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**LAC-CHAIN FOR A SEVEN-DIGIT IMPACT: SOCIOECONOMIC INCLUSION OF
THE POOR AND VULNERABLE THROUGH BLOCKCHAIN TECHNOLOGY**

(RG T3370)

DONORS MEMORANDUM

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PROGRAM SUMMARY

LAC-CHAIN FOR A SEVEN-DIGIT IMPACT: SOCIOECONOMIC INCLUSION OF THE POOR AND VULNERABLE THROUGH BLOCKCHAIN TECHNOLOGY (RG-T3370)

The problem giving rise to this program is an inclusion deficit in Latin America and the Caribbean (LAC) in terms of access to financial, economic, and social services by poor and vulnerable populations. Blockchain technology, which enables a direct, immediate, secure, regulated, and reliable transfer of economic value by digital means, is viewed as an alternative with great potential for expanding the frontiers of service coverage so as to include population segments that the traditional systems have been unable to serve with appropriate standards of quality and affordability. Some current social-impact applications include financial inclusion for underserved populations, traceability and market access for small agricultural producers, conditional cash transfers for populations living in extreme poverty, property records in irregular urban settlements, vocational certification for employability of at-risk population segments, and green certification for monetization of environmental services (Blockchain for Social Impact: Moving Beyond the Hype, Stanford Business 2018). While blockchain is technically ready for launching multiple pilot tests such as the foregoing, the enabling ecosystem needed to scale up these tests to create an impact is not.

Accordingly, the program's objective is to provide financial, economic, and/or social inclusion of poor and vulnerable populations in LAC through a proliferation and scaling of blockchain applications with inclusion impact. To this end, the program envisages a solution based on establishing, on one hand, open-source and inclusive consortia in each country, comprised of public- and private-sector stakeholders, and on the other, an infrastructure of interoperable blockchain networks that is expected to have a transformative and dynamic effect on the ecosystem that will catalyze their impacts at scale in the region. Spurred on by this common objective, the stakeholders leading the nascent development of blockchain ecosystems in the region and the major global players have been drawn to the program. At the 2018 Inter-American Forum on Microenterprise (FOROMIC 2018), this group of entities launched a global knowledge alliance for the development of the blockchain ecosystem in LAC, naming it LAC-chain due to its ability to integrate blockchain ecosystems throughout the region. The program is comprised of four components: (a) public-private partnership in the countries to establish consortia aimed at achieving inclusion impact; (b) technological infrastructure and establishment of inclusive, open-source, and interoperable national blockchain networks needed to scale up impact; (c) market development through the activation of demand for the development of solutions with inclusion impact and reinforcement of national capacity to supply innovation and entrepreneurship to address demand; and (d) data analysis on the impacts obtained in terms of financial, economic, and social inclusion and benchmarking advances in the relevant country ecosystems.

The innovative nature of this program lies in enabling a scale-up of the inclusion-impact use of this cutting-edge technology through an intervention model without precedent in the region that offers an alternative to existing network models. In terms of outcomes, the program envisages an exponential growth in the number of end users during program execution and expects this trend to be maintained beyond the execution period, achieving a figure of at least 1,000,000 end users (60% of whom are expected to be women as specific applications are enabled for this population group).

ANNEXES

Annex I	Results Matrix
Annex II	Budget Summary
Annex III	iDelta

APPENDICES

Proposed resolution

ABBREVIATIONS

AUG	Office of the Executive Auditor
EEA	Enterprise Ethereum Alliance
eIDAS	Electronic Identification, Authentication, and Trust Services
GDPR	European Union General Data Protection Regulation
IDB Invest	IDB Group's private sector window
IDB Lab	Multilateral Investment Fund, the IDB Group's innovation laboratory
IFD/ICS	Institutions for Development Department/Innovation in Citizen Services Division
ITE	Information Technology Department
KIC	Knowledge, Innovation, and Communication Sector
LAC	Latin America and the Caribbean
MSMEs	Micro, small, and medium-sized enterprises
PBAs	Priority Business Areas [IDB Invest]
PCU	Program coordination unit

EXECUTIVE SUMMARY

LAC-CHAIN FOR A SEVEN-DIGIT IMPACT: SOCIOECONOMIC INCLUSION OF THE POOR AND VULNERABLE THROUGH BLOCKCHAIN TECHNOLOGY

(RG-T3370)

Country and geographic location:	Regional Argentina, Costa Rica, and 10 other countries selected in accordance with the eligibility and country balance criteria established in paragraphs 2.8 and 2.9		
Executing agency:	Everis Foundation (central coordination with other member of the LAC-chain Global Alliance) Local executing agencies in each country selected in accordance with the eligibility criteria established in paragraph 5.2		
Focus area:	Knowledge economy		
Coordination with other donors/ Bank operations:	(1) A global alliance involving the leading international blockchain stakeholders; (2) the main public- and private-sector stakeholders forming part of the nascent development of blockchain ecosystems in the region's countries; and (3) IDB departments interested in developing this technology		
Program beneficiaries:	The program beneficiaries will be at least 1,000,000 poor and vulnerable individuals whose incomes have increased due to their inclusion in financial, economic, and/or social services using blockchain technology through the network and the applications deployed on it. In addition, active participation and monetization of benefits by governments, private companies, and local startups is anticipated as a result of the use of blockchain technology with inclusion impact in each of the beneficiary countries.		
Financing:	Technical cooperation funding:		
	Tranche 1	US\$2,000,000	
	Tranche 2*	US\$1,000,000	
	Total IDB Lab contribution:	US\$3,000,000	25%
	Counterpart (LAC-chain Global Alliance and counterpart contribution by the countries):	US\$8,900,000	
	Tranche 1	US\$6,600,000	75%
	Tranche 2	US\$2,300,000	
	Total budget:	US\$11,900,000	100%
Execution and disbursement period:	48 months for execution and 52 months for disbursements.		
Environmental and social impact review:	This operation was screened and classified on 11 November 2018 in accordance with the requirements of the Bank's Environment and Safeguards Compliance Policy (Operational Policy OP-703). Given its limited impacts and risks, the program is proposed as a category "C" operation.		
Unit with disbursement responsibility:	IDB Lab		

*Tranche 2 will be released upon satisfactory fulfillment of the outcome indicators for Tranche 1 set out in Annex I.

I. THE PROBLEM

A. Description of the problem

- 1.1 The problem giving rise to this program is a persistent inclusion deficit in LAC in terms of access to financial, economic, and/or social services by poor and vulnerable populations. According to data from the Economic Commission for Latin America and the Caribbean (ECLAC), LAC continues to be the world's most unequal region, with an average Gini coefficient for personal income of 0.469, evidencing high income inequality.¹ Considerable progress has been made in recent decades on inclusion and opportunities to access services, yet there is a persistent deficit in coverage with appropriate standards of quality and affordability that disproportionately impacts the poor and vulnerable population segments. For example, in the case of financial services, despite advances in recent years, the banking inclusion rate in most LAC countries is lower than 60%.² In terms of social services, the region's coverage of quality education services is on the order of 50%, and there are well-known difficulties in obtaining access to efficient minimum wage systems.³ Market failures and asymmetric information mean that, to earn production-based household income, a typical individual belonging to poor and vulnerable population segments pays an average surcharge of around 40% for productive and household inputs and interest rates 5 to 20 times higher to finance them, and is paid 30% less than market price for his or her products.⁴
- 1.2 **Limitations of the conventional models for serving poor and vulnerable populations.** In the search for development proposals that can reduce inequalities and improve living conditions and access to services for the most disadvantaged population groups, the current models have encountered scope limitations in terms of effectiveness in the timeliness and quality of delivery and price conditions for ensuring close-to-universal access, among others. Examples include the conditional cash transfer programs and social impact bonds that have recently been introduced in the region. Conditional transfer programs, while successful, continue to be limited in their ability to focus on the target population (due to inadequate synchronization, frequency, and traceability of records, and reference databases) or in their value transfer efficiency (due to existing limitations in the channels used for making transfers to vulnerable end users). For social impact bonds, a critical constraint on market development is the loyalty and trust of participants regarding the independent, real-time impact assessment process. Technologies are now available that can remove these limitations, disintermediate and deploy new business models, and transform markets.
- 1.3 **The internet of value.** Blockchain technology is slated to become the internet of value, as it enables a direct, immediate, secure, regulated, and reliable transfer of economic value by digital means. In its day, the birth of the Internet meant the creation of a universal channel for information sharing in real time. This development exponentially accelerated globalization and, with today's connectivity capabilities,

¹ Social Panorama of Latin America 2016, ECLAC.

² Federation of Latin American Banks (FELABAN), 2017.

³ Commission for Quality Education for All, Inter-American Dialogue 2018.

⁴ The last mile distribution challenge, Forbes Entrepreneurs/Ashoka, 2014. Why Do the Poor Pay More? Ronald Mendoza, 2008.

allows parties located practically anywhere in the world to connect. Universal protocols and standards to ensure the proper and secure exchange of information have been built into this Internet highway, along with applications of all types that in many cases have helped to improve the lives of people by driving economic development.

- 1.4 A transformative impact similar to that of the Internet in its day is now expected from blockchain. This technology facilitates an immutable and chronologically sequenced record of information that has been verified and accepted by the members of the network and of which all members have a synchronized copy. By offering channels that generate efficiency in the delivery of goods and services, transaction records that are fully transparent and immutable, and a decentralized platform that empowers end users by providing them a copy of all their information, blockchain technology has considerable potential to transform markets and generate inclusion impact by putting all users on an equal opportunity footing. In essence, the technology facilitates that, at the time a digital transfer of value is made—whether financial, such as a credit—or real, such as a property title—ownership passes from the transferor to the transferee. This simple precept, known as the internet-of-value principle, makes the delivery of services to end users more accessible and efficient. Precisely because the ability to transfer economic value by digital means is being added to precursor technologies, the process of globalizing blockchain will need to include some essential and heretofore unprecedented elements, such as regulatory frameworks to govern economic transfers conducted on the network and the guarantee of their price stability.
- 1.5 **Inclusion impact of the internet of value.** Because of its aforementioned ability to help markets deliver goods and services more efficiently to end users, ensure the transparency and immutability of transaction records, and empower users with a self-sovereign identity,⁵ blockchain technology has earned a place among the technologies expected to have the greatest market disruption effect and impact in terms of inclusion. The use of this technology has the potential for expanding the frontiers of economic, financial, and/or social service coverage so as to include population segments that the traditional systems have been unable to serve with appropriate standards of quality and affordability. Some current social-impact applications include financial inclusion for underserved populations, traceability and market access for small agricultural producers, conditional cash transfers for populations living in extreme poverty, property records in irregular urban settlements, vocational certification for employability of at-risk population segments, and green certification for monetization of environmental services.⁶ The blockchain use space targeted by this program is that which enables applications of this technology for the socioeconomic inclusion of population groups not covered in the real economy and under no circumstances includes applications based on cryptocurrency issues or offerings (initial coin offerings (ICOs)). The following table

⁵ Self-sovereign identity models are those in which the individual owns and holds his or her personal data and may therefore securely store and use it to access digitally provided services, freely deciding with whom, to what extent, and specifically for how long to share the data. In essence, blockchain technology enables self-sovereign identity models due to its ability to manage a distributed and reliable record without needing to assign identifiers to a centralized database.

⁶ Unlocking Economic Advantage with Blockchain, JP Morgan 2018. Blockchain for Social Impact. Moving Beyond the Hype, Stanford Business.

contains a series of examples on potential blockchain applications that are currently under review in the context of this program.

Table 1: Portfolio of blockchain applications with an impact in terms of inclusion

Digital identity for poor and vulnerable populations: Blockchain-based digital identity systems that allow underserved individuals and users to have control of their own data, while also expanding the possibilities for easily choosing different service providers through universal onboarding processes.

Remittances and financial inclusion: Channels for foreign and/or local currency payments provided directly to the beneficiary securely and without intermediation, with lower transaction costs and on affordable terms, with the potential for expanding coverage to include the large-volume market of people who are either unbanked or excluded from the financial system.

Certification of vocational skills for employment: Secure platforms for decentralized records and attestations of vocational skills, training, experience, and reputational capital, aimed at improving employment opportunities for individuals rendered vulnerable by adjustments or structural changes in the job markets.

Agricultural traceability and market access for small producers: Inclusion of small producers in high-value agricultural value chains valued by end users and backed by traceability systems based on decentralized records and certifications of origin, agro-environmental practices, biogenetic characteristics, or contract and payment models.

Combating harassment and gender violence: Mobile applications to document unwanted behavior in the home and workplace with time-stamped photographic evidence and/or recordings, with a view to expediting and streamlining the relevant investigative and judicial processes.

Conditional transfers based on programmable electronic money: New, digital financial and payment applications that are inexpensive, scalable, and secure, making it possible to target expenditure toward education, health, and essential goods and achieve an impact in terms of reducing poverty.

Energy access: Platforms for transparent management of supply programs for energy-poor population groups that prevents errors and facilitates real-time communication between city governments, central government, electric utilities, and end users.

Access to health for the underserved population: Medical records with access controllable by the user but universally accessible for use by various medical teams and for the development of advanced and innovative diagnostic methods, benefiting vulnerable populations that are "invisible" in health services delivery.

Tenure and tokenization of real estate assets: Systems for immutable, real-time recordation and notarized certification of tenure or habitation of real estate assets, useful for providing collateral for financial inclusion and for creating asset tokenization opportunities to develop joint ownership, shared economy, or crowd investing systems with the potential for democratizing access to land or housing.

- 1.6 **Fragmented, disorganized, and asymmetric ecosystem.** While blockchain technology appears to be technically ready, at least for the development of pilot tests with an impact on inclusion such as those described above, the ecosystem needed to scale up these tests is not. This is the key factor determining the focus of the program. We understand the term ecosystem to refer to the interaction of the public-private partnership, technological infrastructure, market operation, and impact measurement components that are needed to enable these pilots to be scaled and produce the expected impacts in terms of inclusion. As in the case of the Internet, which in the mid-1990s was characterized by multiple isolated intranets before evolving into a network of networks, the nascent blockchain ecosystem in LAC is currently shown to be clearly compartmentalized, with a large number of isolated platforms that, while relying on the same concept of an immutable and decentralized

information record, are not interoperable. These constraints on the development of an ecosystem enabling blockchain technology use with a scaled impact on inclusion have become a critical impediment to the development of startups based on the use of the technology. As an illustration of this problem, of the total number of startups developing blockchain use cases, only 2% are Latin American, putting LAC in last place among the world's regions in terms of relative share.⁷

- 1.7 The main reasons identified as to why there have been no advances on the ecosystem enabling the implementation at scale of blockchain applications with an inclusion impact are: (i) coordination failures and limited partnering by the ecosystem stakeholders in promoting governance alternatives with greater potential to bring universal access to blockchain technology benefits closer to fruition; (ii) limited technological and infrastructure capabilities, and a lack of standards that can facilitate implementation at scale, cost predictability, and speed and legal validity of blockchain transactions needed for their use at scale with an impact on inclusion; (iii) flaws in market operations, including asymmetric information on pricing and availability of technology and case use alternatives, technology monopsonies, paucity of development companies, and gaps in the regulations needed for implementation at scale; and (iv) scarcity of information that has been analyzed and made available to public and private decision-makers on the financial, economic, and/or social inclusion impacts of the use of this technology and the existing technological, regulatory, and use disparities among country ecosystems in LAC.

B. Program beneficiaries

- 1.8 The program beneficiaries will be at least 1,000,000 poor and/or vulnerable individuals with inclusion in blockchain-based financial, economic, and/or social services through the LAC-chain network infrastructure and the applications deployed on this network. The number of beneficiaries has been calculated by making a prudent projection of the number of users of the current portfolio of applications with inclusion impact under review. It is highly likely that other heretofore unforeseen blockchain applications with inclusion impact will be deployed on the LAC-chain network infrastructure; thus, this estimate of beneficiaries may be exceeded to some extent.
- 1.9 This program also envisages participation and monetization by governments, private companies, and local startups in each of the respective countries as a result of the economies obtained through the development of blockchain technology with inclusion impact. Furthermore, the program will develop the blockchain ecosystem in the region by promoting and disseminating knowledge of blockchain technology and the internet of value, training citizens in programming expertise and the use of this technology to build inclusion-impact solutions, and encouraging discussions on the regulations, policies, and protocols that will be needed for blockchain to operate in accordance with this objective.





⁷ An overview of LAC's Adoption, Nasdaq, 2018. University of Cambridge, Global Blockchain Benchmarking, Dr. G. Hileman and M. Rauchs, 2017.

II. THE INNOVATION PROPOSAL

A. Description of the program

- 2.1 **Development objective.** The program's objective is to provide financial, economic, and/or social inclusion to poor and vulnerable populations in the region through the proliferation and scaling of blockchain technology applications with inclusion impact.
- 2.2 **The program's innovation lies in enabling a cutting-edge technology by driving models for scaling its inclusion impact that have no precedent in the region.** The program will facilitate the development of innovative models for direct service delivery to end users based on blockchain—an emerging technology capable of disintermediating and transforming markets, reducing access costs, and expanding noncovered end users' ability to choose. In particular, the technological alternative of establishing legally binding open and inclusive consortia over a permissioned public network infrastructure is unique in the LAC market and is expected to produce an exponential impact in terms of inclusion. A permissioned public blockchain infrastructure, as proposed by the program, consists of a highly decentralized network of nodes, open to universal use, and based on national technological subnetworks in compliance with the regulatory framework of each jurisdiction. Thus, users need to be legally identified (authentication-based permissioning).
- 2.3 The proposed model has been awakening a strong interest on the part of the most innovative players in the corporate private sector, the entrepreneurial community, and the public sector in the region in view of the possibility of building the internet of value with a powerful impact on market expansion and the inclusion of new customers for their service portfolios. The proposal sets itself apart and invigorates the ecosystem by adding a third option to the two alternatives currently existing in the market (public networks such as Bitcoin or private or federated networks such as R3/Corda). The creation of permissioned public networks provides regulatory certainty, flexibility for architectural modifications, better customization conditions, and low and predictable transaction fees when compared to public networks such as Bitcoin; as well as inclusiveness, an intersectoral approach, governance, and decentralization when compared to federated and private networks. Because of its disintermediation capacity and ability to make value transfers more efficient and traceable, this technology alternative is a unique tool for addressing inclusion challenges for the underserved population. Looking forward, expanding the use of blockchain is expected to produce an access democratization and market transformation effect equivalent to the impact of the Internet in its day. The following table illustrates the comparative advantages of this technology.

Table 2: Comparative infographic on the blockchain network infrastructure alternatives

	 Public	 Private	 Federated	 LAC-chain
Anyone may participate	✓	✗	✗	✓
Transparency	✓	✗	✗	✓
Privacy	✗	✓	✓	✓
Decentralization	✓	✗	≈	✓
Identified users	✗	✓	✓	✓
Low transaction costs	✗	✓	✓	✓
Regulation	✗	✗	✗	✓
Scalability	✗	✗	✗	✓
Social impact	≈	✗	≈	✓
	✓ Yes	✗ No	≈ Sometimes	

- 2.4 **IDB Lab has been a pioneer in driving blockchain technology in the region.** Through IDB Lab, this program continues on the path forged by the Barrio 31 project in Argentina (operation AR-T1190), furthering the development of social-impact use cases of the same type. The proposed solution integrates technological, public-private partnering, entrepreneurial development, and regulatory adjustment elements, actively involving all interested departments in the IDB Group. The Bank has already participated in blockchain-based projects, such as Cadena (in the framework of regional program RG-T2070) for information-sharing between customs administrations or the Blockcerts project (in the framework of regional program RG-T3321) in Bahamas for the issuance of digital academic certifications over a blockchain platform, among others. In the context of this program, these projects would benefit from the efficiencies and cost reductions generated by a regulated and interoperable common network on which to jointly develop knowledge and technology.
- 2.5 **The LAC-chain Global Alliance.** For blockchain to fully operate as the internet of value—on which transparent, secure, and universally accessible channels may be built to store and transfer real value—collaborative efforts are needed in leading a joint initiative to develop the blockchain ecosystem enabling a single, interoperable network for the region with universal and regional standards and regulations, as was

the case with the Internet. Inspired by the experience of Alastria,⁸ the world's only case of a country ecosystem created on the basis of a broad intersectoral consortium, this common objective has awakened an interest and willingness to collaborate among the stakeholders leading the nascent development of blockchain ecosystems in the region, such as the digital government authorities in Argentina, Colombia, and Costa Rica, as well as among several major global blockchain players, including Everis, ConsenSys, NTT Data, RSK, ioBuilders Adhara, Ethereum Enterprise Alliance, Ethereum Foundation, Hyperledger, Linux Foundation, MIT Media Lab, WEF, Accenture, and IBM. As a necessary precursor to this regional program and in the context of the IDB Lab's working plan for knowledge development, several of these entities established and officially launched a global alliance at FOROMIC 2018.⁹ Owing to its capacity to integrate and connect interoperable blockchain ecosystems throughout LAC, it was decided that the partnership would be known as the LAC-chain Global Alliance.

- 2.6 **Program preparation.** For the preparation of this program, analysis workshops were conducted in four countries of the region (Argentina, Chile, Colombia, and Mexico) with the participation of more than 200 public entities, corporations, universities, and representatives of the entrepreneurial community in each country. These communities, which met for the first time to develop the enabling ecosystem, are the launching pad that will allow the program to promote the desired progress toward universal use of blockchain technology with impact inclusion through a proliferation of use cases and their implementation at scale. As part of the preparation activities, informational meetings were held with public- and private-sector stakeholders in Bahamas, Costa Rica, Honduras, Guatemala, and Jamaica.
- 2.7 These preparatory activities, conducted with the support of LAC-chain Global Alliance members, have helped lay the foundations for an expeditious launch of this program by achieving the following specific advances:
- Establishment of Blockchain Federal Argentina (BFA) with the technical support of alliance members, this being the region's first experience of a permissioned public network in the process of progressively expanding in terms of numbers of participants and consolidating its governance framework;
 - Draft formulation of a white paper of blockchain-based self-sovereign digital identity standards that are legally valid and comply with international data protection standards, and first development of a blockchain-based LAC-chain application of common utility for identity records;
 - Preparation of the first blockchain-based digital identity application associated with a legally valid electronic signature, currently underway in collaboration

⁸ [Alastria](#) is the world's only example of a permissioned, global public network that has been established at the country level. The network, which is subject to regulation, includes participants from a variety of sectors. To date, more than 160 stakeholders participate in the network, including large corporates, small and medium-sized enterprises (SMEs), government, universities, and startups. This program is inspired by and builds on the experience of Alastria. It represents the first multi-country blockchain initiative and platform with these characteristics to operate in LAC. The program will therefore be the first blockchain 4.0 experience that is regional in scope and its distinguishing features are set out in the infographic of Table 2.

⁹ The first three of the listed entities, as well as Alastria, were able to join us at FOROMIC 2018 (Barranquilla, Colombia) for the signing of memorandums of understanding and the formal launch of the LAC-chain Global Alliance.

with the Argentine Ministry of Modernization and useful for multiple applications with inclusion impact in the region;

- Creation of LAC-chain working groups on technological and regulatory issues in Colombia, developing roadmaps and meeting frequently to establish consortia and permissioned public networks in the country;
- Setup and launch of LAC-chain's first multi-country test network for testing and strategic communication purposes, with a network of nodes deployed in a series of countries in the region by members of the LAC-chain Global Alliance;
- Collaborative formulation of a draft governance framework by members of the LAC-chain Global Alliance for deployment of the first inter-American LAC-chain production network, which will have the ability to deploy and implement at production scale the developed inclusion-focused applications;
- Development of the first proven prototype of a tokenized, legal-currency electronic wallet (fiat money), available for use as a payment account, transfer channel, and asset denomination at zero cost in financial inclusion transactions;
- Co-organization, in the framework of FOROMIC, of a workshop, an awareness-raising panel, and a meet-up on blockchain technology applications with inclusion impact and the outlook for development of the ecosystem in LAC;
- Facilitation of the first working groups for the development of inclusion-impact applications established in LAC-chain (portable identity for migrant populations, traceability and agricultural inclusion, remittances and financial inclusion, certification of job skills, and diversity and gender); and
- Development of agreements for the formal establishment of a blockchain training center as part of the digital talent laboratory in Costa Rica, in collaboration with the Costa Rican Ministry of Science and Technology and universities in that country.

2.8 Countries and eligibility. During program preparation, Argentina and Costa Rica were selected as the first two countries in which the program's work is to be done. In total, the program is expected to provide different forms of support to 12 countries in the region. These countries will be selected before the end of the program's second year of execution in accordance with the following eligibility criteria: (i) evaluation of the diagnostic assessments and roadmap proposals for ecosystem development in each country; (ii) interest shown and cofinancing commitments by the relevant public- and private-sector stakeholders; (iii) alignment with the digital development strategy in the countries; (iv) balance of countries in accordance with paragraph 2.9 below. As a maximum level of intervention per country, the program also envisages establishing public-private consortia and permissioned public blockchain network infrastructure, in line with standards set out by the program, in at least five country ecosystems. These five country ecosystems will be determined in accordance with the aforementioned eligibility criteria and two others: (i) formalization of the public-private agreements needed to form national consortia; and (ii) provision of the resources needed for making coinvestments to establish the permissioned public network infrastructure.

- 2.9 For the selection of the country ecosystems to be served, the program will endeavor to ensure a balance between Group A and B countries and Group C and D countries. From the technical standpoint, a balance in selection is important, since the heterogeneity of the ecosystems supported as pilot projects critically depends on the program's capacity to achieve the desired demonstration effects for the region as a whole. The program provides for the possibility of expanding the number of countries supported based on contributions from members that join the LAC-chain Global Alliance in the future.
- 2.10 **Additionality.** IDB Lab is the catalytic actor that has made it possible to rally the will, efforts, and resources of the LAC-chain Global Alliance members around this regional program. Together with other participating departments of the Bank and IDB Invest, IDB Lab adds value in terms of acceleration services, focus on inclusion, technological neutrality, equality of opportunities for participating in the market, and the regulatory strengthening needed to develop blockchain ecosystems in the region that will facilitate the proliferation of the technology and scale up its use with impact on inclusion. Without IDB Group participation in blockchain development, this proliferation and implementation at scale would still occur but would very likely take considerably longer—twice as long according to available forecasts. Furthermore, it would take place under the leadership of another region and would not include the set of essential features described above.
- 2.11 To ensure the development of the technology with a focus on inclusion, the program proposes support structured into four components that are essential for blockchain ecosystems in the region: (i) partnering of public-private stakeholders; (ii) technological infrastructure; (iii) development of the market for applications; and (iv) data analysis and use.
- 2.12 **Component I: Partnering of public-private stakeholders (Tranche 1: IDB Lab US\$689,000, counterpart US\$909,000; Tranche 2: IDB Lab US\$344,000, counterpart US\$455,000).** The objective of this component is to create a community with the countries' blockchain ecosystem stakeholders, focusing on enabling the use of technology with inclusion impact. The program will promote the development of the LAC-chain Global Alliance for awareness raising and matchmaking of high-level technical advisory services and technological and market information for the development of this type of blockchain technology applications. The various IDB Group departments participating in this program will provide advisory services and knowledge of good practices in key areas such as regulatory frameworks, standardization, and alignment of technological, financial, and market standards, which is needed to facilitate inclusion impacts at scale. The specific activities to be carried out under this component are: (i) facilitation and promotion of the LAC-chain Global Alliance for ongoing support to the development and scale-up of applications with inclusion impact; (ii) country workshops for developing the blockchain community and enabling country blockchain ecosystems focused on this objective; (iii) diagnostic assessments of country ecosystems and strategic advisory services to implement development plans for the country ecosystems that can facilitate the expected impacts at scale; and (iv) coordination for the creation of national consortia of public-private stakeholders as a driving factor for universal use of the inclusion-impact technology.

- 2.13 **Component II: Technological infrastructure (Tranche 1: IDB Lab US\$387,000, counterpart US\$3,354,000; Tranche 2: IDB Lab US\$193,000, counterpart US\$1,677,000).** This component's objective is to develop a blockchain network and formulate standards and regulations with the aim of facilitating interoperability for the network's use with inclusion impact. Accordingly, the program will support the adaptation of standards for the development of a basic, multisector, and interoperable blockchain infrastructure adapted to the needs and legal frameworks of each country. This blockchain infrastructure will seek to create a space for the use of blockchain in accordance with the current regulatory framework, including governance protocols, technological and operating policies, and use cases in the public interest. The activities of this component include: (i) technological advisory services for the development of permissioned public networks; (ii) formulation of technological standards for the network and its inclusion-impact applications; (iii) development and maintenance of an intraregional blockchain test network for LAC that allows communication and testing of inclusion-impact applications of the technology; (iv) ongoing assessment of technological neutrality in the formulation of standards for expanded opportunities for participation in the development of the applications;¹⁰ (v) development of necessary blockchain cybersecurity standards and protocols, including testing and development of standards for enabling a quantum-safe blockchain;¹¹ and (vi) development and maintenance of an intraregional blockchain production network for LAC on which the envisaged inclusion-impact applications can be deployed.
- 2.14 **Component III: Development of a market for applications (Tranche 1: IDB Lab US\$447,000, counterpart US\$1,343,000; Tranche 2: IDB Lab US\$223,000, counterpart US\$672,000).** This component's objective is to consolidate a dynamic, equal access market for the development of blockchain applications with an impact on inclusion. Accordingly, on the demand side, the program will support activation of the joint business space that blockchain technology enables on the part of participating companies, foundations, and governments to bring about a proliferation of inclusion-impact use cases. On the supply side, the program will promote an acceleration of the blockchain entrepreneurial ecosystem with the aim of developing applications of this type through training instruments, challenges, and mentorship. The specific activities of this component include: (i) market intelligence, demand studies, and design thinking processes for high inclusion-impact use of the technology; (ii) creation and maintenance of a platform for connecting inclusion-impact blockchain solution developers and clients; (iii) development of a catalogue of use cases with inclusion impact; (iv) targeted challenges, curated by LAC-chain Global Alliance experts, with rewards for the development of inclusion-impact solutions; (v) organization of hackathons; (vi) training in blockchain programming and social entrepreneurship; (vii) acceleration of startups and development of the

¹⁰ Technological neutrality refers to a decision-making process aimed at defining standards to prevent market concentration or barriers hindering the entry and participation of multiple technological service providers. Along these lines, the program promotes an open-source approach and practice to ensure that access to and use of the underlying technology are universal and that the technology is easily accessible.

¹¹ Testing and developing standards to enable a quantum-safe blockchain is of strategic importance in the development of the ecosystems, since these standards will ensure the cybersecurity of record transfers and password creation in anticipation of quantum supremacy, at which time these processes are expected to be exposed to critical security risks.

blockchain entrepreneurial ecosystem for the development of inclusion-impact solutions (including mentoring, coaching, and business development);¹² and (viii) academic and vocational training.

- 2.15 **Component IV: Data analysis and use (Tranche 1: IDB Lab US\$150,000, counterpart US\$93,000; Tranche 2: IDB Lab US\$75,000, counterpart US\$47,000).** This component's objective is to use the information circulating on the platform to demonstrate the inclusion impact and provide feedback on advances in the ecosystems. Accordingly, the program will analyze and use the data and information on the interoperable blockchain to highlight the impacts obtained from the set of inclusion-impact applications throughout the region with a view to gauging and benchmarking advances in the country blockchain ecosystems for this purpose. The specific activities of this component include: (i) strengthening of the network capacities for observation of blockchain ecosystems in LAC, a unique public platform for information for national blockchain ecosystems; (ii) development of a system of real-time information on the applications' impact in terms of financial, economic, and/or social inclusion; (iii) development of big data and artificial intelligence tools for the analysis of entrepreneurial markets and ecosystems in LAC; (iv) in-depth analysis of emblematic use cases of blockchain with inclusion impact; and (v) strategic communication based on lessons drawn from data analysis to foster the stakeholder participation needed to obtain the expected impacts at scale.

B. Program outcomes, measurement, monitoring, and evaluation

- 2.16 The anticipated outcomes and impacts one year following the conclusion of program activities are:
- Twelve countries supported through infrastructure will have deployed inclusion-impact applications and will have adopted protocols and standards established by the LAC-chain Global Alliance (seven at the end of tranche 1 and five at the end of tranche 2);
 - Five countries will have established multisectoral consortia and an interoperable, permissioned public blockchain platform (three at the end of tranche 1 and two at the end of tranche 2);
 - At least 25 blockchain applications with inclusion impact will be operating on the interoperable platform developed under the program (15 at the end of tranche 1 and 10 at the end of tranche 2); and
 - One year following the conclusion of the program, at least 1,000,000 poor and vulnerable individuals will have increased their household income due to their financial, economic, or social inclusion through the platform and its applications (60% of whom are expected to be women as specific applications serving the needs of this population group are enabled).

¹² As a complement to this nonreimbursable technical-cooperation funding and in the context of the potential creation of new startups based on the use of blockchain technology thanks to the development of the ecosystem, IDB Lab is analyzing the possibility of establishing a mechanism/vehicle for investment in startups. In this analysis, IDB Lab is taking into consideration the potential synergies with the acceleration programs it has been supporting. In the event that IDB Lab decides to finance such a mechanism/vehicle, that operation will be presented to the Donors Committee for consideration and approval on a separate basis.

- 2.17 An ongoing monitoring, evaluation, and innovation system will be established at the start of the execution period, based on the existing data in the registry of blockchain networks and supplemented by other relevant indicators and data. This will make it possible to: (i) monitor the management, outcome, and impact indicators as well as reinforce and adjust the technological solution and the implementation of the program on a daily basis; and (ii) document and share the lessons learned to continue to attract players both at the local level and in the various geographic locations involved, thus furthering the program's objective.
- 2.18 With regard to program evaluation, the main questions will be: (a) What effects does the availability of these services have in terms of improving the income and inclusion conditions of vulnerable populations? (b) To what extent do the internet of value and the applications ultimately developed help to improve access to financial, economic, and/or social services for poor and vulnerable populations? (c) What is the status and degree of progress made on the country blockchain ecosystems, measured in terms of regulations, activity and technological protocols, and productivity (applications deployed)? and (d) What are the activating factors for the development of country ecosystems, and what effect have permissioned public platforms had on their development?

III. ALIGNMENT WITH THE IDB GROUP, SCALABILITY, AND PROGRAM RISKS

A. Alignment with the IDB Group

- 3.1 This program launches a comprehensive IDB Group support model for innovation with impact at scale, in which IDB Lab will take on the role of guarantor of the focus on inclusion impact. The Innovation in Citizen Services Division (IFD/ICS) will ensure that its activities are consistent with the digital modernization strategies of the countries' governments. ITE TechLab will provide technology advisory services and Knowledge, Innovation, and Communication Sector (KIC) will operate as a "transmitter of innovation," a knowledge broker, and an effective communicator of innovation for the sector departments involved and IDB Invest, enabling them to respectively support adaptation of the promotional and regulatory capabilities of the public sector and take advantage of investment opportunities in blockchain-based technological modernization processes at the participating private entities. The Office of Outreach and Partnerships (ORP) will support the process by mobilizing and aligning the interests of the strategic partners.
- 3.2 In addition, the program is consistent with the work under way by the Connectivity, Markets, and Finance Division (CMF) to update and reform the regulatory framework with the network of regulators and the Fintech network, contributing to the dialogue work toward regulatory updating. Furthermore, this program draws on the Innovation and Citizen Services Division (ICS) initiatives on digital identity, government administration modernization, and development of rules and standards; Social Sector (SCL) initiatives on academic certifications; Operations Financial Management and Procurement Services Office (FMP) initiatives on procurement management using an online registry; and Office of the Executive Auditor (AUG) and Finance Department (FIN) real-time audits. IDB Invest is also part of the project team, with an interest in future technology investment opportunities in the companies participating in the consortia as well as in potential successive financing rounds for some of the technology investee or accelerated companies within this framework.

The Office of Evaluation and Oversight (OVE) supports the design and implementation of a monitoring and evaluation system that makes effective use of the data generated under Component IV.

- 3.3 IDB Group specialists will be participants in monitoring the various development phases of the internet of value and the developed use cases to ensure that they are aligned from the outset with their strategic priorities, formulating and validating relevant scenarios for their respective portfolios. The network of specialists of the IDB Group (including IDB Lab) in the country offices will be fully integrated into the management of this program, both to ensure their continuous contribution to the country ecosystem strengthening process and to provide feedback for the strategic coordination of the program based on the experiences of each country.
- 3.4 This program is aligned with the IDB Group's Institutional Strategy 2016-2019, which lists poverty and inequality reduction as one of its two general objectives and includes multisectorality and innovation among its operating principles. The program is also aligned with IDB Invest's Priority Business Areas 3 and 4, which propose: (i) supporting technological innovation and development; and (ii) boosting income generation and social mobility opportunities for vulnerable populations. As part of a willingness to consider development challenges from an interdisciplinary perspective with the aim of identifying innovative and comprehensive solutions to complex problems, the project team includes specialists from various areas of the IDB Group in different countries with a view to ensuring that its value proposals are adapted to the specific conditions of country ecosystems.

B. Scalability

- 3.5 The program expects to produce scaling impact during the execution period by accelerating development of the blockchain ecosystem in the region. This will facilitate a considerable advance toward universal use of the technology through the proliferation and scaling of applications of the technology with inclusion impact. To that end, the program envisages establishing a regional permissioned public network infrastructure on which to develop regulatory and technological standards capable of having an activating effect on the ecosystems and carrying an extraordinary influence potential. In the initial scaling phase, the network is expected to include many of the countries in the region, becoming a powerful value transfer channel for social impact in LAC. Since this is the first proposal of its kind on a regional scale, and in view of the acknowledged need of the world's blockchain community to develop a solution of this nature, the platform to be created through the program has the potential to scale and influence the global network in terms of regulations and standards. Quantitatively, the platform is expected to see exponential growth in the number of applications with inclusion impact operating on this blockchain and for this growth to continue beyond this period once the enabling ecosystem is consolidated.
- 3.6 This platform's scaling plan operates simultaneously at four levels: (i) leveraging of global blockchain knowledge leaders and facilitating a continuous dissemination campaign based on the learning community principle; (ii) development of national interoperable blockchain platforms and standards expected to have an exponential impact that enables a proliferation of applications; (iii) investment in inclusion-impact applications of the technology with a high demonstrative capacity, as well as effective systematization and communication of their outcomes; (iv) analysis of the

data circulating on the network to demonstrate and actively communicate both the impacts in terms of financial, economic, and/or social inclusion and the business outcomes achieved through the use of this technology and the benchmarking of country ecosystems focused on invigorating the investment community.

- 3.7 The LAC-chain Global Alliance's partner network is a unique platform for ensuring that its outcomes reach scale. The program focus is on helping the participating communities apply blockchain technology with inclusion impact in the region, including public stakeholders, large corporate enterprises, and the entrepreneurial community. In fact, a good number of the global entities with the greatest influence on the decision-making and development of the global blockchain ecosystem through the formulation of standards are committed participants in this program. Alastria is already an important leader in formulating European blockchain-based platform and digital identity standards in accordance with the European Union's electronic identification and general data protection rules (electronic Identification, Authentication and trust Services (eIDAS) and General Data Protection Regulation (GDPR), respectively). In addition, based on the program's experience, key partners such as Ethereum Enterprise Alliance, Hyperledger, and RSK on the private side, and the MIT Media Lab on the academic side, will be responsible for formulating standards for the use of this technology under open-source, technology-agnostic, alternative benchmarking, and technological neutrality principles with a view to developing an open and competitive market for blockchain technology as a scale multiplier. The role envisaged for MIT Media Lab in this proposal, as contributor to a neutral evaluation of the decisions on the formulation of standards, is essential for these purposes.

C. Program and institutional risks

- 3.8 As is the case for all programs promoted by IDB Lab, this one entails risk. This section provides information on some of the risks involved and measures for mitigating them that were considered during the program design phase:
- 3.9 **Coordination risks.** This program is based on extensive stakeholder participation with diverse agendas, both global and national. To mitigate this risk, the program will make use of best practices in developing consortia of this type and of consensus-building and governance protocols for decentralized organizations provided by the technology itself. In addition, coordination and advisory committees will be created as a mechanism to facilitate the necessary coordination among stakeholders.
- 3.10 **Technology risks.** The platform is based on alternative technologies at early stages of development which in some cases could suffer from misalignments or lack of continuity. To mitigate this risk, the platform will establish a team to collaborate on technology issues under the framework of the LAC-chain Global Alliance. The team will work to ensure that technological alternatives are diverse, and will remain "technology agnostic" to those that emerge. It will be comprised of TechLab and the main exponents of base platforms currently active in the industry (Ethereum, Hyperledger, Bitcoin-RootStock), and will be curated by MIT Media Lab as evaluator of technological neutrality in formulating the standards for the technology.
- 3.11 **Regulatory risks.** The development of blockchain ecosystems in the region entails regulatory updating and adaptation processes subject to varying degrees of progress and regulatory gaps with regard to the technology, including in the context

of enabling use cases which, as in those supported by this program, do not involve the use of cryptocurrency. To mitigate this risk, the program will harmonize, contribute to a dialogue on, and collaborate with the set of instruments being made available to the countries by the Bank in this respect. The IDB specialists will serve as a nexus for mitigation of this risk during program implementation.

IV. INSTRUMENT AND PROPOSED BUDGET

- 4.1 The program's total budget is US\$11,900,000, of which US\$3,000,000 (25%) will be contributed by IDB Lab and US\$8,900,000 (75%) will be a counterpart contribution. For adaptive management purposes, this budget will be administered in two consecutive tranches, a US\$2,000,000 tranche and a US\$1,000,000 tranche. Tranche 2 of the financing will be released upon satisfactory fulfillment of the outcome indicators for tranche 1 set out in Annex I, Results Matrix.
- 4.2 **Instrument.** The instrument to be used is technical-cooperation funding, since the program is focused on developing a technology ecosystem with characteristics of a public good that corrects market flaws (information asymmetries with regard to pricing and availability of technologies, technology monopsonies, paucity of development firms, and regulatory gaps) for which there is no possibility of direct capture of returns.

Table 3: Summary budget (US\$)

	Tranche 1		Tranche 2		Total
	IDB Lab	Counterpart	IDB Lab	Counterpart	
Program components					
I. Partnering of public-private stakeholders	689,000	909,000	344,000	455,000	2,327,000
II. Technological infrastructure	387,000	3,354,000	193,000	1,677,000	5,611,000
III. Development of a market for applications	447,000	1,343,000	223,000	672,000	2,685,000
IV. Data analysis	150,000	93,000	75,000	47,000	365,000
Coordination	280,000	280,000	140,000	140,000	840,000
Evaluation, audits, and contingencies	48,000		24,000		72,000
Grand total	2,000,000	6,617,000	1,000,000	2,353,000	11,900,000
Percentage of financing	18%	82%	29%	71%	100%

- 4.3 **Additional contributions.** The program structure provides for additional resources to accomplish the objectives stated in this document, in the event any new members joining the LAC-chain Global Alliance wish to contribute to it under its terms of execution. This additional funding will be in the form of nonreimbursable contributions (grants) to finance program components, thereby expanding the number of beneficiary countries. These additional amounts will not exceed US\$20 million. Accordingly, donors would make contributions in the form of a project-specific grant. The IDB will secure the commitment of each donor through administrative that do not require the preparation or approval of individual project proposals, and will maintain a reporting and coordination mechanism with the

Donors Committee.¹³ Under such agreements, the resources provided by the donor will be administered by the Bank through the executing agencies designated in the following meeting. For these specific resources, the Bank will charge a nonreimbursable administrative fee, in accordance with Bank policy.¹⁴

V. EXECUTING AGENCY, PARTNERS, AND IMPLEMENTATION STRUCTURE

A. Description of the executing agency and program partners

- 5.1 **Executing agency.** As in the case of any regional program, this one will be executed at two levels: centrally and in each of the beneficiary countries.
- 5.2 The program requires the establishment of a program coordination unit (PCU) at the central level, to be managed by the Everis Foundation. The Everis Foundation, the most suitable LAC-chain Global Alliance member for this purpose, undertakes to ensure an inclusion focus in the management of the community and the applications to be deployed; neutrality with regard to the business and technological strategies of the other members of the global alliance; and consensus-building and alignment of their activities with the digital modernization strategies of the countries. A member of the NTT Data group, the Everis Foundation is a nonprofit organization with 18 years of work experience in Latin America in programs promoting technological innovation and social-impact entrepreneurial development. The Everis Foundation is independent from the business units of the NTT Data group and leverages the group's capabilities to carry out projects and support technology startups with social impact. The main responsibilities of the PCU will be to supervise the program's implementation in coordination with the local executing agencies described in paragraph 5.3 below, as well as facilitate the coordination of support by the NTT Data group and the other members of the LAC-chain Global Alliance, the focus on deployment of applications with inclusion impact, the sharing of lessons learned from the experience in the various countries, consensus building for the formulation of standards, and the interoperability of the technological platforms established under the program.
- 5.3 To carry out program activities through individual projects in beneficiary countries, the Bank will select local entities that meet strict requirements in terms of technical capacity, specialization, experience, leadership, and neutral position with regard to the entities in each country ecosystem. Examples of possible executing agencies that satisfy these requirements and have shown interest and commitment during the preparation of this program include the Argentine Internet and Online Services Association (CABASE), the Chilean Association of Information Technology Companies (ACTI), Universidad Nacional de Colombia (UNAL), and the Digital Talent Laboratory in Costa Rica. The agreements with these or other entities in the countries (selected on the basis of the country eligibility processes described in paragraphs 2.8 and 2.9) will be formalized during program execution in accordance

¹³ Report on COFABS, Ad-Hocs, and CLFGs and a Proposal to Unify them as Project-specific Grants (document SC-114 of 21 April 2010).

¹⁴ For project-specific grant contributions made in currencies other than the U.S. dollar, the final amount of each contribution will depend on the exchange rate prevailing on the date the Bank receives and converts the funds into U.S. dollars. If adverse fluctuation in the exchange rate reduces the anticipated amount in U.S. dollars and that amount cannot be covered by contingency funding, the activities planned with the contribution will decrease proportionally.

- with the Bank's relevant procedures and with authority delegated by the Donors to the IDB Lab Manager for a budget of up to US\$350,000 per country. The selected executing agencies will be responsible for carrying out activities under specific projects for the establishment of consortia and networks in each country. Individual action plans will be developed for this purpose and executed in strategic partnership with the LAC-chain Global Alliance members.
- 5.4 **Approval of individual projects.** For these country-specific individual projects, the relevant executing agencies will sign contractual agreements with the Bank based on the parameters set out in this document and subject to approval by the IDB Lab Manager (under the delegation of authority described in paragraph 5.3). IDB Lab will prepare the approval memorandum, the logical framework, the budget, and the evaluation plan for each project that is to be presented to the IDB Lab Manager for approval.
- 5.5 It is preferable to have an execution mechanism for project approvals under the umbrella of a broader program rather than have the projects approved separately. Consolidation of all projects under a single mechanism will make it easier to share the lessons learned during execution and attract other public and private assistance to expand the program when it comes to an end. The IDB Lab Manager will be responsible for the approval of each project following approval of the Donors' delegation of authority.
- 5.6 **Delegation of project approval authority to the IDB Lab Manager.** Since a successful implementation of the program will require an expeditious process of selection of executing agencies for each specific project, we propose that the IDB Lab Manager adopt an approval mechanism for individual projects under the program. In the first place, such a mechanism has already successfully been used for approval procedures in other occasions, such as in the case of Green Finance for MSMEs and Low-Income Households: The EcoMicro Program (operation RG-M1205). Since the amounts financed by IDB Lab under each project are small and implementation consists of the provision of consulting services, the approval of individual projects by the IDB Lab Manager is an appropriate execution mechanism to ensure flexible and timely execution.
- 5.7 **Main partners.** As a global alliance, the main strength of this initiative is in the coordinated and synergistic combination of the partners' value contributions. The LAC-chain Global Alliance is open to institutions and companies that wish to contribute their experience and resources in various areas of work. Its main members at present have committed to actively participate in the development of the regional ecosystem. This includes support for strengthening the community of knowledge, the development of technology infrastructure, the establishment of an enabling market, and the analysis and use of the data generated and shared across the networks. Their main specific contributions to the program are described below:
- 5.8 **Alastria.** Alastria is a Spanish nonprofit consortium that has become a leader in the European Union in the development of consortium-based network standards and digital identity standards. In the context of this program, it contributes experience and knowledge resources, technological infrastructure, training, and a legal framework. Alastria is an inspiring example in its objective of establishing a broad public, decentralized, and shared blockchain network on which all private companies and public institutions can develop real, productive, and legally valid applications in

distributed and collaborative fashion. Alastria is formulating a digital identity standard in compliance with GDPR and eIDAS on the network's own platform to reliably identify the individuals and institutions that participate or use the applications deployed in the network, and to do so with the required degree of formality. This is essential in order to ensure the legal validity of transactional applications and property records, and needs to be done in accordance with the standards established by the relevant regulatory agencies.

- 5.9 **Everis and NTT Data.** Private, Japanese-owned corporate group specialized in new technology development and recognized worldwide as a leader in blockchain. Everis and NTT Data are strategic, financial, and technological partners and will promote the LAC-chain Global Alliance through their broad presence and network of offices in Latin America and the Caribbean. In addition, they will contribute capacity and resources for infrastructure, generation of use cases, and convergence and integration with other emerging technologies.
- 5.10 **Everis Foundation.** The Everis Foundation, member of the NTT Data group, is a nonprofit organization established in 2001 and specializing in programs to promote technological innovation and social-impact entrepreneurial development. In addition to managing the PCU for this regional program, the Everis Foundation will contribute its capabilities for managing challenges, conducting mentorships, and developing awards for startups in inclusion-impact applications of blockchain technology.
- 5.11 **ConsenSys.** ConsenSys is a global company builder focusing on the development of blockchain use cases. It will contribute its capacity and resources for technological infrastructure and for organizing workshops, hackathons, challenges, and awareness-raising workshops for participants. Due to its privileged position in blockchain-based startups in the region, it brings valuable expertise on startup mentorship and acceleration, whether with proprietary capital (through ConsenSys Investment and ConsenSys Ventures) or third-party capital, as well as its experience as the company selected to manage the data analytics component of the European Union Blockchain Observatory and Forum platform.
- 5.12 **Argentine Secretariat for Administrative Modernization.** This government agency has positioned itself as a leader in technological modernization processes in the region. Beyond its role in the context of the program in Argentina, the Secretariat for Modernization, through this program, makes its experience and documentation in digital government technology developments available to the rest of the region's countries for use in the public interest.
- 5.13 **RSK.** RSK is an Argentine developer of bridges between public platforms to take advantage of the functionalities of enabling smart contracts. It has partnered with the Bank in the Barrio 31 pilot project in Argentina, which exemplifies the use of blockchain technology to provide access to services to disadvantaged populations. Through its experience and Latin American network, RSK contributes knowledge and strategy, technological advisory capability, a privileged link to the startup communities, and use-case deal flow.
- 5.14 **Adhara and ioBuilders.** Adhara and ioBuilders are developers of blockchain-based applications with inclusion impact potential, such as notarization of property titles, transfer of fiat money, and facilitation of open-source network infrastructure. The two companies collaboratively help to ensure that this program's technological proposal

remains at the cutting edge of technological development and to identify additional technological partners operating at the highest technical level.

- 5.15 **MIT Media Lab.** MIT Media Lab is a leading academic institution in innovation and technology. Through its Human Dynamics Group and Digital Currency Initiative, it contributes to the knowledge and technology component as a leader in research and development of open-source standards and technologies. In this program, MIT Media Lab will ensure that decision-making regarding the development of standards is technically appropriate and ensures technological neutrality for proper market development.
- 5.16 **Universidad Pontificia de Comillas (ICAI-ICADE).** ICAI-ICADE is a Spanish academic institution and a leader in research and development of academic curricula and content on blockchain applications. It is affiliated with the Association of Latin American Jesuit Universities (AUSJAL), which will also collaborate in the program.
- 5.17 **Enterprise Ethereum Alliance (EEA) and Ethereum Foundation.** EEA is the first global standards organization in the industry to offer open, standards-based architecture and specifications to accelerate the adoption of technology for corporate use. EEA's network of business clients and its testing and certification protocols will ensure interoperability. Its contribution to the program will be essential in terms of standardization and interoperability. The Ethereum Foundation is a nonprofit organization. Its mission is to promote and support blockchain platform research, development, and education to bring decentralized protocols and tools to the world that empower developers to produce decentralized next-generation applications. In the context of the program, these entities will contribute knowledge and technological infrastructure as well as assist in fostering the interoperability of the platforms with a view to achieving universal access.
- 5.18 **Hyperledger and The Linux Foundation.** Hyperledger is a membership-based association created for purposes of open-source collaboration to advance blockchain technologies. It is a global collaboration, hosted by The Linux Foundation, including leaders in finance, banking, Internet of Things, supply chains, manufacturing, and technology. Blockchain Hyperledger is a strategic member of the Global Alliance; its technological framework and interoperability initiatives (Hyperledger Quilt (Interledger Protocol) and Hyperledger projects using the Ethereum Virtual Machine) are of great interest for market development from the standpoint of this program's technological agnosticism.
- 5.19 **Blockchain Research Institute (BRI).** BRI is a global think-tank that brings together the world's most renowned specialists in blockchain technology research. Under the LAC-chain Global Alliance, BRI will contribute the capabilities of its network of excellence centers and assist in developing interoperable technological standards.
- 5.20 Other entities in the process of joining include Accenture, IBM, Microsoft, Aid TEch, and Tradle, as well as highly prestigious entities that actively promote this technology, such as the World Economic Forum (WEF). The Global Alliance is and will remain open in the future to those interested in joining to advance the inclusion-impact application of the technology in the region.

B. Structure and implementation mechanism

- 5.21 A coordination committee, comprised of representatives from each of the entities participating in the LAC-chain Global Alliance and other contributors to the program, will be created to ensure proper program governance. This committee, chaired by IDB Lab, will be responsible for decision-making on issues related to program strategic planning, execution, specific technical considerations, formulation of standards, and general coordination with the alliance. The coordination committee may propose adding new entities to the alliance that can make technical or financial contributions to further the program's objectives. On an annual basis, the committee will receive recommendations from a high-level advisory board staffed by Noemí Sanín, President of Everis Foundation; Joseph Lubin, CEO and founder of ConsenSys; Don Tapscott, founder and Executive Chairman of BRI; Ron Resnick, Executive Director of EEA; Brian Behlendorf, Executive Director of Hyperledger; and Irene Arias, Manager of IDB Lab. This board will recommend strategic guidelines to the program coordinators in line with market trends and the evolution of blockchain technology.
- 5.22 The PCU will be responsible for daily coordination of program activities. For program supervision, the IDB Lab team at Headquarters will work together with the specialists in the countries, who will play a crucial decision-making role, to maximize the use of both the knowledge of the relevant country's ecosystem and the knowledge generated in the regional community of practice. The IDB Lab specialists in the countries will perform a central role not only for their specific countries but also as members of the coordination committee.
- 5.23 A coordination committee comprised of the IDB Lab project team leader, IDB Lab specialists in the countries, an appointed IFD/ICS representative, and our business partners in ITE, KIC, and the participating Bank and IDB Invest departments will be created to ensure coordination of actions within the IDB Group. The committee will be tasked with coordinating strategic decisions relating to the program's implementation and will evaluate the operational progress and the action plan for the subsequent six-month period, making any adjustments considered necessary for the fulfillment of the goals set out in the plan. The coordination committee will be responsible for coordinating with the IDB Lab and IDB Group specialists in the country offices to ensure good strategic planning and continuous monitoring of country programs.

VI. FULFILLMENT OF MILESTONES AND SPECIAL FIDUCIARY ARRANGEMENTS

- 6.1 **Results-based disbursements and fiduciary arrangements.** The program will be executed in accordance with the Bank's disbursement and procurement policies in effect.

VII. ACCESS TO INFORMATION AND INTELLECTUAL PROPERTY

- 7.1 **Access to information.** The information contained in this document is classified as public under the Bank's Access to Information Policy (document GN-1831-33).
- 7.2 **Intellectual property.** Intellectual property considerations will be governed by Bank policies. This program promotes the development of open-source, public-interest,

and universal-use technology platforms and standards. Accordingly, there is no need for specific arrangements regarding intellectual property.