

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

ARGENTINA

**PROGRAM FOR THE DEVELOPMENT OF THE
FEDERAL FIBER OPTIC NETWORK (REFEFO)**

(AR-L1333)

LOAN PROPOSAL

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ABBREVIATIONS

ARSAT	Empresa Argentina de Soluciones Satelitales S.A.
DIPROSE	Dirección de Programas y Proyectos Sectoriales y Especiales [Sectoral and Special Programs and Projects Office]
GDP	Gross domestic product
MEP	Monitoring and evaluation plan
REFEFO	Red Federal de Fibra Óptica [Federal Fiber Optic Network]
SAE	Secretaría de Asuntos Estratégicos de la Presidencia de la Nación [Secretariat of Strategic Affairs of the Office of the President]
SIP	Secretaría de Innovación Pública [Secretariat of Public Innovation]
SSeTIC	Subsecretaría de Tecnologías de la Información y las Comunicaciones [Undersecretariat of Information and Communication Technologies]
SSGAIP	Subsecretaría de Gestión Administrativa de Innovación Pública [Undersecretariat of Public Innovation Administrative Management]

PROJECT SUMMARY
ARGENTINA
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Financial Terms and Conditions				
Borrower:			Flexible Financing Facility ^(a)	
Argentine Republic			Amortization period:	25 years
Executing agency:			Disbursement period: ^(f)	5 years
The borrower, through the Office of the Cabinet Chief			Grace period:	5.5 years ^(b)
Source	Amount (US\$ millions)	%	Interest rate:	LIBOR-based
			Credit fee:	^(c)
			Inspection and supervision fee:	^(c)
IDB (Ordinary Capital):	100	100	Weighted average life:	15.25
Total	100	100	Approval currency:	U.S. dollars
Project at a Glance				
Project objective/description: The general objective of this program is to boost Internet access and digitalization in Argentina. To achieve this, the following specific objectives have been set: (i) improve the infrastructure for digital connectivity in areas outside urban centers and increase the capacity of the National Data Center; and (ii) improve the digital skills of citizens in connected areas.				
Special contractual conditions precedent to the first disbursement of the loan: The executing agency will submit to the Bank evidence that: (i) an agreement has been signed between the Secretariat of Public Innovation and Empresa Argentina de Soluciones Satelitales S.A. for the transfer and use of the resources and execution of the program activities provided for in Component 1, under the terms previously agreed with the Bank, and (ii) the program Operating Regulations have been approved, under the terms previously agreed with the Bank (paragraph 3.8) Error! Reference source not found..				
For the special contractual conditions for social and environmental execution, see Annex B of the Environmental and Social Management Report .				
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)	GE <input checked="" type="checkbox"/> and DI <input type="checkbox"/>		CC <input checked="" type="checkbox"/> and ES <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, commodity, and catastrophe protection conversions. The Bank will take operational and risk management considerations, prevailing market conditions, as well as the loan's level of concessionality into account when reviewing such requests, in accordance with current applicable Bank policies.
- (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 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 relevant policies.
- (d) SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).
- (e) GE (Gender Equity) and DI (Diversity); CC (Climate Change) and ES (Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).
- (f) Under document AB-2990, the Bank's disbursement of loan proceeds will be subject to the following caps: (i) up to 15% in the first 12 months; (ii) up to 30% in the first 24 months; and (iii) up to 50% in the first 36 months, starting on the date the Board of Executive Directors approves the loan.

I. DESCRIPTION AND RESULTS MONITORING

A. Background, problem addressed, and rationale

- 1.1 **Macroeconomic context in Argentina.** In 2021 the economy is expected to grow 6.6%, partially recovering from the 9.9% drop due to COVID-19 and the prior years of recession. However, the government is taking steps to boost the economic recovery and improve fiscal liquidity, while applying capital controls and other measures to manage the exchange rate. A new agreement is expected to be negotiated with the International Monetary Fund in the first quarter of 2022. Inflation fell to 36.1% in 2020 but is expected to rise to 48.9% in 2021, in a context that largely relies on monetary financing of the fiscal deficit.
- 1.2 **Connectivity and COVID-19.** In the pandemic, countries with a developed connectivity infrastructure were able to recover faster and to much better mitigate the economic losses associated with the health emergency.¹ During the COVID-19 pandemic, Internet access allowed for the continuity of digital services and, depending on the level of digital development,² saved between 20%-25% of GDP. However, differences in access and connection quality have accentuated geographic and income inequality, as discussed below.
- 1.3 **Sectoral context.** According to the Economic Commission for Latin America and the Caribbean,³ 67% of urban households in the region are connected to the Internet, compared to only 23% in rural areas. In some countries, such as Bolivia, El Salvador, Paraguay, and Peru, more than 90% of rural households have no Internet connection. Even in better-off countries such as Chile, Costa Rica, and Uruguay, only about half of rural households are connected. For example, in Argentina, the Autonomous City of Buenos Aires has 113 fixed connections per 100 households, while Formosa only has 30. Likewise, according to the Undersecretariat of Information and Communication Technologies (SSeTIC), the average download speed in Buenos Aires is 60 Mbps, while in Santa Cruz it is 7 Mbps, affecting service quality on equitable footing. This situation can be seen nationwide, with penetration of mobile and fixed broadband at 67.3% and 19.10%, respectively, compared to 121.07% and 33.74%, respectively, for countries in the Organisation for Economic Co-operation and Development. The country's low average population density⁴ hinders the private sector's business model and provides a rationale for public intervention to ensure equal access. The mobile market is broken down as follows: Claro (39.1%), Personal (34.1%), and Telefónica (26.8%). In broadband it is: Telecom (46.4%), Telefónica (14.2%), and Telmex (10.9%).⁵

¹ [Can digitization mitigate the economic damage of a pandemic? Evidence from SARS](#), Raul Katz et al., 2020.

² [The Impact of Digital Infrastructure on the Consequences of COVID-19 and on the Mitigation of Future Effects](#). Inter-American Development Bank. November 2020.

³ [Universalizing access to digital technologies to address the consequences of COVID-19](#). Economic Commission for Latin America and the Caribbean. August 2020.

⁴ The density is 16.3 inhabitants/km², compared to the average for the region of 115.8 inhabitants/km². This has an impact on deployment.

⁵ [Telegeography](#).

- 1.4 **Institutional context and telecommunications.** Created⁶ within the purview of the Secretariat of Public Innovation (SIP) of the Office of the Cabinet Chief, the SSeTIC has set up the “Conectar” [Connect] program, the ultimate goal of which is to boost universal access to information and communications technology services and broadband connections through four components:⁷ (i) the Argentine satellite system; (ii) the Federal Fiber Optic Network (REFEFO); (iii) the National Data Center; and (iv) open digital television. Plans within the Conectar program include: (i) building and launching the ARSAT-SG1 satellite; (ii) completing REFEFO Phase II and launching Phase III; and (iii) improving the State’s efficiency by modernizing the data center. Regulation of the sector and access services falls to the Ente Nacional de Comunicaciones [National Communications Agency] (ENACOM), which has a technical team and a Board of Directors comprising one chairperson, three directors appointed by the executive branch, and three directors put forward by the Comisión Bicameral de Promoción y Seguimiento de la Comunicación Audiovisual, las Tecnologías de las Telecomunicaciones y la Digitalización [Bicameral Commission for the Promotion and Monitoring of Audiovisual Communication, Telecommunications Technologies, and Digitalization], who will be selected by the latter from nominations by the parliamentary groups, thus providing stability and independence in decision-making. This regulation extends to the REFEFO, which began in 2010 and has helped create a more level playing field in terms of Internet access. The main lessons from the phases that have already been implemented are: (i) the importance of the public sector’s role to ensure complementarity with private investment to reach unprofitable areas, and (ii) the need for data collection to maximize the impact of deployment.
- 1.5 **Main limitations.** The population’s limited Internet access is due to two chief obstacles: (i) lack of national and international infrastructure^{8, 9} and (ii) lack of digital skills.¹⁰
- 1.6 **Lack of national and international infrastructure.** In 2010, the government launched a national connectivity plan such that Argentina currently has 31,154 kilometers of (active) lit fiber in 1,050 localities; through Empresa Argentina de Soluciones Satelitales Sociedad Anónima (ARSAT), satellite connectivity is provided to 3,600 rural schools throughout the country and more than 16,000 users in remote areas. However, despite the efforts of REFEFO Phases I and II, there are still approximately 258 localities with less than 10,000 inhabitants that lack access. The SSeTIC seeks to connect them through REFEFO Phase III, which would be financed with this program (see [ARSAT engineering report](#) (optional link 6)), as well as the upgrade of storage equipment, servers, networks, backups, and software to improve efficiency in the

⁶ [Decree 50/2019](#).

⁷ [Conectar](#).

⁸ Available at [DigiLAC](#). Argentina ranks 40th out of 65.

⁹ [United Nations e-Government Knowledgebase](#). Argentina ranks 32nd out of 193 countries.

¹⁰ See the governance indicator for information and communications technology in [DigiLAC](#). Argentina scores 58.1 out of 100.

delivery of information and communications technology services. In addition, in Argentina international connectivity costs US\$4 per 10 Gbps link—16 times the price that a telecommunications operator in Miami, Florida (United States) pays. Reducing this price requires an increase in international capacity and connectivity at border crossings, since it would facilitate the entry of new providers and, in turn, facilitate regional integration, especially with Chile and Paraguay. The main determinants of this lack of national and international digital infrastructure are as follows: (i) due to the cost structure of private-sector operators, they mainly deploy networks in economically profitable areas with greater economies of scale and higher population density, which leads to infrastructure gaps in rural and remote areas (e.g. those without mobile broadband service) where there are lesser economies of scale and lower population density; and (ii) there is not enough international capacity due to the lack of connectivity at border crossings, which affects quality and price as there is less access to other submarine cables in the region.

- 1.7 **Lack of digital skills including gender gap.** According to the Instituto Nacional de Estadística y Censo [National Statistics and Census Institute] (INDEC), in 2020 39% of households did not have a computer, while 16% lacked a mobile phone. Among the six regions, the northeast has the lowest rate of Internet use (23.7% of the population does not use the Internet) and computer use (57.21%), 3.7 and 1.4 percentage points, respectively, below the national average.¹¹ This leads to a larger skills problem in the country's less densely populated and more rural areas. Additionally, in the Global Competitiveness Index, the World Economic Forum gives Argentina a value of only 4.0 points out of 7 in digital skills among the active population, thus ranking it 80th out of 141 countries.¹² The gender gap in Internet use amounts to nearly 2 percentage points (73.5% for women vs. 75.2% for men).¹³ The main determinants are: (i) low level of digital training, and (ii) lack of digital inclusion training for public officials.
- 1.8 **Climate change context and challenges for developing the country's digital infrastructure.** Argentina's geographic features and climate variability increase the country's risk to more frequent climate phenomena.¹⁴ According to the Climate Risk Index, over the 1996-2015 period Argentina was one of the countries most vulnerable to climate change, ranking 15th.¹⁵ By 2030, this vulnerability is projected to rise from a "severe" level (in 2010) to an "acute" level. Faced with this systemic vulnerability to climate change, Argentina is committed to reducing its greenhouse gas emissions and, according to the second Nationally Determined Contribution, the Argentine Republic will not

¹¹ [Acceso y uso de tecnologías de la información y la comunicación](#). Ciencia y tecnología. Vol. 4, no. 1. Instituto Nacional de Estadística y Censo.

¹² [Global Competitiveness Index](#). 2019. World Economic Forum.

¹³ International Telecommunication Union. 2017 data. These statistics will be updated in the operation through activities planned during execution by setting a gender baseline, conducting a specific study on the determinants of the gap, and determining the training needed to close the gender gaps.

¹⁴ Third National Communication to the United Nations Framework Convention against Climate Change.

¹⁵ The Long-Term Climate Risk Index. [Germanwatch](#), 2017.

exceed net emissions of 359 million tons of carbon dioxide equivalent in 2030, compared to total net emissions of 364.44 million tons of carbon dioxide equivalent in 2016. Emissions from electricity generation accounted for 13.1% of the country's total greenhouse gas emissions;¹⁶ interventions with a high impact on energy savings should be considered relevant to meeting the target for the national emissions reduction.

- 1.9 **Bank support in the sector and lessons learned.** The Bank's multidimensional support has been provided through: (i) the updating of the public and regulatory policy framework, such as the Program for Strengthening of the Digital Agenda: Connectivity, Electronic Government, and Digital Productive Transformation ([4755/OC-AR](#)), which was approved in 2019 and complements the proposed investment program in that it supports the development of public policies and regulations fostering REFEFO deployment and sustainability, the Program for the Improvement of Connectivity and Digitalization of the Economy in Colombia ([4701/OC-CO](#)), and the Public Policy Support Program for the New Economy in Paraguay ([4985/OC-PR](#)); (ii) support to the deployment of digital infrastructures, such as the Broadband Program in Nicaragua ([3612/BL-NI](#)), the Digital Agenda Support Program in Paraguay ([4650/OC-PR](#)), the Puerto Cortés Expansion and Modernization Program in Honduras ([2470/BL-HO](#)), and the Program to Promote Digital Transformation and Social Inclusion in Mexico ([5121/OC-ME](#)); (iii) support through public development banks such as the Conditional Credit Line for Investment Projects ([ME-O0004](#)) with the Program to Finance the Shared Telecommunications Network ([4666/OC-ME](#)); and (iv) the Satellite Technology Development Program ([4840/OC-AR](#)), which was approved in 2019 and complements the efforts to improve connectivity in rural areas using the REFEFO's land-based technology in the proposed program. The main lessons learned from the IDB Group interventions focus on the need for a level of digital infrastructure development that facilitates the continuity of public services and reduces the digital divide in rural areas, as laid out in loan 4840/OC-AR, which was taken into account in the design of Component 1. The program will also benefit from the Bank's value added through the studies and publications on the [DigiLAC](#) platform and the Dialogue Network, which have been set up as part of the regional public good ([ATN/OC-17689-RG](#)), as well as the importance of public policies fostering the adoption and use of Internet services for productive and social purposes, as laid out in loan [4755/OC-AR](#) which will contribute to the design and implementation of Component 2.
- 1.10 **Technical-cooperation project.** Currently in the execution stage, technical-cooperation project [ATN/OC-16470-RG](#) (US\$820,000) will be supporting the program; its objective is to promote, facilitate, and contribute to harmonization in the design and implementation of regulatory and public policy measures in issues essential to infrastructure development, digital skills development, and the digital economy. In coordination with the counterpart, this technical-cooperation project helped conduct prefeasibility and market studies to size the program.

¹⁶ Second Nationally Determined Contribution.

In addition, it will support the design of the Component 2 implementation strategy (paragraph 1.17).

- 1.11 **Strategic alignment.** The program is consistent with the second Update to the Institutional Strategy (document AB-3190-2) and strategically aligns with the following development challenges: (i) productivity and innovation, by supporting the use of infrastructure and digital technologies under Component 2; (ii) social inclusion and equality, through greater connectivity in the country's rural areas; and (iii) economic integration, by improving international and crossborder connectivity. The program is also aligned with the crosscutting issues of: (i) institutional capacity and rule of law, by strengthening the operational and technical capacity of the SSeTIC (paragraph 1.13), (paragraph 2.6); (ii) gender equity, by training women and creating economic opportunities for women and/or human capital development with a gender focus in Component 2 activities; and (iii) climate change, because under the [joint methodology of the multilateral development banks](#), 9.89% of the operation's resources are expected to be invested in climate change activities as a result of the procurement of digital connectivity infrastructure meeting a high energy efficiency standard.¹⁷ These resources contribute to the IDB's climate finance target (30% of the annual volume of approvals). The program also contributes to the Corporate Results Framework (document GN-2727-12) through indicators on: (i) beneficiaries with new access to at least one 4G mobile network; (ii) women benefiting from economic empowerment initiatives; and (iii) the value of investments in resilient or low-carbon infrastructure. In addition, it is consistent with the Innovation, Science, and Technology Sector Framework Document (document GN-2791-8) in the dimension promoting the ability of the economies in the region to take full advantage of the potential of the digital economy and with the Gender and Diversity Sector Framework (document GN-2735-7) and the Climate Change Sector Framework (document GN-2835-5), respectively, by promoting quality training and relevant courses in digital skills that reduce the gender gap and by deploying and using energy-efficient infrastructure and equipment. Lastly, it is also consistent with the Update to the Gender Action Plan for Operations 2020-2021 (document GN-2531-19), specifically the strategic line of action including women in the digital economy, preparing them to access digital entrepreneurial opportunities, and correcting gender biases in venture capital.
- 1.12 The operation is also aligned with the IDB Group Country Strategy with Argentina 2021-2023 (document GN-3051) as regards the priority areas of: (i) digital transformation as a crosscutting contributor to development that will support the postpandemic process, and (ii) poverty reduction and social protection for the most vulnerable, specifically through the line of action aimed at strengthening the employability and labor conditions of the population, with particular support for efforts to improve the participation of women and vulnerable groups in the labor market, as well as the inclusion of 21st century skills to support sustainable development and low-emission economies. In particular, the program contributes

¹⁷ Interventions with a high impact on energy savings will be important for meeting the national emissions reduction target (see [Annex on climate change](#) (optional link 4)).

to the strategic objectives of: (i) increasing digital inclusion, through the deployment of infrastructure and the development of digital skills; (ii) increasing public and private investment in network infrastructure, through expanded high-speed network infrastructure and nationwide coverage; and (iii) improving the population's employability, through women's greater workforce participation. These alignments take shape in the increase in connectivity infrastructure foreseen in Component 1 (paragraph 1.16) and the digital skills training and certification interventions for citizens in the connected localities provided in Component 2 of the program (paragraph 1.17). Lastly, the operation is included in the Update of the Annex III of the 2021 Operational Program Report (document GN-3034-2).

- 1.13 **Considerations relating to institutional capacity and rule of law.** In addition to contributing to socioeconomic growth, the digitalization of public services promotes transparency and reduces corruption, partly because the services are regulated by the National Communications Agency (paragraph 1.4).¹⁸ Against this backdrop, the improvement in connectivity will not only be subject to the regulator's scrutiny, but will also drive effective competition, thereby increasing the supply of services by the private sector in a competitive environment where transparency is marked by digitalization itself and access to information by the various stakeholders, telecommunications companies, civil society, academia, and the population as a whole. The SSeTIC's public policies complement these actions (paragraph 1.4).
- 1.14 **Compliance with the Public Utilities Policy.** The program meets the objectives, principles, and conditions of economic viability and financial sustainability set in the Public Utilities Policy (document GN-2716-6), since it will guarantee that services will be provided in such a way that operation and maintenance costs will be covered. To this end, the construction, operation, and maintenance of the various projects contained in Component 1 will also be included through an international bidding process. This project also covers the execution of REFEFO Phase III (paragraph 1.4), which will contribute to improving the sustainability of the network itself since it will complement the service that REFEFO is currently providing in the country. In particular, the program: (i) has a feasibility analysis that has identified the least-cost technology solutions, ensuring the appropriate cost/efficiency mix for the population; (ii) is based on a holistic approach, deploying infrastructure based on the government-identified needs; and (iii) supports the development of broadband technology that provides access to cost-effective solutions ([Analysis of Compliance with the Public Utilities Policy \(document GN-2716-6\)](#)).

B. Objectives, components, and cost

- 1.15 **Program objective.** The general objective of this program is to boost Internet access and digitalization in Argentina. To achieve this, the following specific objectives have been set: (i) improve the infrastructure for digital connectivity in

¹⁸ Having regulations at the wholesale level ensures not only the transparency and nondiscrimination of the services provided on the REFEFO but also allows the market itself to self-regulate in the event of failures in competition, which ultimately favors better quality and prices.

areas outside urban centers and increase the capacity of the National Data Center; and (ii) improve the digital skills of citizens in connected areas.

- 1.16 **Component 1. Connectivity infrastructure (US\$94 million).**¹⁹ This component will finance: (i) REFEFO infrastructure expansion and outfitting works to connect approximately 258 localities in the country's remote areas through the deployment of optical fiber (REFEFO Phase III)^{20, 21} (see [program intervention area](#) (optional link 3)); (ii) improvement of the international connectivity infrastructure through enhanced connectivity at border crossings to foster the quality of digitalization and reduction of prices;²² and (iii) procurement and upgrading of equipment (which will result in a greater capacity to generate virtual machines) to store and process the ARSAT National Data Center's information, thus improving the quality of service as a result of greater storage capacities, data processing, and support for the development of the government cloud strategy for efficiency gains and the creation of local content. The design of this component will take into account multisector considerations linked to the use of other infrastructure such as electricity distribution networks for laying fiber optic cables. The prioritization criteria for expanding connectivity will be described in the [program Operating Regulations](#) and will bear in mind considerations, such as the following: (i) social impact on beneficiaries; (ii) cost efficiency improvement and energy savings; (iii) impact on digital development; and (iv) others (to be determined), with the Bank's prior no objection.

¹⁹ In the activities planned under Component 1, priority will be given to the installation of equipment with the best features in terms of energy efficiency and resilience to climate change and geophysical risks. Through it, it has been concluded that the operation's resources are invested in climate change mitigation and adaptation activities.

²⁰ Defined on the basis of a prefeasibility study and internationally tendered to encourage cost-efficient solutions based on the use of market operators' existing infrastructure.

²¹ The project includes the construction of infrastructure associated with the backbone network and the aggregation network through the construction of civil works (ducts and channels along the already established tracks), as well as the installation of the triple tube conduit, blowing and illumination of the fiber optic cables, and construction of huts or shelters. Accordingly, it does not include the construction of the last mile network, which will be developed by the local operators providing the service to end users. The associated outcome indicator thus relates to bitstream handover points in use. Deploying this infrastructure will enable the private sector to eventually bring connectivity services to the geographic areas identified in the intervention area. This program will ultimately improve competitive conditions and the development of the private sector in locations that are not currently reached due to a lack of backbone and aggregation infrastructure. The works and feasibility studies are in place to begin executing the works as soon as the program becomes eligible.

²² The necessary infrastructure and equipment will be installed and upgraded to provide connectivity at REFEFO-connected border crossings. The following 13 crossings will be connected: Border with Bolivia: La Quiaca and Salvador Mazza; Border with Brazil: Bernardo de Irigoyen, Paso de los Libres, and Puerto Iguazú; Border with Chile: Paso de Jama, Uspallata, Paso de las Carretas (IRU Silica), and Ushuaia (submarine); Border with Paraguay: Clorinda and Posadas; Border with Uruguay: Gualaguaychú and Concordia. The IDB Group is currently supporting dialogue among Argentina, Chile, and Paraguay with the aim of improving regional interconnection and integration through investments in submarine cables that improve the countries' regional connectivity. In this dialogue, coordination with the private sector and in particular with IDB Invest is critical for sustainability.

- 1.17 **Component 2. Skills and digital inclusion (US\$4 million).**²³ This component will finance the following activities: (i) online training programs²⁴ with a gender focus for public officials and civil servants responsible for digital inclusion; (ii) training programs with a gender focus with official certification for citizens in the connected areas. These training sessions will be conducted through a call launched annually by the SSeTIC²⁵ for citizens in the connected areas to obtain official certifications in digital skills. This call will promote women's participation in the training sessions. The participation rate for women is expected to be no less than 27%; (iii) integrated public services with best practices for the use of the government's public cloud; and (iv) solutions designed and implemented under the program's guidance. Criteria to select the citizens participating in these training sessions will mainly take into account whether they belong to households living in poverty, their initial level of digital skills, and whether they reside in localities where no or only one operator provides digital broadband services.
- 1.18 **Administration expenses (US\$2 million).** The loan proceeds will also finance the costs of program monitoring, auditing, and impact evaluations.
- 1.19 **Beneficiaries.** The program will directly benefit the citizens living in the approximately 258 localities (approximately 923,000 inhabitants)²⁶ to be connected, the Argentine government institutions²⁷ connected to the National Data Center, and the people trained in digital skills.²⁸

C. Key results indicators

- 1.20 **Impact and expected outcomes.** In this loan, the outcomes associated with the general development objective of improving broadband access in Argentina will be measured by: (i) number of broadband lines per 100 inhabitants; (ii) percentage of people trained who acquire a high level of digital skills; (iii) average price of an Internet account in the targeted localities;²⁹ and (iv) total

²³ This component applies nationwide since the regulation is the only one in this connection in the country. Equipment procurement will prioritize the installation of equipment with the best energy efficiency standards and best management of potential climate risks.

²⁴ Consisting of courses and workshops that include specific activities for digital training and certification in basic and advanced skills based on the connected area's priorities (course and workshop offerings will be consistent with a set strategy financed with nonreimbursable technical cooperation resources (paragraph 1.10) and will involve the use of word processors, electronic communications, programming, software development, etc.). A gender balance will be sought in all calls for tenders, through a communication strategy spearheaded and financed by the SSeTIC and will include advertising the courses and workshops in the press, on television and radio, and in the local communities. The specific content will be developed alongside the SIP's Gender and Technologies Office, which will generate inclusion policies to help bridge the gender gap in the sector.

²⁵ This involves courses and workshops offering certification in basic or advanced digital skills. The programs will be determined in coordination with the SSeTIC, based on an analysis of the degree of digital sophistication. To that end, nonreimbursable technical cooperation resources will support crafting the strategy (paragraph 1.10).

²⁶ Potential market.

²⁷ Including ARSAT.

²⁸ Including public officials and civil servants, as well as citizens.

²⁹ The deployment of national and international infrastructure will have a direct impact on the quality and price per megabit of Internet services.

number of new broadband bitstream handover points in use in the targeted localities in the long term. The outcomes associated with the specific objectives will be: (i) improving the infrastructure for digital connectivity in remote areas and increasing the capacity of the National Data Center, as measured by: (a) average Internet speed in the targeted localities; (b) total number of new broadband bitstream handover points in use in the targeted localities in the medium term; and (c) number of public bodies using public cloud solutions; and (ii) improving the digital skills of citizens in connected areas, as measured by: (a) citizens who have completed the training and achieve certification by the program in digital skills through the web platform, and (b) change in the basic computer knowledge gap in the trained population between men and women.

- 1.21 **Economic evaluation.** The project's benefits stem from two main sources. The first is the increase in the broadband supply and reduction in the price of fixed Internet services in localities with a scant supply, which will allow the market to take shape and therefore generate consumer and producer surpluses. The second stems from digital skills training and Internet access, which will result in an increase in the probability of joining the workforce and, therefore, the income of the people served. Based on a 12% social discount rate and a 10-year evaluation horizon, the project yields a net present value of US\$64.2 million, an internal rate of return of 31%, and a benefit-cost ratio of 1.74. Also, a sensitivity analysis was conducted for the expected economic outcome based on three variables considered to be key due to their possible impact on the project's economic outcome: (i) the expected reduction in the price of the fixed broadband service; (ii) the effect of training and broadband penetration on the employment rate, according to the literature; and (iii) the percentage of beneficiaries who successfully complete the training process. A sensitivity analysis with more conservative assumptions yields results that exceed the thresholds for each indicator ([economic analysis of the program](#) (optional link 1)).

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instruments

- 2.1 This operation will be financed with an investment loan amounting to US\$100 million for specific projects from the Bank's Ordinary Capital resources. The rationale for the instrument stems from the fact that the operation (which has been sized based on engineering studies) will deploy specific and limited digital infrastructure to promote Internet access and digitalization. The disbursement period will be five years.³⁰

³⁰ The disbursement period was estimated based on the infrastructure required to connect the public sites and on the capacity-building of the institutions involved.

Table 1. Budget by source (US\$ millions)

Component	IDB	%
Component 1: Connectivity infrastructure	94.0	94.0
▪ REFEFO infrastructure expansion and outfitting works to connect approximately 258 localities in the country's remote areas through the deployment of optical fiber (REFEFO Phase III)	75.9	75.9
▪ Improvement of the international connectivity infrastructure through enhanced connectivity at border crossings to foster the quality of digitalization and reduction of prices	16.9	16.9
▪ Procurement and upgrading of equipment (virtual machines) for the storage and processing of the ARSAT National Data Center's information	1.2	1.2
Component 2: Skills and digital inclusion	4.0	4.0
▪ Provision of online training with a gender focus (courses, seminars, and workshops) for public officials and civil servants responsible for digital inclusion	0.4	0.4
▪ Provision of training sessions with a gender focus with official certification for citizens in the areas connected	1.2	1.2
▪ Promotion of best practices at the SSeTIC on use of the government's public cloud and the integration of public services to promote efficiency	0.9	0.9
▪ Training and advisory services for the design and implementation of digital solutions (e.g. 5G, Internet of Things, artificial intelligence, cloud computing)	1.5	1.5
Administration, monitoring, auditing, and evaluation	2.0	2.0
Administration, auditing, and monitoring	1.39	1.39
Evaluation	0.61	0.61
Total	100	100

Table 2. Tentative disbursement schedule (US\$ millions)

Source	Year 1	Year 2	Year 3	Year 4	Year 5	Total
IDB	14.98	15.00	19.94	27.57	22.50	100
%	14.98	15.00	19.94	27.57	22.50	100

- 2.2 **Restriction on the rate of disbursements.** Under the Enhancing Macroeconomic Safeguards document (document AB-2990), the disbursement of loan proceeds will be subject to the following caps: (i) up to 15% in the first 12 months; (ii) up to 30% during the first 24 months; and (iii) up to 50% in the first 36 months, all as from the date the Bank's Board of Executive Directors approves loan. These caps may not apply if the requirements set by Bank policy have been met, provided the borrower has been notified in writing.

B. Environmental and social safeguard risks

- 2.3 Pursuant to the Environment and Safeguards Compliance Policy (Operational Policy OP-703), this is classified as a category "B" operation, because the main environmental and social impacts are related to the fiber optic installation works. Accordingly, no category "A" interventions will be financed. A [Strategic Environmental and Social Analysis](#) was prepared with a [Strategic Environmental and Social Management Plan](#) that includes a qualitative analysis of disaster risk, exclusion and eligibility criteria, the identification and analysis of socioenvironmental risks, and the management and monitoring of individual projects. No resettlement, displacement, or land acquisition is required, and no

significant impacts on critical natural habitats are expected. A socioculturally appropriate and gender-sensitive public consultation was held on 8-9 June 2021. To avoid the risk of COVID-19 infection, the public consultation process was designed using innovative methodologies covering surveys, events, and virtual communications. Multiple virtual events were held with focus groups, which found that the program was valued for its benefits and for the positive impacts it will have within its scope. No interests conflicting with the program's objectives and actions were raised. The functionality of the mechanism for handling complaints and grievances with indigenous peoples' authorities was confirmed, and opportunities were identified for integration and communication with stakeholders during program implementation. These results show that the public consultation was significant. On 24 June 2021 the final [Strategic Environmental and Social Analysis](#) was published with the consultation report on the IDB website. For more information, see the [Environmental and Social Management Report](#).

C. Fiduciary risks

- 2.4 A medium-high risk regarding internal processes is expected, linked to a possible lack of experience at the Undersecretariat of Public Innovation Administrative Management (SSGAIP) and ARSAT as regards Component 1 in executing Bank operations, which could lead to delays in procurement and financial execution. This risk will be mitigated by: (a) hiring/assignment of at least one procurement specialist and one financial specialist at each of the entities (SSGAIP and ARSAT), and (b) carrying out specific training activities for the entities' teams on the Bank's fiduciary policies and guidelines (paragraph 3.6).

D. Other risks and key issues

- 2.5 **Economic and financial.** A medium-high risk was identified, since a disorderly correction of the monetary and exchange rate imbalances that the country currently faces could lead to accelerated inflation, which would lower the annual budget authorized for this project and to a delay in execution. This risk is mitigated since the operation's equipment and products will be procured in U.S. dollars.
- 2.6 **Sustainability.** The SIP will be coordinating the long-term technical and financial sustainability through the knowledge transfer of the telecommunications system providers during project execution via specific training sessions linked to the use of the network components procured using the program resources. Subsequent to execution of the proposed program, a transfer mechanism is also expected to be activated between the SIP and ARSAT, thus materializing the commitment to maintain the investments made (paragraph 3.7).

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of implementation arrangements

- 3.1 **Execution mechanism.** The program executing agency will be the Office of the Cabinet Chief through the SIP, which will act through the SSeTIC to coordinate and execute the technical aspects of the program, and through the Sectoral and Special Programs and Projects Office (DIPROSE) of the SSGAIP,³¹ for the administrative coordination and operational, financial, accounting, legal, and budget execution. ARSAT, in turn, will serve as subexecuting agency for Component 1 (paragraph 3.4). A breakdown of the responsibilities is provided in the [program Operating Regulations](#).
- 3.2 DIPROSE and ARSAT will be responsible for supervising compliance with environmental and social commitments, through specialists. DIPROSE will be the liaison with the Bank.
- 3.3 The institutional capacity assessments of the SIP and ARSAT were conducted in April 2021 using the platform's methodology for institutional capacity analysis. A risk management exercise was also run with the participation of SIP officials. As a result of these analyses, these bodies showed institutional capacities with a satisfactory degree of development to execute the program, yielding a medium-low risk for both cases. Specific measures will be deployed to help close the identified gaps, such as: (a) verification that the responsible officials at the entities are supported by consultants with experience in Bank processes so as to streamline financial management and procurement; (b) training, assistance, and fiduciary supervision by the Bank; (c) procedures, flows, responsibilities, and deadlines to handle procurements included in the [program Operating Regulations](#); (d) creation of a programmatic structure to identify the investment program within the SIP budget; (e) comprehensive planning of activities and identification of budget needs in order to manage the allocation thereof in a timely manner; (f) timely planning of financial installments following the financial plan and periodic monitoring of the contractor and supplier payment plan; (g) [program Operating Regulations](#) with effective procedures and flows describing responsible actions and deadlines; (h) implementation of contract management records as a contract monitoring tool; and (i) establishment of the parties responsible for contract management.
- 3.4 **Subexecuting agency.** The SIP will coordinate with ARSAT, which will act as subexecuting agency for the activities provided in Component 1. ARSAT will procure works, goods, and services based on the activities provided for in this component.³²

³¹ Decree 945/17.

³² ARSAT's institutional capacity analysis confirms its operational capacity in terms of project management, technical quality management, human resources, procurement, and sufficient finances to support this operation.

- 3.5 The program strategic evaluation will hold the executing agency responsible for fiduciary execution and the SAE for technical-methodological execution.³³ The SAE has experience, since it is currently executing Bank loans [3759/OC-AR](#) and [5084/OC-AR](#).
- 3.6 To coordinate the program's operational, administrative, and fiduciary matters, the minimum DIPROSE team will comprise: (i) its general manager for the program; (ii) a procurement specialist; and (iii) a financial specialist.³⁴ To execute the program, support consultants will be financed as needed to support the procurement specialist, the financial specialist with experience in IDB policies and, as needed, a planning and monitoring specialist, a communications specialist, a legal specialist, a socioenvironmental specialist, and technical specialists for each component based on the profiles contained in the [program Operating Regulations](#).
- 3.7 **Strategic/operational program coordination mechanisms for implementation.** To ensure the successful implementation of the program activities and the sustainability thereof, the executing agency will coordinate with ARSAT to prioritize the localities to be connected based on the criteria defined in paragraph 1.16. Subsequent to the program execution period, a transfer mechanism will be established from the SIP to ARSAT to take on the commitments associated with the costs derived from operation and maintenance. To implement Component 1, a national and international bidding process will be carried out for the REFEFO infrastructure expansion and equipping works, the improvement of the international connectivity infrastructure, and the upgrading of the ARSAT data center equipment; for Component 2, a national call will be made to universities and other educational institutions, nongovernmental organizations, and public or private companies to submit proposals and economic bids for the design and execution of the digital skills development programs. The [program Operating Regulations](#) will provide further details on the strategic/operational program coordination mechanism for implementation.
- 3.8 **Special contractual conditions precedent to the first disbursement of the loan. The executing agency will submit to the Bank evidence that: (i) an agreement has been signed between the Secretariat of Public Innovation and Empresa Argentina de Soluciones Satelitales S.A. for the transfer and use of the resources and execution of the program activities provided for in Component 1, under the terms previously agreed with the Bank, to ensure coordination in executing Component 1; and (ii) the [program Operating Regulations](#) have been approved, under the terms previously agreed with the Bank, which contain the rules and procedures for execution established in**

³³ This is with respect to defining the technical aspects (indicators, fulfillment of targets, impacts, etc.) and methodological considerations (defining the mechanism for monitoring and evaluating fulfillment of program indicators and targets). The evaluation will be in addition to those provided for in the program and is part of the Argentine Republic's strategy to generate evidence on the contribution of international financing to: (i) achieving the Sustainable Development Goals; (ii) the priority guidelines for governance; and (iii) the gains made in terms of institution-strengthening in the national and subnational governments.

³⁴ These specialists will be funded by the executing agency.

- the program to properly handle financial, procurement, and coordination considerations.
- 3.9 **Procurement of works, goods, nonconsulting services, and consulting services.** Procurement financed in whole or in part using Bank resources will follow the Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank (document GN-2349-15) and the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-15) or such policies in effect at the time of execution and that in all cases the borrower agrees in writing to apply. Flexible tools will be integrated into the procurement process to rate the proposed technology solutions and prioritize alternatives with energy efficiency and carbon footprint features identical to those of international best practices (see [procurement plan](#)).
- 3.10 **Retroactive financing.** Using the loan proceeds, the Bank may retroactively finance eligible expenditure for REFEFO infrastructure expansion and outfitting works (Component 1) up to US\$15 million (15% of the proposed loan amount (paragraph 2.2)), provided that they have been carried out on terms substantially similar to those set out in the loan agreement and that the procurement procedures abide by the basic procurement principles. Such expenditures will have been incurred on or after the project profile approval date (19 March 2021), but under no circumstances include expenditures incurred more than 18 months prior to the loan approval date. This retroactive financing will push forward the deployment of infrastructure in the approximately 258 localities that the program will be connecting.
- 3.11 **Disbursement of resources.** The Bank's loan proceeds will be disbursed (i) based on the disbursement modalities provided in the loan contract, and (ii) as set out in the Financial Management Guidelines (document OP-273-12) or in current IDB policies.
- 3.12 **Audited annual financial reports and auditing.** The executing agency will submit audited annual financial reports relating to the use of resources in accordance with the terms of reference agreed with the Bank within 120 days after the end of the financial year. The project's final financial reports will be submitted within 120 days after the date of the last disbursement. The external audit of the program will be conducted by an independent audit firm eligible to audit Bank-financed operations, selected and contracted in accordance with the terms of reference and model contract previously agreed with the Bank or the General Audit Office of Argentina.
- B. Summary of arrangements for monitoring results**
- 3.13 **Monitoring system.** To measure program progress and evaluate the achievement of its objectives, the outcome and output indicators described for each component in the Results Matrix (Annex II) and reflected in the progress monitoring report will be used. The executing agency will be responsible for maintaining data collection and monitoring systems. The [multiyear execution plan](#) will include: (i) a budget estimate; (ii) an attached up-to-date [procurement plan](#); (iii) the planned indicators for the Results Matrix (Annex II); (iv) the planned activities; and (v) an execution schedule. In addition, DIPROSE will submit

semiannual progress reports within 60 days after the end of every six-month period. The program monitoring instruments are detailed in the [monitoring and evaluation plan](#) (MEP).

- 3.14 **Monitoring by the Bank.** Administration missions and inspection visits will be carried out. The Bank agrees that DIPROSE will develop the progress monitoring report, which includes the estimation of disbursements and the achievement of physical targets and outcomes. A meeting will be held annually with the Bank to discuss: (i) progress on the activities identified in the multiyear execution plan; (ii) the level of achievement of the indicators set out in the Results Matrix (Annex II); and (iii) the procurement plan for the next 12 months and possible modifications of budgetary allocations by component. The executing agency commits to maintaining a monitoring and evaluation system for all components, on the basis of which it will prepare reports and data to be submitted to the Bank. The executing agency will have a specialist in charge of monitoring its activities (see [MEP](#)).
- 3.15 **Midterm and final evaluation.** Achievement of the outcome and impact targets in the Results Matrix (Annex II) will be verified through midterm, final, and ex post economic evaluations of the program. The midterm evaluation is expected to be carried out once 36 months have elapsed since the loan contract came into force or when 40% of the loan amount has been disbursed, whichever comes first. The main objectives of this evaluation will be to review the progress of all the activities programmed for that time, any deviations that have taken place, and the related causes, to propose corrective measures to be applied, and to verify the midterm outputs generated, the occurrence of the risks foreseen in the corresponding matrix, and the application of the measures to mitigate them. The final evaluation will be carried out once disbursements reach at least 90% of the total amount, and the related objectives will be to verify the progress in meeting the planned targets for each of the expected outcomes and the generation of outputs per component. The final evaluation will also include a review of the implementation of the [MEP](#). At the end of the program, the Bank will prepare the project completion report, and the beneficiary will contribute observations on program performance. It will close out with a workshop in which the main findings will be presented.
- 3.16 **Impact assessment.** An impact assessment will be conducted based on an experimental methodology, which will make it possible to establish the causal effects of the intervention. To this end, it is proposed to assess the impact of training on the use of Internet of Things technologies and digital skills in the targeted localities. Key variables on digital adoption in the intervention area will be defined and monitored. As a result, evidence is expected to be generated to underpin public policy recommendations (see [MEP](#)).

Development Effectiveness Matrix		
Summary		AR-L1333
I. Corporate and Country Priorities		
Section 1. IDB Group Strategic Priorities and CRF Indicators		
Development Challenges & Cross-cutting Issues	-Social Inclusion and Equality -Productivity and Innovation -Economic Integration -Gender Equality and Diversity -Climate Change -Institutional Capacity and the Rule of Law	
CRF Level 2 Indicators: IDB Group Contributions to Development Results	-Beneficiaries with new access to at least a 4G mobile network (#) -Women beneficiaries of economic empowerment initiatives (#) Value of investments in resilient and/or low-carbon infrastructure (\$)	
2. Country Development Objectives		
Country Strategy Results Matrix	GN-3051	Increase digital inclusion Increase public and private investment in network infrastructure Improve the population's employability
Country Program Results Matrix	GN-3034-2	The intervention is included in the 2021 Operational Program
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		
II. Development Outcomes - Evaluability		Evaluable
3. Evidence-based Assessment & Solution		9.7
3.1 Program Diagnosis		2.5
3.2 Proposed Interventions or Solutions		3.5
3.3 Results Matrix Quality		3.7
4. Ex ante Economic Analysis		9.0
4.1 Program has an ERR/NPV, or key outcomes identified for CEA		1.5
4.2 Identified and Quantified Benefits and Costs		3.0
4.3 Reasonable Assumptions		2.5
4.4 Sensitivity Analysis		2.0
4.5 Consistency with results matrix		0.0
5. Monitoring and Evaluation		10.0
5.1 Monitoring Mechanisms		4.0
5.2 Evaluation Plan		6.0
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood		Medium Low
Environmental & social risk classification		B
IV. IDB's Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Accounting and Reporting. Procurement: Information System.
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	TC ATN / OC-16470-RG will be supporting the program for which the objective is to promote, facilitate and contribute to the harmonization in the design and implementation of regulatory measures and public policies in essential aspects for the development of infrastructure and digital economy. The program will also benefit from the Bank's added value through the studies and publications of the DigILAC platform and the Dialogue Network, which have been established as part of the Regional Public Asset (ATN / OC-17689-RG).

In Argentina, mobile and fixed Broad Band (BB) penetration is 67.3% and 19.1% respectively, quite below OECD levels. Furthermore, the COVID-19 pandemic has brought to light the importance of connectivity; with estimates that suggest that countries with high connectivity development levels were able to mitigate losses in GDP caused by social distancing policies by up to 25%. The low average population density in Argentina diminishes incentives for the provision of the service in the more remote areas of the country which are far away from urban centers and thus there exists an inequality in penetration and quality of connection in such areas. Moreover, there is a lack of adequate digital abilities in the country. For the government the provision of connectivity has become priority and with the investment in the expansion of the Federal Network of Optic Fiber (REFEFO for its initials in Spanish) it seeks to universalize connectivity. Notwithstanding, there are approximately 258 localities with less than 10,000 inhabitants each that still lack access and which this program seeks to reach. In this context, the general objective of the program is to promote internet access and digitalization in Argentina. To achieve this, the following specific objectives were established: (i) improve the infrastructure for connectivity in remote areas which are far from urban centers and increase the storage capacity of the national data center; and (ii) improve digital abilities of the citizens in connected areas. The program will finance works of expansion and improvement to the central network REFEFO with equipment with energy efficiency characteristics also including the digitalization of 13 frontier sites. Also, training in digital capacity will be given to public sector employees and other trainings will be offered to civilians to get certified, all with a gender focus. In the long run the expectation is that the program will result in an improvement in the number of Broad Band lines per 100 citizens and the average price of an internet account in the intervened remote localities: among others. In the medium-term, it is expected that the project will result in an increase in the wholesale points of access in Broad Band in the intervened localities (this is a result because these will have to finance the last mile connection of their own account), an improvement in the average internet speed in the intervened areas, and an increase in the number of public entities that take advantage of the cloud, as well as a significant amount of citizens getting certified in digital capacity. The cost benefit analysis shows the project is of net benefit to society. At closure, most results will be assessed through a before-and-after comparison. Additionally, this will be complemented by an impact evaluation on the effect of the trainings on digital capacities and insertion to the labor market.

RESULTS MATRIX

Project objective:	The specific objective of this program is to: (i) improve the infrastructure for digital connectivity in areas outside urban centers and increase the capacity of the national data center; and (ii) improve the digital skills of citizens in connected areas. The general objective of this program is to boost Internet access and digitalization in Argentina.
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GENERAL DEVELOPMENT OBJECTIVE

Indicators	Unit of measurement	Baseline value	Baseline year	Expected year of achievement	Target	Means of verification	Comments
General development objective: boost Internet access and digitalization in Argentina							
Fixed broadband lines per 100 inhabitants.	Number	17.78	2019	2030	19.24	DigiLAC	Taking into account the growth path of the indicator in past years and the number of inhabitants in the 258 localities to be connected, a target of 19.24 is estimated.
Percentage of people trained who achieve a high level of digital skills.	Percentage	Baseline	2019	2030	Baseline +10pp	Information collected by the SSeTIC during the training sessions	Training programs will include at least two comparable evaluations: one diagnostic assessment at the beginning of the training program and one at the end of the course, which will serve as input for the certification. Based on the diagnostic assessment, the population will be classified into three skill levels (low, medium, and high). A score of 70% or higher will be required to be classified as high. The indicator will be the proportion of the population trained that reaches a high level. The target is an expected increase in the proportion by at least 10 percentage points: Number of people at a high level/total number of people completing the training.

Indicators	Unit of measurement	Baseline value	Baseline year	Expected year of achievement	Target	Means of verification	Comments
Average price of an Internet account in the targeted localities.	US\$	64.03	2020	2026	25.28	SSeTIC administrative information	The current price in the targeted localities is expected to reach the average price in the country.
Total number of new broadband bitstream handover points in use in the targeted localities in the long term.	Number	0	2020	2030	1,092	Information collected by the SSeTIC during the survey and construction of the network	<p>A target is set for the number of bitstream handover points for broadband services to amount to 1,092. The estimate takes into account the average number of current handover points in localities of similar size that already have full broadband service (8.53). Source: National Communications Agency (2020). The conservative target is that 50% of the handover points built and enabled are being effectively used by operators to provide service to the residents. However, at the end of the program, only the first sites connected will be taken and, accordingly, this is set as a long-term target.</p> <p>Bitstream handover points are those directed to operators that connect to the aggregation network to provide service to end users (homes, businesses, etc.).</p> <p>One locality may have multiple bitstream handover points and multiple operators, and each operator may use more than one handover point.</p> <p>Under the program design, 258 localities of less than 10,000 inhabitants located in remote areas of 21 provinces in the country are expected to be targeted. These will be the target localities in the indicator. Optional link 3 provides the list of these localities.</p>

SPECIFIC DEVELOPMENT OBJECTIVES

Indicators	Unit of measurement	Baseline value	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of project	Means of verification	Comments
Specific development objective 1: improve the infrastructure for digital connectivity in remote areas and increase the capacity of the national data center											
Average Internet speed in the targeted localities.	Mbps	11	2020	12	14	16	18	20	20	Information collected by SSeTIC in the targeted localities	<p>A target of 20 Mbps is set and expected to be achieved as a result of the deployment of REFEO infrastructure.</p> <p>This indicator will be measured in the localities that are connected, i.e. in the localities in which, as a result of the project, there are citizens using the Internet service.</p> <p>Under the program design, 258 localities of less than 10,000 inhabitants located in remote areas of 21 provinces in the country are expected to be targeted. These will be the target localities in the indicator. Optional link 3 provides the list of these localities.</p>
Total number of new broadband bitstream handover points in use in the targeted localities in the medium term.	Number	0	2020	0	200	395	590	785	785	Information taken from SSeTIC administrative data	<p>A target is set for the number of bitstream handover points for broadband services to amount to 1,092. The estimate takes into account the average number of current access points in localities of similar size that already have a full broadband service (8.53). Source: National Communications Agency (2020). The conservative target is that 50% of the handover points built and enabled are being effectively used by operators to provide service to the residents. However, at the end of the program, only the first sites connected will be taken and, accordingly, the medium-term target is set as having 785 new bitstream handover points in use.</p>

Indicators	Unit of measurement	Baseline value	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of project	Means of verification	Comments
											<p>Bitstream handover points are those directed to operators that connect to the aggregation network to provide service to end users (homes, businesses, etc.).</p> <p>One locality may have multiple bitstream handover points and multiple operators, and each operator may use more than one handover point.</p> <p>Under the program design, approximately 258 localities of less than 10,000 inhabitants located in remote areas of 21 provinces in the country are expected to be targeted. These will be the targeted localities in the indicator. Optional link 3 provides the list of these localities.</p>
Public bodies using public cloud solutions.	Number	0	2020	90	180	250	300	350	350	Information taken from SSeTIC administrative data	<p>It is estimated that at the end of the project 350 public bodies will be able to use the public cloud solutions. Currently, within these organizations, there are national agencies that use this product to manage and store their data, such as the central bank and the National Statistics Institute, along with city and municipal governments.</p> <p>This target is proposed because ARSAT's business plan (the Conectar plan) budgets reaching this estimated volume of clients based on the current deployment rate.</p>

Indicators	Unit of measurement	Baseline value	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of project	Means of verification	Comments
Specific development objective 2: Improve the digital skills of citizens in connected areas											
Citizens who have completed the training and achieve certification by the program in digital skills through the web platform.	Number	0	2020	3,150	6,300	9,450	14,100	15,750	15,750	Information collected by the SSeTIC during the training sessions	<p>This target is estimated by taking into account the costs of training per person (approximately US\$70), the resources allocated to this activity (US\$1.6 million), and the size of the population living in the target localities (of which an estimated 15% to 20% do not have digital skills).</p> <p>It should be noted that the measurement is given for people who receive and pass the training program with a score of 70% or higher. Since the objective is to offer training to 21,000 inhabitants in the towns, a conservative target is that 75% of these inhabitants successfully complete the training, gaining certification.</p>

Indicators	Unit of measurement	Baseline value	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of project	Means of verification	Comments
Gap in basic computer literacy in the trained population between men and women.	Score	Baseline	2020	-	-	-	-	Base-line-2 points	Base-line-2 points	Information collected by the SSeTIC during the training sessions	<p>Pro-gender indicator. Training programs will include at least two comparable evaluations: one diagnostic assessment at the beginning of the training program and one at the end of the course, which will serve as input for the certification. This indicator will be constructed based on the following formula: (average score of all males completing training in the initial evaluation - average score of all females completing training in the initial evaluation). This will be taken as the baseline.</p> <p>The following indicator will verify attainment of the target set: (average score of all males completing training in the final evaluation - average score of all females completing training in the final evaluation).</p> <p>Assuming that the score of the evaluation will be on a scale of 1 to 100 points, the change in the gap is expected to be a minimum of 2 points.</p>

OUTPUTS

Indicators	Unit of measurement	Baseline	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of project	Means of verification	Comments
Component 1. Connectivity infrastructure (US\$94 million)¹											
<u>Output 1:</u> REFEFO infrastructure expansion and outfitting (Phase III).	Kilometers of fiber installed	0	2020	0	1,100	2,200	3,300	4,408	4,408	Audited semiannual report of the SIP	In localities lacking REFEFO coverage, the necessary infrastructure will be installed to enable coverage. This includes funding for the deployment of the infrastructure, administration costs, and operation and maintenance of the proposed solutions for a five-year period. In all cases, equipment and infrastructure bearing seals and following requirements for energy efficiency will be included.
<u>Milestone 1:</u> Number of households with at least 4G connection.	Number	0	2020	TBD						SIP	For monitoring purposes in the Corporate Results Framework, this indicator will be counted through the information gathered by the SIP in the context of program execution.

¹ In the activities planned under Component 1, priority will be given to the installation of equipment with the best features in terms of energy efficiency and resilience to climate change and geophysical risks. Through this, it has been concluded that the operation's resources are invested in climate change mitigation and adaptation activities.

Indicators	Unit of measurement	Baseline	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of project	Means of verification	Comments
Output 2: Border crossings with improved international connectivity infrastructure.	# of border crossings	0	2020	0	2	6	9	13	13	Audited semiannual report of the SIP	At border crossings that do not yet have REFEFO coverage, the necessary infrastructure and equipment will be installed to provide connectivity. The following 13 crossings will be connected: Border with Bolivia: La Quiaca and Salvador Mazza; Border with Brazil: Bernardo de Irigoyen, Paso de los Libres, and Puerto Iguazú; Border with Chile: Paso de Jama, Uspallata, Paso de las Carretas (IRU Silica), and Ushuaia (submarine); Border with Paraguay: Clorinda and Posadas; Border with Uruguay: Gualeguaychú and Concordia. This includes funding for the equipment, administration costs, and operation and maintenance of the proposed solutions for a five-year period. Technology solutions with energy efficiency and carbon footprint features will be procured following international best practices.
Output 3: Procurement and upgrading of equipment (which will result in a greater capacity to generate virtual machines) for the storage and processing of the ARSAT national data center's information.	# of virtual machines	0	2020	9,000	18,000	25,000	35,000	75,000	75,000	Audited semiannual report of the SIP	The virtual potentials are calculated for each addition of equipment. This includes funding for the procurement, update and installation, administration costs, and operation and maintenance of the proposed solutions for a five-year period. In all cases, it includes equipment and infrastructure bearing seals and following requirements for energy efficiency. Technology solutions with energy efficiency and carbon footprint features will be procured following international best practices and bearing seals and following requirements for energy efficiency pursuant to international best practices.

Indicators	Unit of measurement	Baseline	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of project	Means of verification	Comments
Component 2. Skills and digital inclusion (US\$4 million)²											
Output 4: Online training programs with a gender focus for public officials and civil servants responsible for digital inclusion	# of programs	0	2020	0	1	0	0	0	1	Audited semiannual report of the SIP	Pro-gender indicator. The online training program will contain courses and workshops that include specific activities for digital training and certification in basic and advanced skills based on the connected area's priorities (course and workshop offerings will be consistent with a set strategy financed with nonreimbursable technical cooperation resources and will involve the use of word processors, electronic communications, programming, software development, etc.). A gender balance will be sought in all calls for tenders, through a communication strategy spearheaded and financed by the SSeTIC and will include advertising the courses and workshops in the press, on television and radio, and in the local communities. The specific content will be developed alongside the SIP's Gender and Technologies Office, which will generate inclusion policies to help bridge the gender gap in the sector

² This component applies nationwide since the regulation is the only one in this connection in the country. Equipment procurement will prioritize the installation of equipment with the best energy efficiency standards and best management of potential climate risks.

Indicators	Unit of measurement	Baseline	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of project	Means of verification	Comments
<u>Output 5:</u> Training programs with a gender focus with official certification for citizens.	# of programs	0	2020	0	0	1	0	0	1	Audited semiannual report of the SIP	Training sessions delivered at community centers for citizens. Training programs will include at least two comparable evaluations: one diagnostic assessment at the beginning of the training program and one at the end of the course, which will serve as input for the certification. The training program will contain specific activities to train girls and women and close the gender gap. The programs will be determined in coordination with the SSeTIC, based on an analysis of the degree of digital sophistication. To that end, nonreimbursable technical cooperation resources will support crafting the strategy.
<u>Milestone 2:</u> Number of women beneficiaries of digital skills training.	Number	0	2020	TBD						SIP	For monitoring purposes in the Corporate Results Framework, this indicator will be counted through the information gathered by the SIP in the implementation of the training sessions.
<u>Output 6:</u> Integrated public services with best practices for use of the government's public cloud.	# migrated public services	0	2020	10	20	30	40	50	50	Audited semiannual report of the SIP	Number of digital services for citizens migrated to the public cloud.
<u>Output 7:</u> Solutions designed and implemented under the program's guidance.	# of digital solutions designed and implemented	0	2020	1	2	3	4	5	5	Audited semiannual report of the SIP	Training will be provided in new technologies taking into account multisectoral considerations such as coordination with the State's digital transformation ecosystem, applications, and social and productive uses linked to the connected areas.

Country: Argentina

Division: IFD/CMF

Operation No.: AR-L1333

Year: 2021

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Executing agency: The borrower, through the Office of the Cabinet Chief

Operation name: Program for the Development of the Federal Fiber Optic Network (REFEFO)

I. THE EXECUTING AGENCY'S FIDUCIARY CONTEXT

1. Use of country system in the operation:

<input checked="" type="checkbox"/> Budget	<input checked="" type="checkbox"/> Reports	<input checked="" type="checkbox"/> Information system	<input type="checkbox"/> National competitive bidding
<input type="checkbox"/> Treasury	<input type="checkbox"/> Internal audit	<input type="checkbox"/> Shopping	<input type="checkbox"/> Other
<input checked="" type="checkbox"/> Accounting	<input type="checkbox"/> External control	<input type="checkbox"/> Individual consultants	

2. Fiduciary execution mechanism:

Considerations on fiduciary execution	<p>The program executing agency will be the Office of the Cabinet Chief through the SIP, which will act through the SSeTIC to coordinate and execute the technical issues, and through the Sectoral and Special Programs and Projects Office (DIPROSE) of the SSGAIP,¹ for the administrative coordination and operational, financial, accounting, legal, and budget execution. ARSAT, in turn, will serve as subexecuting agency for Component 1.</p> <p>The SIP will coordinate with ARSAT, which will act as subexecuting agency for the activities planned under Component 1. ARSAT will procure works, goods, and services in accordance with the activities provided in this component.² The program strategic evaluation will hold the executing agency responsible for fiduciary execution and the SAE for technical-methodological execution. The SAE has experience, since it is currently executing Bank loans 3759/OC-AR and 5084/OC-AR.</p>
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¹ Decree 945/17.

² An analysis of ARSAT's institutional capacity confirmed it has sufficient operational capacity in terms of project management, technical quality management, human resources, procurement, and finance to support this operation.

3. Fiduciary capacity:

Fiduciary capacity of the executing agency	<p>The institutional capacity assessments of the SIP and ARSAT were conducted in April 2021 using the platform's methodology for institutional capacity analysis. A risk management exercise was also run with the participation of SIP officials. As a result of these analyses, these bodies showed institutional capacities with a satisfactory degree of development to execute the program, yielding a medium-low risk for both cases. Specific measures will be deployed to help close the identified gaps, such as: (a) verification that the responsible officials at the bodies are supported by consultants with expertise in Bank processes so as to streamline financial management and procurement; (b) training, assistance, and fiduciary supervision by the Bank; (c) procedures, flows, responsibilities, and deadlines to handle procurements included in the program Operating Regulations; (d) creation of a programmatic structure to identify the investment program within the SIP budget; (e) comprehensive planning of activities and identification of budget needs in order to manage the allocation thereof in a timely manner; (f) timely planning of financial installments following the financial plan and periodic monitoring of the contractor and supplier payment plan; (g) program Operating Regulations with effective procedures and flows describing responsible actions and deadlines; (h) implementation of contract management records as a contract monitoring tool; and (i) establishment of the parties responsible for contract management.</p>
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4. Fiduciary risks and risk response:

Area	Risk	Level of risk	Risk response
Internal processes	A lack of experience at SSGAIP and ARSAT as regards Component 1 in executing Bank operations could lead to delays in procurement and financial execution.	Medium-high	<p>(a) Hiring/assignment of at least one procurement specialist and one financial specialist at each of the entities (SSGAIP and ARSAT); and</p> <p>(b) Carrying out specific training activities for the agencies' teams on the Bank's fiduciary policies and guidelines.</p>
Internal processes	Were there delays in the specific design of bidding documents for the procurement of Component 1 infrastructure works, structural delays would be reported.	Medium-low	The preparation of model bidding documents and specific contractual terms and conditions in coordination with the Bank.
Planning	Insufficient and/or untimely budgetary allocations for financial execution of the program could lead to delays in execution, thus jeopardizing achievement of the objectives within the timeframe foreseen.	Medium-low	<p>(a) The creation of a programmatic structure within the SIP's budget and budget allocation management; and</p> <p>(b) Budgetary allocation given to ARSAT to execute Component 1.</p>

5. Policies and guidelines applicable to the operation: documents GN-2349-15 and GN-2350-15.
6. Exceptions to policies and guidelines: None.

II. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF THE LOAN CONTRACT

Exchange rate: For the purpose of accounting for program resources, the effective exchange rate at the date of conversion of the approval currency or disbursement currency into the local currency of the borrower's country will be used, in accordance with Article 4.10, paragraph (b)(i) of the General Conditions of the loan contract. To determine the equivalence of expenditure incurred in local currency out of the local contribution or reimbursement of expenses out of the loan, the agreed exchange rate will be the exchange rate on the first working day of the month of payment on which the borrower, the executing agency, or any other individual or legal entity to which the authority to incur expenses is delegated effectively makes the respective payments to the contractor, supplier, or beneficiary.

Audited annual financial reports: The executing agency will submit audited annual financial reports relating to the use of resources in accordance with the terms of reference agreed with the Bank within 120 days after the end of the financial year. The project's final financial reports will be submitted within 120 days after the date of the last disbursement. An independent audit firm eligible to audit Bank-financed operations, selected and contracted in accordance with the terms of reference and model contract previously agreed with the Bank or the General Audit Office of Argentina, will conduct the external audit of the program.

III. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

<input checked="" type="checkbox"/>	Bidding documents	For the procurement of works, goods, and nonconsulting services executed in accordance with the procurement policies (document GN-2349-15) and subject to international competitive bidding, the Bank's standard bidding documents or those agreed by the executing agency and the Bank for the procurement in question will be used. Also, consulting services will be selected and procured in accordance with the policies for the selection of consultants (document GN-2350-15), and the standard request for proposals issued by the Bank or agreed by the executing agency and the Bank for the selection in question will be used. The Shopping for Works document issued by the Country Office in Argentina will be used.
<input checked="" type="checkbox"/>	Advance procurement and retroactive financing	Using the loan proceeds, the Bank may retroactively finance eligible expenditure for REFEFO infrastructure expansion and outfitting works (Component 1) up to US\$15 million (15% of the proposed loan amount (see paragraph 2.2 of the main document)), provided that they have been carried out on terms substantially similar to those set out in the loan contract and that the procurement procedures abide by the basic procurement principles. Such expenditures will have been incurred on or after the project profile approval date (19 March 2021), but under no circumstances include expenditures incurred more than 18 months prior to the loan approval date. This retroactive financing will push forward the deployment of infrastructure in the approximately 258 localities the program will be connecting.

<input checked="" type="checkbox"/>	Procurement supervision	For the SSGAIP, ARSAT and SAE, the supervision method will be ex post, except where ex ante supervision is justified. The (i) ex ante and (ii) ex post method will be determined for each selection process. Ex post reviews will be conducted every year in accordance with the project supervision plan, subject to change during execution. The thresholds for the ex post review are as follows:		
		Works	Goods/services	Consulting services
		US\$5 million	US\$200,000	US\$200,000
<input checked="" type="checkbox"/>	Records and files	The executing agency will keep files and supporting documentation of any and all procurement processes conducted using project resources. Digital files and records will also be kept for the same purposes and for the Bank's supervision.		

Major procurement items

Description of the procurement	Selection method	Estimated date	Estimated amount (US\$ millions)
Equipment for the ARSAT data center	International competitive bidding	Y1Q4	1.2
Package of contracts for REFEFO infrastructure expansion and outfitting	Various international / national competitive bidding	Y1Q4	92.8
Design and provision of training in new technologies	International competitive bidding	Y1Q3	1.5
Promotion of SSeTIC best practices for the public cloud	International competitive bidding	Y1Q3	0.9
Training with a gender focus	International competitive bidding	Y1Q3	1.2
Audit	Quality- and cost-based selection	Y1Q1	0.075
Digital inclusion training	Quality- and cost-based selection	Y1Q1	0.4
Project management specialist group	3CV	Y1Q2	1.925

See 18-month [procurement plan](#).

IV. FINANCIAL MANAGEMENT AGREEMENTS AND REQUIREMENTS

☒	Programming and budget	<p>The executing agency is responsible for the annual budget preparation and programming process and for all procedures leading to the consolidation of the annual budget for approval. As needs for expansion or reallocation of budget items arise, the execution unit will request the changes and handle the related approval. Budget items are executed through quarterly and monthly commitment installments, which are allocated by the National Budget Office (Ministry of Economy). The programmatic structure will be created to identify the investment program within the SIP's budget, and the budget item will be assigned. Also, ARSAT will be given a budgetary allocation to execute Component 1.</p>
☒	Treasury and disbursement management	<p>Bank accounts: The executing agency will keep a special account in U.S. dollars and an account in Argentine pesos at Banco Nación; they will be separate and identified for accounting and operational purposes and used exclusively for handling program resources. ARSAT will open an account exclusively for the loan proceeds from this program.</p> <p>Financial plan: Disbursements will be made on the basis of a detailed financial plan based on the program's actual liquidity needs.</p> <p>Disbursement method: The Bank will disburse resources in the form of advances of funds or any other manner set out in document OP-273-12. Subsequent disbursements after the first advance of funds may be processed if 80% of the earlier advances has been justified. The Online Disbursement electronic platform will be used to handle disbursements.</p>
☒	Accounting, information systems, and reporting	<p>The executing agency and ARSAT will use the UEPEX as a financial administration system, which identifies program funds as well as the sources of financing. In accordance with the Bank-approved chart of accounts, the UEPEX system records the program investments by component in the cost table. Accounting records will be kept on a cash basis, and International Financial Reporting Standards will be followed where applicable in accordance with established national criteria.</p>

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/21

Argentina. Loan ____/OC-AR to the Argentine Republic. Program for the Development of the Federal Optic Network (REFEFO).

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 Argentine Republic, as borrower, for the purpose of granting the former a financing aimed at cooperating in the execution of the Program for the Development of the Federal Optic Network (REFEFO). Such financing will be for the amount of up to US\$100,000,000, from the resources of the Bank's Ordinary Capital, 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 _____ 2021)