeway to promote the digitalization of the economy, particularly as regards the digital transformation of the public sector.¹⁴ Additionally, Paraguay needs to address the major challenge of improving digital connectivity¹⁵ in order to leverage technological progress and innovation.^{16, 17}

⁶ Garcia Zaballos, A; Iglesias, E.; Adamowicz, A, (2019). [“The Impact of Digital Infrastructure on the Sustainable Development Goals. A Study for Selected Latin American and Caribbean Countries.”](#)

⁷ Innovation, Science, and Technology Sector Framework Document (document GN-2791-8). Firm Innovation and Productivity in LAC, Grazi, M.; Pietrobelli, C., IDB, (2016). Chapter 4. ICT, Innovation and Productivity.

⁸ Various technological advances and innovations require certain connectivity conditions for new uses to be found (e.g. industry 4.0). See: The Future of Connectivity: Enabling the Internet of Things. McKinsey.

⁹ Broadband connectivity services are telecommunications services that enable access, meeting high standards of quality, availability, security, speed, and reliability, to digital services and content using 4.0 technologies that require the transfer of large data volumes at speeds of around 25 Mbps and higher, such as high-definition video, interactive virtual reality, augmented reality, remote work environment, distance education environment, and videoconferencing.

¹⁰ For more on the applications of technological disruption see IDB, (2018). Exponential Disruption in the Digital Economy.

¹¹ [ICT Development Index](#). ITU, (2017).

¹² IDB, (2018). [Índice de Desarrollo de la Banda Ancha en América Latina y el Caribe: IDBA 2018](#).

¹³ [Paraguay Profile, ITU \(2018\)](#).

¹⁴ According to [Latinobarómetro 2017](#), just 1.5% of citizens reporting having completed at least one administrative procedure in the previous year said they had done so wholly or partially online.

¹⁵ Fixed and mobile broadband Internet penetration is 4% and 48%, respectively, well below average values for Southern Cone countries (17% and 83%), IDB member countries (13% and 65%), and countries of the Organisation for Economic Co-operation and Development (OECD) (33% and 96%).

¹⁶ Various technological advances and innovations require certain connectivity conditions for new uses to be found (e.g. industry 4.0). McKinsey: “The Future of Connectivity: Enabling the Internet of Things.”

¹⁷ IDB, (2018). “Exponential Disruption in the Digital Economy,”

2. Institutional framework for the digital economy

- 1.5 **Institutional framework for the ICT sector in Paraguay.** The sector's legal framework is governed by Law 4989, which defined the Framework of Application of Information and Communication Technologies in the Public Sector and created the National Secretariat of Information and Communication Technologies (SENATICs) (2013)¹⁸ and Law 6207, which created the Ministry of Information and Communication Technologies (MITIC) and established its Founding Charter (2018),¹⁹ giving it a mandate as the institution responsible for public policy on ICTs. It should be noted that the creation of MITIC combines mandates that were previously divided between the SENIATICs and the Secretariat of Information and Communications (SICOM) within a single organizational structure. According to an IDB study (2017), the creation of ICT ministries enables countries to address the reform of the institutional framework for public policy made necessary by the digital revolution and the large-scale adoption of broadband services and ICT-based applications and services.²⁰
- 1.6 **The need for a digital agenda.** A digital agenda or National ICT Plan aims to maximize the economic and social dividend from ICTs by implementing a series of initiatives relating to the digital economy and promotion of ICTs, ranging from supply-side policies to expand broadband coverage to demand-side policies to foster ICT skills and affordability, together with e-government, e-health, and e-commerce initiatives, and the use of ICTs by businesses and citizens.²¹ First, the interagency coordination mechanisms inherent in a national digital agenda help make the set of public measures to promote digitalization of the economy and society more efficient. Moreover, the framework of objectives and monitoring and evaluation foster the achievement of milestones set by a digital agenda within the agreed timeframe. A study by the European Commission estimated the impact of the digital reforms adopted so far at 1% of long-term economic growth, and that expected GDP growth would be 2.1% over the baseline.²² In the same vein, it was estimated that the implementation of the digital agenda for Europe would enable GDP growth of 5% over a period of eight years, the creation of 1.2 million jobs in the short term, and 3.8 million jobs in the long term.²³
- 1.7 **Status of the institutional structure and digital agenda in Paraguay.** The legal framework for digital connectivity is governed by Law 642 on Telecommunications (1995). The institution responsible for public policy on ICTs is MITIC, which is complemented by other institutions in the connectivity sphere, such as the National Telecommunications Commission (CONATEL), the national telecommunications regulator, the Compañía Paraguaya de Comunicaciones (COPACO), a telecommunications operator mainly engaged in providing a public service, and the National Electricity Administration (ANDE), an electricity sector institution with an extensive fiber optic network providing telecommunications services. In a

¹⁸ Available at: <http://gestordocumental.senatics.gov.py/share/s/sJjG6-HhQMGAod3bkHE7kA>.

¹⁹ Available at: <http://gestordocumental.senatics.gov.py/share/s/sJjG6-HhQMGAod3bkHE7kA>.

²⁰ [Telecommunications Governance: Toward the Digital Economy](#). Prats J. and P. Puig Gabarró. IDB (2017).

²¹ [Broadband Policies for Latin America and the Caribbean - A Digital Economy Toolkit](#). OECD and IDB (2016).

²² [The Economic Impact of Digital Structural Reforms](#). Lorenzani D. and J. Varga. European Commission (2014).

²³ [Agenda Digital para España](#). Spanish Ministry of Industry, Energy, and Tourism. February 2013.

complementary way, the National Competition Commission (CONACOM) is responsible for defense of competition. Developments in the sector have rendered some elements of the regulatory and institutional framework obsolete.²⁴ For example, technological convergence, which allows a multiplicity of ICT and audiovisual services to be provided over broadband, is changing the traditional telecommunication markets through the arrival of new companies and new business models. These are often beyond the scope of the regulatory and institutional framework because, among other reasons, the framework's mandate is still subject to definitions of services based on the traditional underlying technology, thus drawing distinctions between markets that have since converged.²⁵ In July 2019, Decree 2145/2019 created the Digital Strategic Committee to design and implement the country's digital agenda, called the National ICT Plan.²⁶ This plan will define actions to step up the use of ICTs, improve people's quality of life, and companies' competitiveness based on three pillars: (i) e-government; (ii) digital connectivity; and (iii) adoption and use. In November 2018, the Bank approved the Digital Agenda Support Program investment loan ([4650/OC-PR](#)), which aims to support the construction of this agenda and foster the implementation of key activities on each of its pillars.

- 1.8 **Gender-disaggregated information on Internet access and use.** Broadband investment has a direct impact on achieving the Sustainable Development Goals (paragraph 1.2). However, Paraguay lacks up-to-date and detailed information on Internet access and use broken down by gender. This situation prevents measurement of the real magnitude of the gender gap, and also prevents the design of policy actions to correct any potential bias. It is therefore necessary to design indicators and start collecting data, not only on Internet access, but also the use that is made of it. According to reports by the Web Foundation on women's online rights, in many communities studied globally, women were 50% less likely than men to be online, and 30%-50% less likely to use the internet for economic and political empowerment. The numerous barriers women face include high costs, lack of technical know-how, a scarcity of relevant and empowering content, and social and legal obstacles to women speaking freely and privately online.²⁷ Nevertheless, systematic gender-disaggregated access and usage data needs to be collected in order to precisely measure the scale of the gender gap and how it is evolving.
- 1.9 **Ongoing challenges in institutional structure and the digital agenda.** The strategic restructuring and coordination and sector institutional structure has emerged as the first enabling step for the subsequent design and execution of public

²⁴ Law 642 of 1995 does not take the crosscutting nature of ICTs into account, while Law 4989 of 2013 focuses on the role of ICTs in the public sector.

²⁵ Law 642 of 1995 does not expressly acknowledge the principle of technological neutrality.

²⁶ The Committee comprises: the Minister of Information and Communication Technologies (chair); the Minister of Finance; the Minister of Public Health and Social Welfare; the Minister of Education and Science; the Minister of the Interior; the Minister of Industry and Commerce; the Minister of National Defense; the Minister—Executive Secretary of the Technical Planning Secretariat; the Minister—Executive Secretary of the Management Unit of the Presidency of the Republic; the President of the National Telecommunications Commission; and one member from civil society and the private sector. It has also been empowered to constitute and convene working groups, and invite representatives of other public institutions, the ICT business sector, civil society, the IT community, academic institutions, and other private institutions.

²⁷ Reports available at: <https://webfoundation.org/research/digital-gender-gap-audit/>.

policies for transformational digitalization of other productive and social sectors. The government has decided to make digital transformation a driver in improving the competitiveness of its economy, so it is creating an ICT Ministry and developing a National ICT Plan to structure and coordinate the various initiatives required for the digital transformation of the economy in a strategic and effective way.

3. Digital connectivity

- 1.10 **Importance of digital connectivity.** The development of digital connectivity infrastructure is based on institutions and regulations that: (i) establish a solid framework that recognizes the convergence of services over digital technologies; and (ii) establishes conditions of effective competition for the digital inclusion of disadvantaged individuals and territories.²⁸ A country that is moving toward the establishment of a solid regulatory environment has, on average, broadband penetration levels 7.7% higher than countries that have not adopted such measures.²⁹ In Latin America and the Caribbean, on average, a 10% increase in broadband penetration is associated with a 3.19% increase in GDP, a 2.61% increase in productivity, and 67,016 new jobs.³⁰ Additionally, the new, complex context of transitioning toward 5G networks—the basis for providing mobile broadband capabilities that facilitate new digital economy services—requires the expansion of fiber optic networks and the universalization of smartphones,³¹ and it increases the regulatory challenges, forcing a rethink and update of the approaches taken, particularly to radio spectrum management, so as to attract the necessary private sector investment.
- 1.11 **Broadband access in Paraguay.** Access to broadband in Paraguay costs US\$87.7 per megabit per second (Mbps) compared with US\$20.7 in the Southern Cone, and US\$2.83 in Organisation for Economic Co-operation and Development (OECD) countries. Similarly, Paraguay has 3.14 fixed broadband lines and 39.2 mobile lines per 100 inhabitants, whereas the Southern Cone has 13 and 82, and the OECD countries 29 and 87, respectively. The factors underlying this problem include: (i) insufficient digital infrastructure;³² (ii) limited international traffic capacity;³³ and (iii) inadequate competition regulation.³⁴
- 1.12 **State of digital connectivity in Paraguay.** Paraguay needs to improve the regulatory and institutional framework for connectivity, as it ranks 125th out of 139 on this subindex in the World Economic Forum (WEF) Networked Readiness Index

²⁸ Ibid.

²⁹ ITU, (2015). Trends in Telecommunications Reform, 2015. ITU, Geneva.

³⁰ *Socioeconomic Impact of Broadband in Latin American and Caribbean Countries*. García Zaballos, A. and R. López-Ribas. IDB, (2012).

³¹ Smartphone penetration in Paraguay is around 60%, according to the Huawei *Global Connectivity Index*.

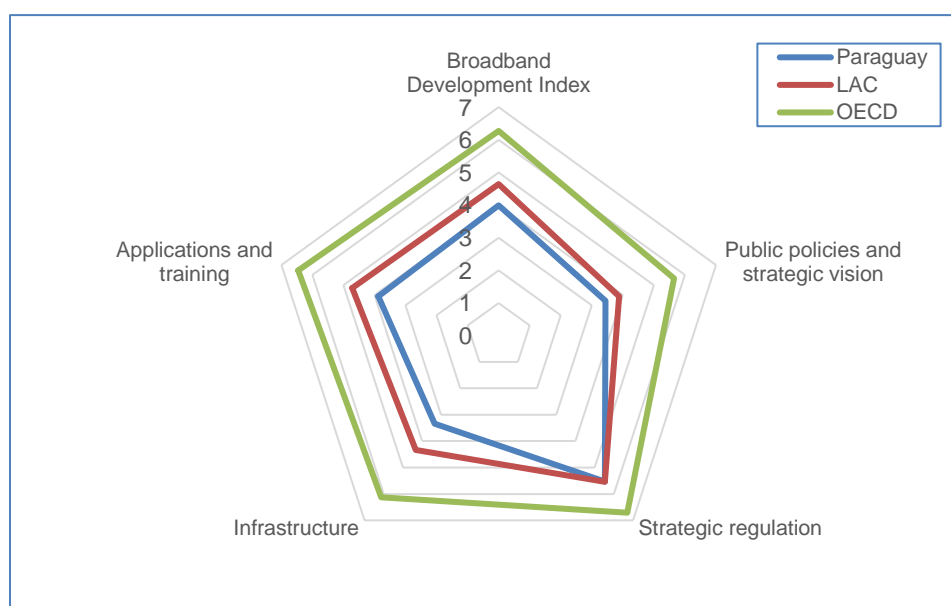
³² The national coverage gap is reflected in the percentage of the population less than 10 km from a fiber optic link. In the Data Centers and Broadband for Sustainable Economic and Social Development (IDB) study, Paraguay obtained a score of 0.1 out of 1, which is below the regional average (0.2) and well below leading countries' scores.

³³ The country's capacity is 12.6 kilobits per second (kbps) per inhabitant. The Southern Cone average is 45.2 and that of the OECD countries, 114.

³⁴ On the IDBA's Regulation pillar, Paraguay scores 5.56, the Southern Cone 5.64, and the OECD countries 6.72 (on a scale of 1 to 8). DigiLac, IDB. Available at: <https://digilac.iadb.org/>.

(NRI).³⁵ In other comparisons, such as the IDB's Broadband Development Index (IDBA) Strategic Regulation dimensions, Paraguay scores 5.53 out of 8, similar to the Latin American and Caribbean (LAC) average (5.54), but below the average for OECD countries (6.71), Brazil (6.96), Chile (6.71), and Colombia (6.04),³⁶ as shown in Figure 1.

Figure 1. Broadband Development Index 2018



Source: DigiLAC. IDB.

- 1.13 Ongoing challenges in digital connectivity.** Some of the biggest digital connectivity challenges Paraguay has to address are: (i) limited international connectivity capacity due to the impossibility of directly accessing international submarine cables;³⁷ (ii) limited access to broadband networks in certain geographic areas;³⁸ and (iii) limited development and application of mechanisms for monitoring broadband service quality.^{39, 40}

4. Digital government

- 1.14 Importance of digital government.** Streamlining, simplifying, and automating public service delivery is key to reducing costs, in terms of time and money, for

³⁵ The subindexes of the NRI are: (i) environment; (ii) readiness; (iii) usage; and (iv) impact.

³⁶ *Índice de Desarrollo de la Banda Ancha en América Latina y el Caribe: IDBA 2018.*

³⁷ On average, Paraguayan users' international connection speed is 22 kbps, three times slower than the LAC average (73 kbps) and ten times slower than the average for OECD countries (252 kbps).

³⁸ In Paraguay 88% of the population is covered by 4G networks, similar to neighboring countries such as Brazil (91%), Chile (88%), Uruguay (88%), and Argentina (85%), but a long way from the average for OECD countries (97%).

³⁹ In 2018, CONATEL approved the Service Quality Regulations with Resolution 1280/2018; however, no periodic reports on the results of service quality monitoring have yet been published.

⁴⁰ DigiLac, IDB. Available at: <https://digilac.iadb.org/>.

businesses and citizens.⁴¹ The prerequisites for consolidating e-government and the transition to digital government—with disruptive technologies facilitating the modernization and digital transformation of the public sector⁴²—include: (i) improving data security for citizens wishing to complete transactions online; (ii) reducing technical barriers and other costs in time and resources related to information-sharing among public agencies; (iii) improving the public sector's capacity to implement a coherent and consistent portfolio of online services; and (iv) promoting the use of emerging technologies to improve the quality of the user's experience when accessing online services.

- 1.15 **State of digital government in Paraguay.** The study [Simplificando Vidas](#) (2016) reports that on a scale of 1-10, Paraguayans' level of satisfaction with government administrative procedures was 4.6 (below the 4.8 LAC average and far from the 6.8 level in the United States). It also highlighted the limited use of digital channels for administrative procedures with the State:⁴³ in 2016 just 1.5% of citizens completing one or more administrative procedures did so wholly or partially online (compared with 6.7% in the LAC-18).⁴⁴ In 2018, Paraguay was ranked 108th out of 193 on the United Nations E-Government Development Index.⁴⁵ This index measures the quality and scope of online services, suggesting that, despite efforts made to simplify processes, there is still considerable room to improve citizens' online experience.
- 1.16 **Ongoing challenges for digital government.** In light of the foregoing, the following challenges have been identified as currently hindering the development of digital government in Paraguay: (i) mechanisms to protect the security of critical infrastructure and data of individuals and businesses are inadequate;⁴⁶ (ii) government efforts are unfocused, hampering a consistent supply of online services;⁴⁷ (iii) the range of online government services is limited;⁴⁸ and (iv) scant use is being made of new technologies to improve the quality of public services in the country.⁴⁹

⁴¹ OECD, (January 2007). "[Policy Brief.](#)"

⁴² OECD, (2016). Digital Government Strategies for Transforming Public Services in the Welfare Areas.

⁴³ Citizens' satisfaction with the online channel is greater than that with other channels, and is very close to satisfaction with private sector services. Morgesson, Forrest "Citizen Satisfaction," p. 142.

⁴⁴ Eighteen LAC countries providing answers to the question about the channel used for an administrative procedure with a public institution in [Encuesta Latinobarómetro](#) (2017):

⁴⁵ Source: UN E-Government Knowledgebase.

⁴⁶ Paraguay has made significant strides, such as deploying a Computer Security Incident Response Team (CSIRT), [CERT-PY](#) (2012), and it has been making efforts to address the rise in computer crime. However, challenges remain. According to the IDB's [2016 Cybersecurity Report](#), a large percentage of attacks involve hacking and denial of service (DoS). It also notes that critical national infrastructure is still managed informally, with low levels of risk management and emergency response planning. Likewise, although data protection and privacy laws exist, many are out of date and do not explicitly address digital information.

⁴⁷ Currently, the offering is fragmented, reflected in the lack of: (i) call centers shared by more than one institution; (ii) integrated points of service across the three channels; or (iii) contact centers serving more than one institution.

⁴⁸ Of the 1,010 administrative procedures catalogued, just 55 have any steps online, resulting in a percentage of procedures completed wholly or partially online that is four times lower in Paraguay than in the LAC-18. See [Portal de Trámites de Paraguay](#).

⁴⁹ Paraguay ranks 108th out of 193 countries on the United Nations E-Government Development Index, with 0.5255 points on a scale of 0 to 1.

5. Problem addressed, the Bank's experience and support, lessons learned, and strategic alignment

- 1.17 **Summary of reforms.** This loan operation is structured as a multi-tranche policy-based loan (PBL) to be disbursed in two consecutive tranches of US\$45 million each. The policy actions under Tranche I of the PBL have a short-term horizon, prioritizing the formulation of regulatory frameworks (e.g., institutional objectives and structure for the governance of strategic national plans, decrees, resolutions, technical reports, designs of calls for proposals) aimed at fostering improvements in the policy framework and institutions destined to facilitate the digital transformation of the economy, which is a key element in leveraging the advantages of ICTs. The actions under Tranche II are medium term, and the majority prioritize the approval and initial implementation of the National ICT Plan, the associated reforms (e.g., plans, strategies, regulations, guidelines, technical reports, launch of ICT services, use and evaluation of ICT services), ensuring that the means of verification of Tranche II are robust, balanced relative to those of Tranche I, and can be fulfilled within the planned execution time frame. Together, the appropriate timing, sequencing, and balance between the measures in Tranches I and II will contribute to closing the existing gaps: (i) institutional framework for ICT sector governance; (ii) national strategy structuring public ICT policies; (iii) systematization of the measurement of gender equity in ICT adoption; (iv) modernization of the national cybersecurity strategy; (v) modernization of digital government systems and services; (vi) strengthening of international connectivity; and (vii) strengthening of subnational connectivity. Going forward, the country will explore options to advance on closing persistent gaps in: (i) the institutional framework and public policy strategy for ICT promotion, with a focus on gender equity, subject to the results of the gender gap measurement exercise; (ii) digital government and cybersecurity; and (iii) infrastructure and digital connectivity. This set of actions will enhance the governance of Paraguay's digital economy through advances on the various institutional dimensions measured in the Results Matrix (Annex III) and the [monitoring and evaluation plan](#).
- 1.18 **The Bank's sector experience through loans in the region and the country, and lessons learned.** The program will leverage the Bank's experience and lessons learned from two policy-based loans (PBLs) approved to date in the digital sector: Program to Improve the Connectivity and Digitalization of the Economy ([4701/OC-CO](#), [4702/KI-CO](#)) in Colombia; and Program for Strengthening the Digital Agenda: Connectivity, Electronic Government, and Digital Productive Transformation ([4755/OC-AR](#)) in Argentina; as well as the Program to Boost Productivity in Mexico II ([3739/OC-ME](#)). The program incorporates lessons learned by the Bank in designing PBLs: (i) a proper sequencing of reforms should take into account the capacities of the institutions involved and establish a horizontal logic to progressively introduce the reforms, combining regulatory advances with improvements in technical capacities; (ii) planned reforms should incorporate the interests and capacities of the agencies which will be implementing them in order to improve effectiveness; (iii) establishing incentives linked to fulfillment of preestablished objectives should have a positive impact on the success of the reforms; and (iv) there should be effective coordination between the various bodies

that participate in designing the reforms.⁵⁰ The Bank is also supporting the sector with the investment project to enable deployment of telecommunications infrastructure with the Broadband Program ([3612/BL-NI](#)) in Nicaragua, and through the First Operation Under the Conditional Credit Line for Investment Projects (CCLIP) (ME-O0004) for the Financing of the Shared Telecommunications Network in Mexico ([4666/OC-ME](#)) and with the Digital Agenda Support Program in Paraguay ([4650/OC-PR](#)). This program also incorporates the Bank's lessons learned in the design of investment loans, namely to: (i) leverage the deployment of digital infrastructure connecting public places to ensure infrastructure is used from day one and can substantially improve the provision of the public services delivered at the connected locations; (ii) work closely with the private sector to deploy digital connectivity infrastructure; and (iii) maintain open channels of interaction between government and civil society so as to communicate the objectives and scope of the proposals as clearly as possible and clear up any doubts or concerns that may arise.

- 1.19 **The Bank's sector experience through technical cooperation in the region and lessons learned.** The Bank has taken a comprehensive approach to supporting the countries of the region, including Paraguay, in their efforts to hasten the digital transformation of their economies and societies.⁵¹ The country has also benefited from the regional Special Broadband Program, which has approved more than 40 technical cooperation operations with a budget of over US\$17 million. The program's main areas of action include: (i) development of public policies that foster the adoption and use of broadband services (e.g., national broadband plans); (ii) support for regulatory strengthening; and (iii) institution-strengthening through capacity-building for public officials. The design of this program incorporates lessons learned from the execution of these technical cooperation operations, such as: (i) taking a holistic approach, including activities to stimulate both supply and demand for digital services; (ii) defining metrics to assess the scale of the existing gaps so as to design appropriate public interventions; and (iii) incorporating principles of technological neutrality so as not to unnecessarily constrain the technical design of solutions the private sector may offer to meet the needs identified by the public sector.
- 1.20 **Complementarity with Bank operations in the country.** The Bank has been working very closely with the Paraguayan government to support the definition of its priority investments and reform agenda associated with the ICT sector to spur digitalization in the public and private sectors through regional cooperation operations (paragraph 1.19) and investment loans. In 2018, the Bank approved the Digital Agenda Support Program investment loan ([4650/OC-PR](#)), supported by technical-cooperation operations [ATN/OC-16322-PR](#) and [ATN/OC-16802-PR](#). The proposed operation complements the latter, which aims to provide financing for key

⁵⁰ See, for example: loans [4701/OC-CO](#), [4702/KI-CO](#), [4755/OC-AR](#), [3177/BL-NI](#), [3326/OC-DR](#), and the Country Program Evaluation: Panama 2010-2014. Office of Evaluation and Oversight (OVE).

⁵¹ In addition to various knowledge products, the Bank is supporting several nonreimbursable technical cooperation initiatives on a regional level, including: (i) design and implementation of public policy instruments to support digital productive transformation and digital innovation; (ii) determination of the needs for human capital with digital skills and alignment of educational and training content with the demand; (iii) identification of regulatory reforms to support the development of digital innovation; and (iv) development of regional platforms to support the use of information to solve challenges associated with social and production-related problems, such as health, agricultural productivity, and natural disaster management. See, for example: [ATN/OC-16297-RG](#), [ATN/OC-15882-RG](#), [ATN/OC-16779-RG](#), and [ATN/OC-14768-ME](#).

investments in each of Paraguay's priority areas for ICTs: (i) e-government; (ii) digital connectivity; and (iii) adoption and use. The proposed operation will strengthen the digital sector's regulatory and institutional framework and facilitate the deployment of digital infrastructure to improve the connectivity of public institutions while fostering the implementation of policies to facilitate the adoption of technology solutions for public services digitalization. At the same time, implementing the operation's regulatory and policy actions will facilitate coordination between the institutions involved in and/or executing projects under the National ICT Plan (paragraph 1.7). Moreover, the operation will generate synergies with the PBL Program to Support the Transparency Agenda in Paraguay ([4866/OC-PR](#)), the objectives of which include enhancing transparency in the use of public resources, with an emphasis on public investment projects and procurement of goods and services through the adoption of digital modules. The proposed program will therefore contribute to this objective by strengthening the National Digital Government Strategy. The Bank is also preparing a new technical cooperation operation to support digital reforms for the Public Policy Support Program for the New Economy in order to deepen the technical dialogue and support implementation of this program.

- 1.21 **Strategic alignment.** The program is consistent with the second Update to the Institutional Strategy (UIS) 2020-2023 (document AB-3190-2), and is strategically aligned with the following development challenges: (i) productivity and innovation, through improvements to the quality of government services and increased ICT access and use by strengthening digital government and cybersecurity; (ii) social inclusion and equality, through increased access to broadband by expanding connectivity thanks to increased reach of national broadband networks, which will also improve access for poor and isolated populations; and (iii) economic integration, through Paraguay's improved international broadband connectivity as a facilitator of cross-border initiatives to promote the economic development of the region. Furthermore, the program is aligned with the crosscutting issues of: (i) institutional capacity and the rule of law, through the development of the institutional framework and strengthening of operational capacity necessary to support the digital agenda; and (ii) gender equality and diversity, through measurement of the gender dimension of digital technology adoption.
- 1.22 The program will also contribute to the Corporate Results Framework 2020-2023 (document GN-2727-12); particularly, with the indicator of government agencies benefited by projects that strengthen technological and managerial tools to improve public service delivery, through institutional-strengthening actions for public-sector actors. Additionally, the program is aligned with the scope of action of the Sector Strategy Institutions for Growth and Social Welfare (document GN-2587-4) as regards "improving innovation and productivity for growth and social welfare"; and it is consistent with the Innovation, Science, and Technology Sector Framework Document (document GN-2791-8) through its contribution to progress on dimensions of success such as "Latin American and Caribbean economies become able to take full advantage of the potential of the digital economy" and "Public and private investment in technological and scientific infrastructure grows, to a level closer to the one needed to provide the adequate level of inputs for each economy in the region, thus becoming better able to identify, understand, adapt and productively utilize the best available production processes." The program is also

- aligned with the IDB Group Country Strategy with Paraguay 2019-2023 (document GN-2958), through the strategic objectives to: (i) improve the coverage and quality of infrastructure, through Component 3; and (ii) strengthen public management capabilities, through Component 4. Lastly, the program is included in the Update of the Annex III of the 2019 Operational Program Report (document GN-2948-2).
- 1.23 **Productivity and innovation.** The program aims to help boost productivity and promote innovation by various means, including strengthening Paraguay's digital government strategy. Tranche I will see the development of: (i) an update to the guidelines on the use of the "Portal Paraguay" and "Trámites en Línea" so as to efficiently increase the stock of information on the available range of online procedures; and (ii) regulations enabling MITIC to be a trusted electronic identity services provider, in line with current legislation. Through the efficiency gains in procedures, these innovative tools will reduce the resources (such as staff, time, and transportation) the private sector and the public devote to administrative procedures. To provide continuity to these measures, in Tranche II technical reports will be prepared on: (i) the use of the "Portal Paraguay" online procedures module; and (ii) MITIC's performance as a trusted electronic identity services provider.
- 1.24 **Gender equality and diversity.** To mitigate the current lack of data on access, use, and adoption of digital technologies disaggregated by gender, Tranche I of the program will support the collection of gender-disaggregated indicators of ICT access and use, and develop a data-gathering strategy for these indicators. To provide continuity to this measure, Tranche II of the program will support approval of the strategy for collecting gender-disaggregated data on digital technology access and use.
- B. Objectives and components**
- 1.25 **Objective.** The general objective of the program is to improve connectivity and drive the digitalization of the Paraguayan economy through the specific objectives of: (i) strengthening public policies to promote access by citizens and the private sector to digital technologies; and (ii) promoting the digital transformation of public sector services.
- 1.26 **Components.** The program has four components. The measures under these components are aimed at strengthening Paraguay's digitalization strategy, since the program supports a holistic, multisector approach aligned with the National ICT Plan. For more details on the policy actions under each component and the respective tranches, see Annex II, Policy Matrix.
- 1.27 **Component I: Macroeconomic stability.** The objective of this component is to ensure that a macroeconomic context is maintained that is consistent with the program objectives as established in the Policy Matrix and [policy letter](#).
- 1.28 **Component II: Digital agenda.** This component has the following subcomponents:
- a. **Strengthening the institutional framework and powers of MITIC.** The policy actions for this subcomponent in Tranche I are: (i) approval of the organizational structure of the Ministry of Information and Communication Technologies (MITIC), created by Law 6207/2018; and (ii) approval of the Regulations under Law 6207/2018 creating MITIC and establishing its charter, specifying the ministry's scope and functions. Continuing these measures, the

policy actions in Tranche II are: (i) approval of the manual of functions and job descriptions of the Office of the Deputy Minister of Information and Communication Technologies, and MITIC's Strategic Communication Bureau; and (ii) approval of specific regulations on MITIC's powers regarding ICTs and communications.

- b. **Establishing the National ICT Plan as an instrument for public policy coordination.** The policy actions for this subcomponent in Tranche I are: (i) creation of the Digital Strategy Committee for the design and implementation of the "National Information and Communication Technologies (ICT) Plan," comprising representatives of different government institutions and providing resources including the guidelines for public policies in the digital sphere; and (ii) approval of the regulations on the operation of the Digital Strategy Committee for the design and implementation of the "National Information and Communication Technologies (ICT) Plan," including linkages with the private sector. To provide continuity for this measure, the policy action in Tranche II is the approval of the National ICT Plan, which includes guidelines in key areas such as e-government, digital connectivity, and adoption and use.
- c. **Measuring the gender dimension in the adoption of digital technologies.** The policy action in Tranche I of this subcomponent is the preparation of a proposal for a strategy for the collection of data for gender-disaggregated ICT access and usage indicators and implementation of a pilot including: (i) definition of indicators; and (ii) identification of data sources. The policy action in Tranche II is the approval of the strategy for the collection of data for gender-disaggregated ICT access and usage indicators.

1.29 **Component III: Digital connectivity.** This component has the following subcomponents:

- a. **Improving Paraguay's international connectivity.** The policy action in Tranche I for this subcomponent is the preparation and approval of the roadmap to improve Paraguay's international connectivity, including various international connectivity alternatives. Providing continuity for this measure, the policy action in Tranche II is the evaluation of the implementation of the roadmap to improve Paraguay's international connectivity, confirming that an international request for information open to public and private enterprises to improve the country's international connectivity has been published.
- b. **Improving national connectivity in Paraguay.** The policy actions for this subcomponent in Tranche I are: (i) preparation and approval of the roadmap to improve digital connectivity in public places, such as police stations, health centers, and public squares; and (ii) preparation and approval of the roadmap to improve government data management. Providing continuity for this measure, the policy actions in Tranche II are: (i) evaluation of the implementation of the roadmap to improve digital connectivity in public places, such as police stations, health centers, and public squares, confirming that a service provider has been contracted to improve the digital connectivity of public places; and (ii) evaluation of the implementation of the roadmap to improve government data management, confirming that contracting of a service provider for the design and construction of the government datacenter has been approved.

1.30 **Component IV. E-government.** This component has the following subcomponents:

- a. **Implementation of a national cybersecurity strategy.** The policy action in Tranche I for this subcomponent is the approval of the information security governance model, aligned with the National Cybersecurity Plan, approved by Decree PE-7052/17. Providing continuity for this measure, the policy action in Tranche II is the evaluation of the implementation of the National Cybersecurity Plan, confirming that a national cybersecurity coordinator has been appointed and the National Cybersecurity Committee created.
- b. **Strengthening the government's digital strategy.** The policy actions for this subcomponent in Tranche I are: (i) approval of the technical guidelines on interoperability with private entities to allow secure information-sharing; (ii) updating the guidelines of "Portal Paraguay" and "Trámites en Línea" online procedures so as to efficiently increase the stock of information on the available range of online procedures; and (iii) preparation of regulations enabling MITIC to be a trusted electronic identity services provider, in line with current legislation. The policy actions in Tranche II are: (i) evaluation of the implementation of the information-sharing system approved by Decree 8709/2018, confirming that this system is being used between public institutions effectively; (ii) evaluation of the use of "Portal Paraguay" based on the updated guidelines, confirming that the available information on the range of online procedures available has increased efficiently; and (iii) preparation of a technical report on MITIC's performance as a trusted electronic identity services provider.

1.31 **Beneficiaries.** The program's reforms are crosscutting in nature and aimed at overcoming regulatory and institutional constraints to achieve a substantial improvement in the productivity of the economy through digitalization. In view of this objective and the broad nature of the reforms, the program is expected to benefit all economic stakeholders. Specifically, 61% (percentage of citizens using the Internet) of the over seven million citizens and 20% (percentage of households with Internet access) of the over two million households in Paraguay will be able to enjoy better quality public and private digital services thanks to the coordination of actions under a National ICT Plan. Businesses located in the same geographic area as the 88% of the population covered by 4G networks are also expected to benefit from improvements in digital government services.^{52, 53}

C. Key results indicators

1.32 The key indicator for measuring the program's impact will be progress of the World Economic Forum (WEF) ICT adoption index. The indicators that will be used to measure the program's specific objectives are: (i) the index of the adaptability of the legal framework for digital business models; (ii) the index of public policy and strategic vision; (iii) online participation index; and (iv) the index of online government services (for more details see: Results Matrix (Annex III) and the [Monitoring and evaluation plan](#)).

⁵² Internet access data and 4G coverage as of 2018. DigiLac, IDB. Available at: <https://digilac.iadb.org/>.

⁵³ Population and household estimates as of 2020. Statistics, Survey, and Census Bureau (DGEEC). [Análisis y Proyección de los Hogares: 2002 - 2020](#).

- 1.33 **Economic analysis.** On the basis of the recommendations of the Office of Evaluation and Oversight (OVE) in its 2011 Evaluability Review of Bank Projects⁵⁴ and the findings of the review of the evaluation practices and standards for policy-based loans carried out by the Evaluation Cooperation Group (ECG), comprising the independent evaluation offices of various multilateral development banks,⁵⁵ envisaged in paragraph 1.3 of the Review of the Development Effectiveness Matrix for Sovereign Guaranteed and Non Sovereign Guaranteed Operations (document GN-2489-10), which, inter alia, indicates that it would not be necessary to include an analysis of the efficiency of the use of financial resources,⁵⁶ it was determined that no economic analysis would be conducted for this type of loan, as was reported to the Bank's Board of Executive Directors. Therefore, this loan operation does not include an economic analysis and, consequently, the economic analysis is not considered for the purposes of measuring the evaluability score on the Development Effectiveness Matrix (DEM) for this program.

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instruments

- 2.1 **Financial instrument.** This operation is structured as a multi-tranche PBL in accordance with Policy-based Loans: Guidelines for Preparation and Implementation (document CS-3633-2). The selection of the multi-tranche PBL modality, structured in two tranches, with a five-year disbursement period and a grace period of five and a half years,⁵⁷ reflects the Paraguayan government's interest in Bank support to promote sector policy reforms, given that the details of the key steps of the medium-term reform process are well known, and that the government is resolved to implement the reform or institutional change program. It is also justified by the government's high level of knowledge and commitment to the scope and content of the policy process mapped out, such that this instrument bolsters its consistency over time and is an appropriate means of supporting institutional reforms, as well as being a suitable mechanism to help overcome interagency coordination shortcomings.
- 2.2 **Dimensioning.** The loan is for up to US\$90 million from the Bank's Ordinary Capital. This amount will represent nearly 8% of the country's public sector financing requirements in 2020 (US\$1.151 billion, 2.8% of GDP)⁵⁸ and around 15% of financing from multilateral and bilateral sources, complemented with bond issues of up to approximately US\$550 million on domestic and international markets.⁵⁹ The

⁵⁴ Document RE-397-1: The score in the economic analysis section is currently calculated using the maximum value of the cost-benefit analysis and the cost-effectiveness analysis. However, this analysis cannot be applied to policy-based loans.

⁵⁵ Good Practice Standards for the Evaluation of Public Sector Operations. Evaluation Cooperation Group (ECG), Working Group on Public Sector Evaluation, (2012). Revised Edition, (February 2012).

⁵⁶ The Evaluation Cooperation Group calls for policy-based loans to be evaluated for relevance, effectiveness, and sustainability. Efficiency was not included as a criterion because policy-based loans are sized according to the country's financing gap, independent of project benefits.

⁵⁷ These more flexible time frames make it possible to absorb potential delays due to the time required to ratify sovereign guaranteed loans in the Congress.

⁵⁸ As established in the 2020 National General Budget.

⁵⁹ As established in the draft bill for the 2020 National General Budget.

operation is justified applying the criterion of the country's broad fiscal resource needs, in line with paragraph 3.27(b) of document CS-3633-2.

B. Environmental and social safeguard risks

- 2.3 Under Directive B.13 of the Bank's Environment and Safeguards Compliance Policy (Operational Policy OP-703), this operation does not require classification. The proposed reforms have no adverse environmental or social impacts, and the program will not finance specific infrastructure or investment projects.

C. Other key issues and risks

- 2.4 **Development.** A medium development risk has been identified, as the counterparts' limited experience in the innovative topics the program addresses could lead to implementation delays affecting the policy reform measures. To mitigate this risk, the Bank is providing technical and financial support through the following technical cooperation operations, now in execution: [ATN/OC-16802-PR](#) (Support for the Digital Agenda of Paraguay); [ATN/KK-16057-RG](#) (Broadband 2.0: Diagnosis and Recommendations for Sustainable Broadband Development in Paraguay, Honduras, and Argentina); and [ATN/OC-16243-RG](#) (Support for the Digitalization of SMEs to Improve Productivity in Latin America and the Caribbean). A further technical cooperation operation supporting digital reforms to improve connectivity and digitalization of the Paraguayan economy is also in preparation.
- 2.5 **Public management and governance.** There is also a medium-level public management and governance risk, since the crosscutting nature of the interventions relies on political consensus and close coordination among institutions to avoid delays in implementation of the policy reforms. As a mitigation measure, the program will support the consolidation of MITIC as the lead agency for the sector and coordinator of the Digital Strategy Committee (paragraph 3.2).
- 2.6 **Sustainability.** The sustainability of the policy measures and their outcomes beyond the program execution horizon has been identified as a key issue. In this regard, the Paraguayan authorities have designed more permanent measures that help meet the medium- and long-term sustainability objective once the program is completed; such as: (i) approval of MITIC's organizational structure; (ii) establishment of MITIC's charter specifying its scope and functions; (iii) creation of the Digital Strategy Committee; and (iv) regulation of the functions of the Digital Strategy Committee. These measures, among others, illustrate the authorities' commitment to the program objectives and proposed policy measures. Additionally, the Bank is preparing a new technical cooperation operation to accompany the Public Policy Support Program for the New Economy in Paraguay. This will deepen the technical dialogue and support fulfillment of the measures in the program. Also, bearing in mind the lessons learned from other operations (see paragraph 1.18), the government and the Bank intend to keep the channels of interaction with civil society open so as to achieve more effective two-way communication in terms of objectives and the scope of the proposals.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of implementation arrangements

- 3.1 **Borrower and executing agency.** The borrower will be the Republic of Paraguay and the executing agency will be the borrower, acting through its Ministry of Finance. The executing agency will be supported by the Debt Policy Division (DPE), or the unit superseding it, to perform its functions. The executing agency will have the following responsibilities: (i) coordinating with the institutions responsible for the actions included in this operation on all matters related to them; (ii) providing evidence that policy commitments have been fulfilled and any other evidence related to the program that is required by the Bank in order to approve the respective disbursement; and (iii) once the program disbursements have been assured, collecting information on the performance indicators for use in evaluating the program outcomes. The executing agency will use the institutional means at its disposal to ensure effective coordination between the government agencies concerned with the policy measures incorporated in this operation. The executing agency will also collaborate with the Bank on the necessary coordination with other institutions concerned with the measures that are part of this operation.
- 3.2 **Institutional coordination mechanism.** The Ministry of Finance will leverage the recent creation of MITIC as the lead institution in the ICT sector (paragraph 1.20). In this regard, MITIC will be responsible for coordination among institutions and supporting execution of the program's policy reforms. It should also be noted that the Ministry of Finance is on the Digital Strategy Committee, a body chaired by MITIC that will define the guidelines for digitalization policies under the National ICT Plan, the execution of which the program supports (paragraph 1.20). Although no coordination with other multilateral or bilateral organizations is considered necessary under the program, it would be channeled through MITIC if it were to arise.
- 3.3 **Special contractual conditions precedent to the disbursement of each tranche of the loan.** The disbursement of each of the two loan tranches will be subject to fulfillment by the borrower, to the Bank's satisfaction, of the policy reform conditions established in accordance with the Policy Matrix (Annex II), the [policy letter](#), and the conditions set forth in the respective loan contract.

B. Summary of arrangements for monitoring results

- 3.4 **Monitoring.** Implementation of the program will be monitored by the Ministry of Finance. The borrower and the Bank will hold semiannual meetings to review fulfillment of the conditions required by the program. Monitoring instruments will include the Policy Matrix (Annex II), the [means of verification matrix](#), the [monitoring and evaluation plan](#), and the Results Matrix (Annex III).
- 3.5 **Evaluation.** At the end of the program, the Bank will prepare a project completion report and an ex post evaluation based on a before-after analysis of the results

indicators and supplemented by an analysis of the empirical evidence in the sector.⁶⁰ For more details, see the [monitoring and evaluation plan](#).

IV. POLICY LETTER

- 4.1 The program's Policy Matrix (Annex II) is aligned with the [policy letter](#) issued by the Republic of Paraguay reaffirming the government's commitment to implement the activities agreed upon with the Bank.

⁶⁰ This analysis will consist of a review of the empirical literature on the sector to identify evidence of the impact of similar reforms on the development of the connectivity and digitalization of the economies that adopted them. This review will seek to support the argument for the causality driving the final outcome indicators observed.

Development Effectiveness Matrix		
Summary		PR-L1163
I. Corporate and Country Priorities		
1. IDB Development Objectives	Yes	
Development Challenges & Cross-cutting Themes	-Social Inclusion and Equality -Productivity and Innovation -Economic Integration -Gender Equality and Diversity -Institutional Capacity and the Rule of Law	
Country Development Results Indicators	-Government agencies benefited by projects that strengthen technological and managerial tools to improve public service delivery (#)*	
2. Country Development Objectives	Yes	
Country Strategy Results Matrix	GN-2958	(i) Improve the coverage and quality of infrastructure; and (ii) Strengthen public management capabilities
Country Program Results Matrix	GN-2948-2	The intervention is included in the 2019 Operational Program.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		
II. Development Outcomes - Evaluability		
3. Evidence-based Assessment & Solution		Evaluable
3.1 Program Diagnosis		7.1
3.2 Proposed Interventions or Solutions		2.4
3.3 Results Matrix Quality		1.7
4. Ex ante Economic Analysis		3.0
5. Monitoring and Evaluation		N/A
5.1 Monitoring Mechanisms		7.0
5.2 Evaluation Plan		2.5
III. Risks & Mitigation Monitoring Matrix		4.5
Overall risks rate = magnitude of risks*likelihood		Medium
Identified risks have been rated for magnitude and likelihood		Yes
Mitigation measures have been identified for major risks		Yes
Mitigation measures have indicators for tracking their implementation		Yes
Environmental & social risk classification		B.13
IV. IDB's Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury, Accounting and Reporting.
Non-Fiduciary		
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project	Yes	PR-T1239 (ATN / OC-16322-PR) to support the simplification of processes offered to citizens, PR-T1255 (ATN / OC-16802-PR) to support the implementation of the Digital Agenda.

Note: (*) Indicates contribution to the corresponding CRF's Country Development Results Indicator.

The project "Public Policy Support Program for the New Economy (PR-L1163)" is a Policy-Based Loan (PBL) consisting of two consecutive tranches. The program's general objective is to improve connectivity and boost the digitalization of the Paraguayan economy. The specific objectives are: (i) to strengthen public policies aimed at promoting access to digital technologies by citizens and the private sector; and (ii) to promote the digital transformation of public sector services.

In terms of internet access and the use of information technology, Paraguay is lagging significantly behind most countries in the region, making it harder to achieve productivity gains by taking advantage of these technologies. The project has identified a number of factors contributing to this problem, including poor digital infrastructure, limited capacity for international traffic, and inadequate regulations. In addition, inadequate mechanisms for data protection, low institutional capacity and lack of coordination on the part of the government are identified as some of the major obstacles for the digitalization of government services. The project addresses these problems through four components, aimed at: (i) maintaining macroeconomic stability, (ii) strengthening the institutional framework and capacity, and the establishment of a national ICT plan, (iii) improving national and international connectivity, and (iv) the implementation of national strategies for cybersecurity and a digital government. However, the project does not provide evidence of the effectiveness of this type of intervention, and there is a lack of information regarding the magnitudes of some of the identified problems.

The vertical logic laid out in the POD is consistent with the results matrix indicators, which meet SMART criteria for the measurement of expected impacts and results, as well as to monitor the implementation of the policies and products to be generated during the program. The team proposes to evaluate the effects of the project using a before-and-after methodology (evaluation without attribution), which is appropriate given the nature of the program.

POLICY MATRIX

Objective: The general objective of the program is to improve connectivity and drive the digitalization of the Paraguayan economy through the specific objectives of: (i) strengthening public policies to promote access by citizens and the private sector to digital technologies; and (ii) promoting the digital transformation of public sector services.

Components/ Policy objectives	Policy conditions Tranche I	Fulfillment status of conditions Tranche I ¹	Policy conditions Tranche II
Component I. Macroeconomic stability			
Ensure that a macroeconomic context is maintained that is consistent with the program objectives as established in the Policy Matrix and policy letter .	1.1 The macroeconomic context is conducive to achieving the program objectives and consistent with the policy letter .	1.1 Fulfilled	1.1 The macroeconomic context is conducive to achieving the program objectives and consistent with the policy letter .
Component II. Digital Agenda			
Strengthening the institutional framework and powers of MITIC.	2.1 Approval of the organizational structure of the Ministry of Information and Communication Technologies (MITIC), created by Law 6207/2018.	2.1 Fulfilled (Q1 2019).	2.1 Approval of the manual of functions and job descriptions of the Office of the Deputy Minister of Information and Communication Technologies, and MITIC's Strategic Communication Bureau.
	2.2. Approval of the Regulations under Law 6207/2018 creating MITIC and establishing its charter, specifying the agency's scope and functions.	2.2. Fulfilled (Q3 2019).	2.2 Approval of specific regulations on MITIC's powers regarding ICTs and communications.

¹ This information is purely informative as of the date of this document. In accordance with document CS-3633-2 (Policy-based Loans: Guidelines for Preparation and Implementation), fulfillment of all the specified conditions for disbursement, including maintenance of an appropriate macroeconomic policy framework, will be verified by the Bank when the borrower requests the corresponding disbursement and duly noted in the eligibility memorandum for the disbursement.

Components/ Policy objectives	Policy conditions Tranche I	Fulfillment status of conditions Tranche I'	Policy conditions Tranche II
Establishment of the National ICT Plan as an instrument for public policy coordination.	<p>2.3.1. Creation of the Digital Strategy Committee for the design and implementation of the "National Information and Communication Technologies (ICT) Plan," comprising representatives of different government institutions and providing resources including the guidelines for public policies in the digital sphere.</p> <p>2.3.2. Approval of the regulations on the operation of the Digital Strategy Committee for the design and implementation of the "National Information and Communication Technologies (ICT) Plan," including linkages with the private sector.</p>	<p>2.3.1. Fulfilled (Q3 2019).</p> <p>2.3.2. Pending fulfillment (Q1 2020).</p>	2.3 Approval of the National ICT Plan, including guidelines on key areas such as e-government, digital connectivity, and adoption and use.
Measurement of the gender dimension in the adoption of digital technologies.	<p>2.4 Preparation of a proposal for a strategy for the collection of data for gender-disaggregated ICT access and usage indicators and implementation of a pilot including:</p> <ul style="list-style-type: none"> - definition of indicators; and - identification of data sources. 	2.4 Pending fulfillment (Q2 2020).	2.4. Approval of the strategy for the collection of data for gender-disaggregated ICT access and usage indicators.
Component III. Digital connectivity			
Improving Paraguay's international connectivity.	3.1 Preparation and approval of the roadmap to improve Paraguay's international connectivity, including various international connectivity alternatives.	3.1 Pending fulfillment (Q2 2020).	3.1 Evaluation of implementation of the roadmap to improve Paraguay's international connectivity, confirming that an international request for information open to public and private enterprises to improve the country's international connectivity has been published.

Components/ Policy objectives	Policy conditions Tranche I	Fulfillment status of conditions Tranche I'	Policy conditions Tranche II
Improving national connectivity in Paraguay.	3.2 Preparation and approval of the roadmap to improve digital connectivity in public places, such as police stations, health centers, and public squares.	3.2 Pending fulfillment (Q1 2020).	3.2 Evaluation of the implementation of the roadmap to improve digital connectivity in public places, such as police stations, health centers, and public squares, confirming that a service provider has been contracted to improve the digital connectivity of public places.
	3.3 Preparation and approval of the roadmap to improve government data management.	3.3 Pending fulfillment (Q1 2020).	3.3 Evaluation of implementation of the roadmap to improve government data management, confirming that contracting of a service provider for the design and construction of the government datacenter has been approved.
Component IV. E-government			
Implementation of a national cybersecurity strategy.	4.1 Approval of the information security governance model, aligned with the National Cybersecurity Plan, approved by Decree PE 7052/17.	4.1 Pending fulfillment (Q1 2020).	4.1 Evaluation of the implementation of the National Cybersecurity Plan, confirming that a national cybersecurity coordinator has been appointed and the National Cybersecurity Committee created.
Strengthening the government's digital strategy.	4.2 Approval of the technical guidelines on interoperability with private entities to allow secure information sharing.	4.2 Pending fulfillment (Q2 2020).	4.2 Evaluation of the implementation of the information-sharing system approved by Decree 8709/2018, confirming that this system is being used between public institutions effectively.
	4.3 Update to the guidelines of "Portal Paraguay" and "Trámites en Línea" (online procedures) so as to efficiently increase the stock of information on the available range of online procedures.	4.3 Pending fulfillment (Q1 2020).	4.3 Evaluation of the use of "Portal Paraguay" based on the updated guidelines confirming that the available information on the range of online procedures available has increased efficiently.

Components/ Policy objectives	Policy conditions Tranche I	Fulfillment status of conditions Tranche I'	Policy conditions Tranche II
	4.4 Preparation of regulations enabling MITIC to be a trusted electronic identity services provider, in line with current legislation.	4.4 Pending fulfillment (Q1 2020).	4.4 Preparation of a technical report on MITIC's performance as a trusted electronic identity services provider.

RESULTS MATRIX

Project objective:	The general objective of the program is to improve connectivity and drive the digitalization of the Paraguayan economy through the specific objectives of: (i) strengthening public policies to promote access by citizens and the private sector to digital technologies; and (ii) promoting the digital transformation of public sector services.
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EXPECTED IMPACT

Indicators	Unit of measure	Baseline	Baseline year	Final target (2026) ¹	Means of verification	Comments
<u>Impact: Improve connectivity and drive the digitalization of the Paraguayan economy</u>						
ICT adoption index	Index	45.7	2019	50.1	World Economic Forum: Global Competitiveness Index 4.0	<p>This index corresponds to one of the eight pillars of the Global Competitiveness Index for Paraguay. It aims to capture progress in terms of levels of connectivity and usage of telephony and Internet services. The reforms under this program are expected to yield these results in the medium to long term.</p> <p>The target corresponds to the baseline plus half the gap with the South American average. For more details, see the Monitoring and evaluation plan.</p>

¹ Given the nature of the reforms the program supports, the impacts are expected to materialize over the long term. For this reason, the target year for the impact indicators differs from that of the results indicators.

EXPECTED OUTCOMES²

Indicators	Unit of measure	Baseline	Baseline year	Final target (2022)	Means of verification	Comments
<u>Specific objective 1: Strengthening public policies to promote access by citizens and the private sector to digital technologies</u>						
Adaptability index of the legal structure for digital business models	Index	3	2019	3.1	World Economic Forum: Global Competitiveness Index 4.0	Subindex of the Global Competitiveness Index that aims to measure the speed with which the country's legal structure adapts to digital business models. The minimum value is 1 (worst) and maximum 7 (best). The target corresponds to the South American average for this indicator.
Public policy index and strategic vision	Index	3.44	2019	3.56	IDB: Broadband Development Index	Subindex of the Broadband Development Index prepared by the IDB for Latin America and the Caribbean. This subindex aims to measure the importance governments give to ICT development policy, as well as its quality, and strategic vision. The target is equal to the baseline plus a quarter of the gap with the South American average. For more details, see the Monitoring and evaluation plan .
<u>Specific objective 2: Promoting the digital transformation of public sector services</u>						
Online participation index	Index	0.5730	2018	0.61	UN: E-Government Knowledge Database	Biannual index prepared by the United Nations measuring the use of online services to facilitate the provision of information by government to citizens, interaction between stakeholders, and participation in decision-making processes. The target is equal to the baseline plus a quarter of the gap with the South American average. For more details, see the Monitoring and evaluation plan .
Online government services index	Index	0.5255	2018	0.56	UN: E-Government Knowledge Database	Biannual index prepared by the United Nations to measure the status of e-government in member countries. The target is equal to the baseline plus a quarter of the gap with the South American average. For more details, see the Monitoring and evaluation plan .

² The outcome indicators were defined based on the expected disbursement times and start of preparation of the project completion report. The long-term effects are reflected in the impact indicators. For more details, see the [Monitoring and evaluation plan](#).

OUTPUTS

Outputs	Unit of measure	Baseline	Baseline year	Year 1	Year 2	Year 3	Final target (2022)	Means of verification
Component II: Digital agenda								
a. Strengthening the institutional framework and powers of MITIC								
Organizational structure of the Ministry of Information and Communication Technologies (MITIC), created by Law 6207/2018, approved.	Decree issued	0	2018	1	0	0	1	Copy of the Decree approving the organizational structure of MITIC (Decree 1260/2019).
Manual of functions and job descriptions of the Office of the Deputy Minister of Information and Communication Technologies, and MITIC's Strategic Communication Bureau approved.	MITIC resolution	0	2019	0	0	1	1	[Tranche II policy]. Copy of the MITIC Resolution approving the manual of functions and job descriptions of the Office of the Deputy Minister of Information and Communication Technologies, and MITIC's Strategic Communication Bureau.
Regulations under Law 6207/2018 creating MITIC and establishing its charter, specifying the agency's scope and functions, approved.	Decree issued	0	2018	1	0	0	1	Copy of Decree regulating Law 6207/2018 (Decree 2274/2019).
Specific regulation on MITIC powers regarding ICTs and communications approved.	MITIC resolution	0	2019	0	0	1	1	[Tranche II policy]. Copy of MITIC Resolution(s) regulating MITIC's specific powers regarding ICTs and communications.
b. Establishing the National ICT Plan as an instrument for public policy coordination								
Digital Strategy Committee for the design and implementation of the "National Information and Communication Technologies (ICT) Plan," comprising representatives of different government institutions and providing resources including the guidelines for public policies in the digital sphere, created.	Decree issued	0	2018	1	0	0	1	Copy of the Decree creating the Digital Strategy Committee for the design and implementation of the "National Information and Communication Technologies (ICT) Plan" and functions assigned to it (Decree 2145/2019).
National ICT Plan, including guidelines in key areas such as e-government, digital connectivity, and adoption and use, approved.	Decree issued	0	2019	0	0	1	1	[Tranche II policy]. Copy of Decree approving the National ICT Plan.

Outputs	Unit of measure	Baseline	Baseline year	Year 1	Year 2	Year 3	Final target (2022)	Means of verification
Regulation on the operation of the Digital Strategy Committee for the design and implementation of the "National Information and Communication Technologies (ICT) Plan," including linkages with the private sector, approved.	Regulation approved	0	2019	1	0	0	1	Copy of regulation on operation, approved by the Digital Strategy Committee.
c. Measuring the gender dimension in the adoption of digital technologies								
Proposal for the strategy for the collection of data for gender-disaggregated ICT access and usage indicators prepared.	MITIC technical report	0	2019	1	0	0	1	Copy of the MITIC technical report submitting the proposed data collection strategy.
Implementation of a pilot of the strategy for the collection of data for gender-disaggregated ICT access and usage indicators.	MITIC technical report	0	2019	1	0	0	1	Copy of the MITIC technical report submitting the proposed data collection strategy and reporting implementation of the pilot.
Strategy for the collection of data for gender-disaggregated ICT access and usage indicators approved.	MITIC resolution	0	2019	0	0	1	1	[Tranche II policy]. Copy of MITIC Resolution approving the data collection strategy.
Component III: Digital connectivity								
a. Improving Paraguay's international connectivity								
Roadmap to improve Paraguay's international connectivity, including various international connectivity alternatives, prepared and approved.	MITIC resolution	0	2019	1	0	0	1	Copy of the MITIC Resolution approving the roadmap to improve Paraguay's international connectivity.
Evaluation of implementation of the roadmap to improve Paraguay's international connectivity, confirming that an international request for information open to public and private enterprises to improve the country's international connectivity has been published, prepared.	MITIC resolution	0	2019	0	0	1	1	[Tranche II policy]. Copy of the MITIC Resolution approving the evaluation of the implementation of the roadmap to improve Paraguay's international connectivity.
b. Improving national connectivity in Paraguay								
Roadmap to improve digital connectivity in public places, such as police stations, health centers, and public squares prepared and approved.	MITIC resolution	0	2019	1	0	0	1	Copy of the MITIC Resolution approving the roadmap to improve Paraguay's connectivity in public places.

Outputs	Unit of measure	Baseline	Baseline year	Year 1	Year 2	Year 3	Final target (2022)	Means of verification
Evaluation of the implementation of the roadmap to improve digital connectivity in public places, such as police stations, health centers, and public squares, confirming that a service provider has been contracted to improve the digital connectivity of public places, prepared.	MITIC resolution	0	2019	0	0	1	1	[Tranche II policy]. Copy of the MITIC Resolution approving the evaluation of the implementation of the roadmap to improve the digital connectivity of public places.
Roadmap to improve government data management prepared and approved.	MITIC resolution	0	2019	1	0	0	1	Copy of the MITIC Resolution approving the roadmap to improve government data management.
Evaluation of implementation of the roadmap to improve government data management, confirming that contracting of a service provider for the design and construction of the government datacenter has been approved, prepared.	MITIC resolution	0	2019	0	0	1	1	[Tranche II policy]. Copy of the MITIC Resolution approving the evaluation of the implementation of the roadmap to improve government data management.
Component IV: E-government								
a. Implementation of a national cybersecurity strategy								
Information security governance model, aligned with the National Cybersecurity Plan, approved by Decree PE 7052/17.	MITIC resolution	0	2019	1	0	1	1	Copy of MITIC Resolution approving the information security governance model.
Evaluation of the implementation of the National Cybersecurity Plan, confirming that a national cybersecurity coordinator has been appointed and the National Cybersecurity Committee created, completed.	MITIC resolution	0	2019	0	0	1	1	[Tranche II policy]. Copy of the MITIC Resolution approving the evaluation of the implementation of the National Cybersecurity Plan.
b. Strengthening the government's digital strategy								
Technical guidelines on interoperability with private entities to allow secure information-sharing approved.	MITIC resolution	0	2019	1	0	0	1	Copy of MITIC Resolution approving the technical guidelines on interoperability with private entities to allow secure information-sharing.

Outputs	Unit of measure	Baseline	Baseline year	Year 1	Year 2	Year 3	Final target (2022)	Means of verification
Evaluation of the implementation of the information-sharing system approved by Decree 8709/2018, confirming that this system is being used between public institutions effectively, completed.	MITIC resolution	0	2019	0	0	1	1	[Tranche II policy]. Copy of the MITIC Resolution approving the evaluation of the implementation of the information-sharing system.
Guidelines of "Portal Paraguay" and "Trámites en Línea" (online procedures) updated in order to efficiently increase the stock of information on the available range of online procedures.	Decree issued	0	2019	1	0	0	1	Copy of MITIC Resolution updating the guidelines of the "Portal Paraguay" online procedures module and "Trámites en Línea."
Evaluation of the use of "Portal Paraguay" based on the updated guidelines, confirming that the available information on the range of online procedures available has increased efficiently, completed.	MITIC resolution	0	2019	0	0	1	1	[Tranche II policy]. Copy of the MITIC Resolution approving the evaluation of the use of "Portal Paraguay."
Regulations enabling MITIC to be a trusted electronic identity services provider, in line with current legislation, drafted.	MITIC resolution	0	2019	1	0	0	1	Copy of the MITIC Regulation enabling MITIC to be a trusted electronic identity services provider.
Technical report on MITIC's performance as a trusted electronic identity services provider, prepared.	MITIC report	0	2019	0	0	1	1	[Tranche II policy]. Copy of the MITIC technical report on its performance as a trusted electronic identity services provider.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/20

Paraguay. Loan ____/OC-PR to the Republic of Paraguay. Public Policy Support
Program for the New Economy

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Republic of Paraguay, as borrower, for the purpose of granting it a financing to cooperate in the execution of the Public Policy Support Program for the New Economy. Such financing will be for an amount of up to US\$90,000,000 from the Ordinary Capital resources of the Bank, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on ____ 2020)

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