

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

URUGUAY

**URUGUAY GLOBAL: PROMOTING DIGITAL SKILLS FOR
INTERNATIONALIZATION**

(UR-L1150)

LOAN PROPOSAL

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8. Profile of Uruguay's Knowledge-Intensive Goods and Services Sector

ABBREVIATIONS

ANII	Agencia Nacional de Investigación e Innovación [National Agency for Research and Innovation]
CEIBAL	Centro CEIBAL para el Apoyo a la Educación de la Niñez y la Adolescencia [CEIBAL Center for Educational Support for Children and Teens]
CUTI	Cámara Uruguaya de Tecnologías de la Información [Uruguayan Chamber of Information Technologies]
EAI	Encuesta de Actividad de Innovación [Innovation Activity Survey]
ICT	Information and communication technologies
INE	Instituto Nacional de Estadística [National Statistics Institute]
IPES	Instituciones Públicas de Educación Superior [Public Higher Education Institutions]
LBR	Loan based on results
OECD	Organization for Economic Cooperation and Development
SNBP	Sistema Nacional de Becas de Posgrado [National Postgraduate Grants System]
UTEC	Universidad Tecnológica del Uruguay

PROJECT SUMMARY

URUGUAY

URUGUAY GLOBAL: PROMOTING DIGITAL SKILLS FOR INTERNATIONALIZATION (UR-L1150)

Financial Terms and Conditions				
Borrower: Eastern Republic of Uruguay			Flexible Financing Facility ^(a)	
			Amortization period:	25 years
Executing agency: Centro CEIBAL para el Apoyo a la Educación de la Niñez y la Adolescencia [CEIBAL Center for Educational Support for Children and Teens] (CEIBAL)			Disbursement period:	5 years
			Grace period:	5.5 years ^(b)
Source	Amount (US\$)	%	Interest rate:	LIBOR-based
IDB (OC):	8,000,000	67	Credit fee:	(c)
Local:	4,000,000	33	Inspection and supervision fee:	(c)
Total:	12,000,000	100	Weighted average life:	15.25 years
			Approval currency:	U.S. dollars from the Bank's Ordinary Capital
Project at a Glance				
Project objective/description: The general objective is to promote Uruguay's integration into global markets by increasing investments and exports in the knowledge-intensive goods and services sector. The specific objectives are to: (i) increase the supply of human capital with advanced digital skills; and (ii) create new business ventures with export potential in the knowledge-intensive goods and services sector.				
Special contractual conditions precedent to the first disbursement of the loan proceeds: The following will be special contractual conditions precedent to the first disbursement: (i) signature and entry into force of an agreement on execution and the transfer of resources between the borrower and CEIBAL, as well as a subexecution agreement between CEIBAL and the National Agency for Research and Innovation (ANII), in accordance with terms previously agreed upon with the Bank; (ii) presentation of evidence of the entry into force of the project Operating Regulations, under terms previously agreed upon with the Bank; and (iii) engagement of the consulting firm responsible for external verification of results (paragraph 3.9)				
Exceptions to Bank policies: None.				
Strategic Alignment				
Challenges ^(d) :	SI	<input type="checkbox"/>	PI	<input checked="" type="checkbox"/>
Crosscutting themes ^(e) :	GD	<input type="checkbox"/>	CC	<input type="checkbox"/>
			IC	<input type="checkbox"/>

^(a) Under the terms of the Flexible Financing Facility (document FN-655-1), the Borrower may request modifications in the amortization schedule, as well as the currency and interest terms of the loan. In considering such requests, the Bank will take operational and risk management elements into account.

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

I. DESCRIPTION AND RESULTS MONITORING

A. Background, problem addressed, and rationale

- 1.1 **Background.** Uruguay's economy has experienced 15 years of uninterrupted growth at an average annual rate of 4.3%, based on rapid expansion in investment, exports, and technological progress. For this growth to be sustainable, Uruguay faces the challenge of closing the productivity gap that separates it from the advanced nations.¹
- 1.2 **Knowledge-intensive goods and services.** A number of studies show that the knowledge-intensive goods and services sector—defined as having strong information and communications technology (ICT) components in their design and production processes, which include high-tech manufactured goods, financial services, and communications²—have high levels of productivity.³ In fact, they account for around 35% of the productivity gap between Uruguay and countries belonging to the Organization for Economic Cooperation and Development (OECD).⁴
- 1.3 Structural conditions in Uruguay are favorable for strengthening the development of the knowledge-intensive sectors, including their productivity, by expanding the ICT sector. The country is a regional leader in policies to support access to ICT and connectivity,⁵ and it has developed successful digital inclusion initiatives such as Plan Ceibal and Plan Ibirapitá.⁶ As a result, it is the only Latin American country in the D7, a group of the seven most advanced countries in the world in terms of digital policy.⁷
- 1.4 Integration into world markets, particularly through exports, represents a growth opportunity for the knowledge-intensive sector. Today, the sector accounts for only 12% of Uruguay's total exports and 3% of its GDP.⁸ These figures have remained relatively constant over the last five years.⁹ In the ICT sector in particular, growth is faster in the external market than domestically: while total sector sales in the country grew by 3% in 2016, exports grew by 10%. This

¹ Relative to the United States, total factor productivity in 2013 (growth that was not the result of factor accumulation) was 30% lower than in 1960. IDB (2016). [Competitividad e Innovación: Implicancias para Uruguay](#).

² According to the [OECD](#), they include activities that make intensive use of cutting-edge technologies and/or have highly educated workforces that benefit from technological innovations. OECD (1999).

³ http://eprints.mdx.ac.uk/1528/1/Vecchi_2009_R%26D_knowledge_spillovers.pdf.

⁴ IDB (2016), for an expanded profile of the sector, see [optional link 8](#).

⁵ Economic Commission for Latin America and the Caribbean (2016), [Estado de Banda Ancha de América Latina y el Caribe](#).

⁶ [Plan Ceibal](#) was created in 2007 as an inclusion and equal opportunities plan aimed at using technology to support Uruguay's education policies. [Plan Ibirapitá](#) is a program that supports digital inclusion for low-income seniors.

⁷ [The D7](#) comprises Canada, Estonia, Israel, Korea, New Zealand, the United Kingdom, and Uruguay. Its selection criteria include: the design of digital public services, interoperability of government technologies, transparency of public information, internet connectivity, and computer programming classes for children.

⁸ The relative lack of knowledge-intensive sectors accounts for around 35% of the gap in research and development investment between Uruguay and the average OECD country. IDB (2016).

⁹ [Optional link 8](#).

suggests that there is an opportunity to continue expanding this market, as 75% of ICT companies participate in export markets.¹⁰

- 1.5 **The problem.** To support the integration of Uruguay's knowledge-intensive goods and services sector into international markets, two problems must be resolved: (i) insufficient human capital with the advanced digital skills demanded by the sector; and (ii) a fragmented ecosystem with little entrepreneurial activity.
- 1.6 **Human capital deficiencies.** Human capital is critical to the continued expansion of the knowledge-intensive sector's contribution to Uruguay's economy. The country faces two problems in this area, however. Firstly, there is limited opportunity for the stock of human capital to continue to grow, due to conditions such as weak demographic expansion, natural scale constraints, and graduation rates that have remained flat over the last decade. The quality of human capital—in terms of its alignment with private sector needs—is also problematic.¹¹
- 1.7 Secondly, the limited supply of qualified human capital with digital skills means that it is difficult for the country to scale up operations, make inroads into international markets, and attract greater investment to the knowledge-intensive sector.¹² Almost 25% of ICT companies indicate that the scarcity of skilled staff represents an obstacle to pursuing innovation,¹³ and the lack of talent has become the main factor driving the demand for foreign human capital.¹⁴ The main determinants of the deficiencies in human capital are: a lack of trained lecturers¹⁵ and suitable programs;¹⁶ weak collaboration between universities and companies; and the lack of psychosocial incentives for studying science, technology, engineering, and mathematics ([required link 3](#)). For example, the 2018 Global Innovation Index ranks Uruguay 77th out of 126 countries in terms of the level of collaboration between universities and companies, below countries such as Brazil (67th), Chile (55th), Colombia (51st), Costa Rica (48th), New Zealand (16th), Singapore (8th), and Korea (26th).¹⁷
- 1.8 The country also faces important challenges in terms of the availability of engineers and technology courses, with a graduation rate of around 22 per 100,000 inhabitants (nearly four times lower than in Chile).¹⁸ A total of 631 students graduated from engineering schools in 2016, representing 7.6% of

¹⁰ Central Bank of Uruguay (2017).

¹¹ https://publications.iadb.org/bitstream/handle/11319/6939/Crecimiento_economico_brechas_desarrollo_Uruguay.PDF?sequence=1.

¹² The lack of human capital currently explains 25% of the gap in labor productivity between Uruguay and the United States (OECD, 2014).

¹³ Data based on the 2015 Innovation Activities Survey conducted by INE and the ANII.

¹⁴ Encuesta a empresarios TIC en Uruguay (Uruguayan Chamber of Information Technologies (CUTI), 2016); Encuesta de talento para la industria TIC en Uruguay (Uruguay XXI and CUTI, 2016). 56% of foreign investors are dissatisfied with the supply of skilled labor, and 23% of ICT companies claim that this is a medium or major obstacle to innovation. From 2012 to 2016, only 1% of foreign direct investment was channelled into the ICT sector.

¹⁵ According to the 2015 National Teacher Survey, 59% of technical studies lecturers in Uruguay have a negative perception of their training in the skills necessary to teach using ICT.

¹⁶ According to the Teaching Unit at Universidad de la República's Engineering School, only 6% of engineering students demonstrate sufficient knowledge for these courses upon admission.

¹⁷ Cornell University, INSEAD, and the World Intellectual Property Organization (2018).

¹⁸ United Nations Organization for Education, Science, and Culture (UNESCO) (2011-2017) and calculations based on OECD.Stat data.

all graduates in the country. This is lower than in countries such as Brazil (9.5%), Colombia (16.7%), Chile (15.7%), and Panama (8.5%), and it is almost half the level in OECD countries (13.5%).

- 1.9 Consistent with the foregoing, Uruguay occupies one of the lowest positions in the [Global Talent Competitiveness Index](#) for aspects such as the relationship between its education system and the labor market (99/118), the availability of scientists and engineers (97/118), and the quality of managers (82/118).¹⁹
- 1.10 **Gender inequality.** Men occupy 80% of positions in the ICT industry,²⁰ a figure that mirrors the gender breakdown of students in engineering courses.²¹ The scarcity of qualified human capital in the ICT industry may thus be linked, at least in part, to a problem of self-selection bias by which women voluntarily reject technology careers due to subjective perceptions associated with long-standing gender stereotypes.²²
- 1.11 **Fragmented ecosystem and weak entrepreneurial activity in the knowledge-intensive goods and services sector.** The second problem hindering the integration of Uruguay's knowledge-intensive sector into international markets is the fragmentation of its ecosystem, as manifested in two related issues. Firstly, levels of collaboration between academia and the business sector are low. According to a survey conducted by the National Agency for Research and Innovation (ANII),²³ only 7% of Uruguayan companies with innovation potential believe that linkages with universities are important for innovation. In developed countries, the figure is 25%.²⁴
- 1.12 Moreover, only 4.2% of researchers in Uruguay are employed by companies. If this proportion is to be increased, the formation of advanced human capital will need to be improved for research and development purposes, and the supply of skills will need to be tailored to the demands of the productive sector. This mismatch shows vacancies in information sciences, agricultural science, and engineering.²⁵
- 1.13 Another major obstacle to consolidation of the knowledge-intensive ecosystem is the lack of financing.²⁶ This is partly the result of problems of information asymmetry, externalities, and lack of scale. According to enterprise surveys, the greatest obstacles to innovation are access to financing and human capital

¹⁹ <https://gtcistudy.com/>.

²⁰ International Labor Organization (2014), "Prospectiva de empleo y formación profesional en el Sector del Software y Servicios Informáticos (SSI) en Uruguay," Inter-American Centre for Knowledge Development in Vocational Training.

²¹ In 2016, 24% of graduates from these courses were women (Ministry of Education and Culture, Statistical Yearbook). According to "Brechas de género en ciencia, tecnología e innovación en ALC," (IDB, 2018), the proportion of female researchers and women in Uruguay's national science academies is 20%—well below the level in developed countries such as the United States (47%), Sweden (47%), and the Netherlands (43%). From 2007 to 2016, the proportion of patents in Uruguay with at least one female inventor was 18%, below the average for Latin America and the Caribbean (28%).

²² Guiso, Monte, Sapienza, Zingales (2008): Culture, Gender and Math, Science (2008).

²³ The [ANII](#) is a government entity that promotes research and the application of new knowledge to the country's productive and social context.

²⁴ ANII (2012); OECD (2012).

²⁵ IDOM (2015), Asistencia Técnica para el Fortalecimiento del Sistema de Innovación, Ciencia y Tecnología en Uruguay.

²⁶ IDB, 2016.

(these are reported to be a significant obstacle by 35% and 24% of companies, respectively).²⁷

- 1.14 **The opportunity.** Uruguay has asked the Bank to support a strategy of partnerships with education centers that are at the forefront of knowledge in advanced ICT disciplines and that are in a position to educate local students and attract international students to the country.²⁸ This strategy seeks to strengthen the pool of human capital with advanced digital skills in the knowledge-intensive sector and the training of local lecturers, as well as the capture by the digital ecosystem of externalities generated by the program, with a view to promoting the internationalization of companies belonging to that ecosystem.²⁹ This is an innovative strategy owing to: (i) the training modality, which combines online classes with mechanisms for real-time interaction with professors and between the students themselves through virtual classrooms; (ii) the fact that it is the first time that the Massachusetts Institute of Technology (MIT) and Harvard University will offer certificates in these disciplines in Latin America through hybrid teaching techniques; and (iii) the use of specific incentives and instruments for attracting international students and promoting entrepreneurship and innovation in the country. The scalability of the program will be promoted through openness to participation by more universities from other regions of the world, and its sustainability will be supported by the collection of tuition fees, for which there is considerable willingness to pay, based on the design surveys ([optional link 6](#)).
- 1.15 **Externalities and economic spillovers.** The literature shows that teaching and research and development activities at universities have positive effects on a country's economic development, particularly where export activities are concerned.³⁰ In the case of universities that are successful in attracting international students, there are significant spillovers in terms of strengthening a country's pool of qualified human capital, employment in high-value-added positions, business creation, innovation, and productive diversification.³¹
- 1.16 Attracting international students not only generates direct benefits for host countries but also creates indirect spillovers, such as the strengthening of trade links between the host country and the student's country of origin, improvements throughout the rest of the local education system,³² and positive impacts on local tourism.³³

²⁷ ANII (2012).

²⁸ According to QS World University Ranking, only one of Latin America's universities ranks among the top 100 in the world (Universidad de Buenos Aires, in 73rd position).

²⁹ Internationalization is understood as the increasing involvement of companies in international markets, as well as foreign investment in these companies.

³⁰ See https://ac.els-cdn.com/S0048733314001838/1-s2.0-S0048733314001838-main.pdf?_tid=d737e18b-8e78-40fd-8dc3-28b2968527c6&acdnat=1536778989_1224370b93984559845d82b9a3d467b8 and <https://link.springer.com/content/pdf/10.1007%2Fs11187-009-9233-3.pdf>.

³¹ [Optional link 5](#) and [a study by the Association of International Educators of the impact on the United States](#).

³² [Optional link 5](#).

³³ According to surveys, more than 60% of international students in New Zealand traveled two times or more during their stay. Family members visiting students also generate tourism earnings. In France, this benefit is estimated at more than €1.7 billion per year, contributing to the creation of more than 10,000 jobs in the tourism sector in 2011.

- 1.17 The drawing power of international universities depends on the quality of the programs offered, the regulatory and institutional framework of the host country, and the potential market of students that the destination is able to attract.³⁴
- 1.18 Uruguay's positive characteristics—its digital policies, its good business climate,³⁵ and its favorable framework for attracting foreign direct investment—are justification for an intervention to attract leading international universities and international students to the country with the objective of fostering the internationalization of knowledge-intensive sectors.
- 1.19 **Design of the pilot academic project.** The project team has designed a pilot process to attract leading international universities³⁶ and international students to the country. The preferences of students and companies were surveyed based on a sample of approximately 900 individuals³⁷ from 28 countries, drawn randomly from among almost 37,000 ConnectAmericas users.³⁸ The characteristics most valued by students include: (i) lecturers that are industry experts or successful entrepreneurs; (ii) the opportunity to interact with leading entrepreneurs who provide mentoring and assist with challenges in the practical design of goods or services; (iii) programs based in facilities where academic programs exist alongside companies working in the sector; and (iv) academic instruction offered by a globally renowned university in the field. As for companies, the following are the most valued characteristics in an academic program to strengthen the knowledge-intensive sectors (as indicated by business people answering the survey and two rounds of consultations with local companies belonging to the Uruguayan Chamber of Information Technologies): (i) technical skills; (ii) soft skills, such as communication, leadership, and teamwork; (iii) ability to develop products or solutions; and (iv) ability to develop commercial uses for technological solutions ([optional link 4](#)).
- 1.20 **Recruitment of foreign universities.** Based on the preferences expressed in the surveys, the recommendations of international experts,³⁹ and the theoretical underpinnings discussed above, the project team designed a strategy for approaching foreign universities that are at the forefront of knowledge—those that due to their teaching methods, the quality of their professors, and their international prestige are capable of offering academic programs with the potential to change the form and substance of the knowledge-intensive system in

³⁴ <https://www.timeshighereducation.com/student/news/why-do-students-go-university-and-how-do-they-choose-which-one>.

³⁵ [Índice de Desarrollo Democrático de América Latina 2017](#) and Survey of Foreign Investors (Uruguay XXI, 2016).

³⁶ [Quacquarelli Symonds](#) university rankings.

³⁷ The profiles of those surveyed are as follows: computer science and engineering students; young professionals that graduated within the last five years; entrepreneurs; and managers of SBIC companies.

³⁸ ConnectAmericas is the largest digital platform for the internationalization of small and medium-sized enterprises in Latin America and the Caribbean. It was created by the Bank's Integration and Trade Sector with the support of Google, Facebook, DHL, Maersk, MasterCard, and Alibaba.com.

³⁹ The team of consultants was led by Akiba Covitz, the former Associate Dean of Harvard Law School and founding director of EdX, the online education platform founded by Harvard and MIT that the Bank uses for its training. [Optional link 4](#) and [optional link 7](#).

Uruguay⁴⁰—based on agile methodologies for review, iteration, and improvement of the model.⁴¹

- 1.21 Based on these requirements and the results of the surveys, the project team selected 30 universities to be contacted, based on criteria such as their focus on knowledge-intensive goods and services sectors, the presence of Latin American students and lecturers, and collaboration with business sectors.⁴² This was a first survey of potential academic partners for the program; the program is open to incorporating more universities from other regions of the world in the future. Following an initial dialogue with several of these, two expressed an interest, quickly identifying academic programs with the potential for collaboration: MIT and Harvard. MIT offered to design online courses (based on its experience in offering MicroMasters programs), as well as training in technological entrepreneurship and product design and development. Harvard, in turn, offered to work on the soft skills required by companies and on a research program on the impact of disruptive technologies.
- 1.22 **Agreements with MIT and Harvard.** Based on the offers of collaboration from MIT and Harvard and the willingness of local and international students to pay, which contributes to the sustainability of the program,⁴³ and taking into account that this is a pilot program that will be expanded to more universities in future, the project team and the Uruguayan government reached agreements in principle with MIT and Harvard for the initial academic round under Uruguay Global. The leadership of both universities has confirmed their willingness to formally participate in the program by signing partnership agreements with the Uruguayan government within the framework of Uruguay Global.⁴⁴
- 1.23 **Lessons learned from comparable experiences.**⁴⁵ Past examples and comparative studies indicate that small countries such as Singapore and the United Arab Emirates have been successful in attracting world-class international universities based on their record of welcoming foreign investment, their ability to attract students from neighboring countries with large markets, and the collaborative relationship between their universities and the private sector.⁴⁶
- 1.24 Three lessons of note have been learned from these experiences. Firstly, the externalities that they generate are not automatic; instead, they require specific interventions to safeguard the sustainability of investments in physical infrastructure and to ensure that the local entrepreneurial ecosystem is able to appropriate the knowledge and human capital. In this regard, new technologies applied to teaching generate lower-cost solutions that are more flexible and

⁴⁰ [Optional link 5.](#)

⁴¹ This strategy responds to the reality of innovative projects, in which analysis, prototyping, iteration, and continuous improvement represent the *modus operandi* for academia and the business sector. See J. Ito & Jeff Howe (2016): *Whiplash*; and Rigby, Sutherland, and Noble, *Agile at Scale* (2018), Harvard Business Review No. 3.

⁴² See the list on page 45 of [optional link 4.](#)

⁴³ [Optional link 6.](#)

⁴⁴ [Optional link 7.](#)

⁴⁵ For additional comparative experiences and the associated lessons learned from more than five university programs introduced in regions or countries other than their country of origin, see [optional link 5.](#)

⁴⁶ <http://www.nber.org/chapters/c11596.pdf> and [https://eric.ed.gov/?id=EJ790335.](https://eric.ed.gov/?id=EJ790335)

adaptable to the local context.⁴⁷ Secondly, it is important that the program have a strong brand with international projection that strengthens international consistency between standards and the qualifications awarded.⁴⁸ In terms of the ecosystem's role, the case of [Startup Chile](#) is worth noting: 34% of the foreign entrepreneurs who received support under the program pursued their business ventures in the country upon completion.

- 1.25 **Local actors.** There are two local actors with the ability to appropriate the knowledge generated by the program and ensure the appropriation of externalities for the country: CEIBAL and the ANII. CEIBAL, which executes Plan Ceibal, was created in 2007 as an inclusion and equal opportunities plan aimed at using technology to support Uruguay's education policies. It also provides an array of programs, educational resources, and teacher training that transforms teaching and learning methods. As a result of this experience, which was supported by the Bank ([4290/OC-UR](#)) and is internationally recognized due to its development effectiveness, CEIBAL is ideally positioned as a partner for executing the didactic components of the program, above all due to the strong technological component of the academic program.
- 1.26 The ANII also needs to be included within the framework of Component 2, due to its mandate of strengthening the business ecosystem and promoting linkages between the government, academia, and businesses in order to improve coordination failures in the knowledge-intensive ecosystem. Since these activities are accessory to those of developing digital skills for internationalization, the ANII will serve as the subexecuting agency for the program.
- 1.27 **Bank experience and lessons learned.** The Bank has learned the following lessons from its experience with operations to support the international insertion of knowledge-based services (e.g. programs [2590/OC-UR](#) and [3112/OC-TT](#)): (i) programs should be demand-oriented, so that the private sector is responsible for identifying the types of skills required and meeting the needs of their human resources or potential employees; (ii) there is a need for public-private cofinancing and collaborative arrangements for building capacities (government, business, academia); and (iii) programs should be based on results-based management mechanisms (reimbursement when benchmarks and targets are met). The Bank has also worked previously with CEIBAL under operations [3225/OC-UR](#), [3398/OC-UR](#), [4290/OC-UR](#), and [ATN/KP-15744-UR](#).
- 1.28 Lessons learned under the Program to Support Future Entrepreneurs ([2775/OC-UR](#)) have enriched the project's strategy of providing crosscutting support for the knowledge-intensive sector by improving ICT capacities such as artificial intelligence and data science. The program also drew on lessons learned from the series of policy-based loans under the Program for Strategic International Positioning ([2920/OC-UR](#), [2922/OC-UR](#), [3365/OC-UR](#), and [3418/OC-UR](#)), which supports the international positioning strategy of this program.
- 1.29 **Coordination with Bank programs.** The program will coordinate with the Program to Support Global Export Services ([2590/OC-UR](#)) executed by [Uruguay](#)

⁴⁷ Initial investment under a program such as that of Cornell Tech in New York was in excess of US\$400 million, while that of Carnegie Mellon in Qatar was more than US\$60 million per year.

⁴⁸ [Optional link 7.](#)

[XXI](#) in areas to include: (i) promoting global export services (of which knowledge-intensive goods and services are a subtype); (ii) attracting foreign investment into the knowledge-intensive sector; and (iii) facilitating residency and visas for foreign students. The Business Innovation and Entrepreneurship Project ([4329/OC-UR](#)) executed by the ANII offers financing instruments for local companies.

- 1.30 **Program rationale and strategy.** The program strategy involves fostering partnerships between Uruguay's Public Higher Education Institutions (IPES) and leading international centers of education in the area of advanced ICT disciplines that are in a position to educate local students and attract international students to the country. It also seeks to strengthen the supply of human capital with advanced digital skills in both the knowledge-intensive sector and academia in Uruguay, as well as the digital ecosystem for internationalization of its companies. The program takes a pilot approach, with limited funding of US\$12 million and a five-year duration, with a view to strengthening sustainability of the program and expanding its scope of intervention in the future.
- 1.31 **Theory of change and strategy for intervention.** This involves analyzing and connecting the factors that influence attainment of the expected changes from the policy. A results-based financing model is used, in which the expected changes are achieved using financial and technical support. The conceptual foundation for the interventions aims to respond effectively to the main obstacles hindering international insertion of the knowledge-intensive sector: (i) limited supply and quality of human capital trained in digital skills; and (ii) the relative scarcity of knowledge-intensive entrepreneurial activity due to fragmentation of the ecosystem. With respect to the supply of human capital, barriers are associated with coordination problems between universities and companies, as well as the lack of sufficient local labor capacities to meet companies' needs. In terms of weak knowledge-intensive entrepreneurial activity, obstacles are rooted primarily in problems of information asymmetries in the ecosystem, externalities, a lack of scale, and low pledgeability of assets. The main innovations under this operation are as follows: (i) development of a hybrid academic program oriented to the specific needs of the knowledge-intensive sector, in cooperation with universities that are at the forefront of global knowledge in artificial intelligence and data science; (ii) the training of local trainers to ensure that changes in methods for sharing digital skills-related knowledge are sustainable and can be scaled up, and to strengthen spillovers in the economy; and (iii) the launch of mechanisms to ensure that companies are able to capture the externalities generated by the program, including financial and nonfinancial instruments for addressing the aforementioned challenges in a holistic manner. Accordingly, foreign students will receive training in entrepreneurship (included in the academic program), as well as technical support through the instruments used by the ANII to promote entrepreneurship and employment among Uruguayan firms, various actions to connect graduates with the entrepreneurship and investment ecosystem (such as incubation services and programs to support innovation and qualified human resources at the level of the enterprise), and the set of business development instruments currently available to entrepreneurs through the ANII, which will leverage this intervention. In terms of strengthening digital skills, the following chain of results is expected: (i) students graduating; (ii) graduates engaging in knowledge-intensive activities in Uruguay; and (iii) local lecturers graduating. The main activities will be as follows: (i) agreements with academic

partners; (ii) development of the academic program; and (iii) training of local lecturers. With regard to coordination of the ecosystem and the development of knowledge-intensive business ventures, the main results will be as follows: (i) businesses created or innovations generated; and (ii) program graduates that set up knowledge-intensive companies, and the activities needed to achieve these results, such as attracting foreign companies using the “soft landing” instrument and connecting graduates with the innovation and entrepreneurship ecosystem.

- 1.32 **Strategic alignment.** The program is consistent with the Update to the Institutional Strategy 2010-2020 (document AB-3008), with the development objectives of economic integration and productivity and innovation. It is also aligned with the IDB’s country strategy with Uruguay 2016-2020 (document GN-2836), in the priority area of integrated and coordinated international positioning and the strategic objective of diversifying export markets (paragraph 3.17) and fostering entrepreneurial development. The program also promotes the following priority policy guidelines (paragraph 3.18): (i) to move forward on specializing and diversifying the productive and market structure; and (ii) to provide continuity to policies designed to attract investments, focusing on sectors with high value added. It is also aligned with the indicator in the Corporate Results Framework 2016-2019 (document GN-2727-6) relating to the formal employment of women, and it contributes to the following indicators: students benefited by education projects, teachers trained, the value of international trade promoted, corporate innovation activities supported, and the amount of foreign direct investment promoted. It also contributes to: (i) the Integration and Trade Sector Framework Document (document GN-2715-6), by promoting services exports through flexible, agile, and demand-driven instruments and cofinancing; and (ii) the second dimension of success in the Labor Sector Framework Document (document GN-2741-7), particularly in terms of improving curricular development for labor skills and the development of an incentive system for local workers and companies. In addition, the operation is included in the Update of Annex III of the 2018 Operational Program Report (document GN-2915-2).

B. Objectives, components, and cost

- 1.33 The general objective is to promote Uruguay’s integration into global markets by increasing investments and exports in the knowledge-intensive goods and services sector. The specific objectives are to: (i) increase the supply of human capital with advanced digital skills; and (ii) create new business ventures with export potential in the knowledge-intensive goods and services sector.
- 1.34 These results are intended to have a positive impact through an increase in: (i) exports and investment in the enterprises assisted in the knowledge-intensive sector; and (ii) the earnings of resident program graduates, inasmuch as the larger pool of human capital trained in digital skills—based on greater access to world-class training—will allow them to perform activities in the knowledge-intensive sector (working for existing companies or creating new business ventures) and in academia. They will also have access to an array of instruments supporting entrepreneurship, innovation, and investment for students and graduates of the program, aimed at facilitating the development of export-oriented business ventures; this will help to improve the competitiveness and internationalization of the sector ([required link 3](#)).

- 1.35 **Component 1. Digital human capital (US\$9,527,500).** This aims to strengthen the pool of human capital with advanced digital skills that are of general application in the knowledge-intensive sector and demanded by the business sector, such as artificial intelligence and data science. This will be achieved by implementing partnerships between local and foreign training centers. The following activities will be financed: (i) the development of academic programs—either services for the development of tailor-made programs or the reproduction of existing content—delivered by universities that are recognized as being at the forefront of knowledge in these fields; (ii) agreements with academic partners; (iii) expenditures related to the participation of international professors; (iv) training of local lecturers and key actors in the local government administration; (v) tuition exemptions with emphasis on lecturers and key actors in the local government administration, including gender preference criteria; (vi) promotion and dissemination strategy for recruiting students; (vii) platforms for active learning, student support (registrar's office), and technological support; and (viii) a student monitoring system and an alumni network.
- 1.36 **Pilot academic project.** Based on the background information that went into the design of the academic program and taking into account not only the theoretical aspects of its impact but also—fundamentally—the fact that Harvard and MIT have agreed to be part of the program's first iteration, the pilot teaching strategy under the program focuses on the elements below.
- 1.37 **Hybrid model.** The teaching method will be a combination of online and traditional classes, representing a hybrid model of learning. There will be online content that students may complete individually and at their own pace; synchronized online content (virtual classes) offered through a digital platform in which students can interact with lecturers and fellow students in real time; and traditional classes in Uruguay. This constitutes an innovative training model for the region. The academic term will last nine months, and courses will be taught in English.
- 1.38 **Areas of study.** Based on the agreements with MIT and Harvard, the first year is expected to include advanced courses in artificial intelligence and data sciences, such as, for example: (i) computational structures; (ii) software construction; (iii) the design and analysis of algorithms; (iv) computational probability and inference; (v) applied artificial intelligence; (vi) data science and macro data analysis; and (vii) system analysis. These courses will allow students to obtain a MicroMasters in Data Science, accredited by MIT. In-person practicum seminars are also planned in the development of prototypes and technological products, negotiation and leadership, regulation and ethics of the Internet and the digital economy, and a local edition of the Global Symposium on Artificial Intelligence and Inclusion in Uruguay.
- 1.39 **Admission criteria and preferences.** The complete system of admission criteria will be set out in the project [Operating Regulations](#). Nonetheless, basic criteria will be used, such as: (i) professionals with undergraduate degrees in computer science and engineering, entrepreneurs in the knowledge-intensive sector, and managers of knowledge-intensive companies; (ii) at least 10% of admissions will be reserved for key local government actors and local lecturers in systems engineering and related disciplines, who will be exempted from tuition; and (iii) at least one third of Uruguayan lecturers receiving tuition exemptions will be women. This strategy is consistent with dozens of industry studies, as well as

gender equality movements with a high degree of global acceptance in entrepreneurial circles, which indicate that 30% is the level of representation needed for a minority to begin to acquire power and establish its own identity within a group.⁴⁹ The percentages are indicative and may be adjusted in the project Operating Regulations.

- 1.40 **Component 2. Developing the knowledge-intensive ecosystem (US\$2,322,500).** This aims to capture program externalities by creating and developing export-oriented knowledge-intensive business ventures. The costs of the following activities will be financed: (i) attracting foreign companies to create innovative, export-oriented projects (“soft landing”); (ii) attracting foreign entrepreneurs; (iii) supporting the integration of human capital with advanced digital skills into local companies; (iv) international promotion of the program; and (v) actions to connect graduates with the innovation and entrepreneurship ecosystem.⁵⁰
- 1.41 **Attracting foreign companies (“soft landing”).** This activity seeks to identify foreign companies with high potential and to interest them in establishing operations in Uruguay or adopting the country as a platform for their international business. Grants will be offered on a demand-driven or competitive basis. Project financing will be provided in stages based on results. Expenditures eligible for financing may include the following: (i) training; (ii) consulting services, materials, and inputs; (iii) equipment for testing or trials; (iv) software; (v) intellectual property protection; and (vi) missions. Projects will be selected based on criteria such as: (i) relevance; (ii) capacity of the team working for the company or entrepreneur; (iii) innovative merit; (iv) business model; and (v) scalability. [Uruguay XXI](#) will facilitate visa processing, residence permits, and business start-ups in coordination with the ANII.
- 1.42 **Attracting foreign entrepreneurs.** This activity seeks to identify foreign entrepreneurs with high potential and to interest them in establishing operations in Uruguay or adopting the country as a platform for their international business. Details of the admission criteria for these entrepreneurs will be provided in the project [Operating Regulations](#). In terms of general criteria, admission preference will be given to entrepreneurs graduating from the program supported under Component 1. The ANII will evaluate proposals submitted by the entrepreneurs, using conditions and criteria such as: (i) the quality of the management and technical team; (ii) the coherence of the plan of activities; (iii) expected impacts; and (iv) the financial sustainability strategy. Grants will be offered on a demand or competitive basis. [Uruguay XXI](#) will facilitate visa processing, residence permits, and business start-ups. Expenditures eligible for financing may include those listed in the previous paragraph.
- 1.43 **Integration of human capital with advanced digital skills into local companies.** The internal innovation capabilities of Uruguayan firms will be

⁴⁹ <https://30percentclub.org/wp-content/uploads/2014/08/FeministMythsandMagicMedicine.pdf>,
<http://30percentclub.org/wp-content/uploads/2014/08/The-Sponsor-Effect.pdf>,
http://www.dfcoaching.com/articles/1322759422_VkIB_centred_leadership_how_talented_wome_thrive.pdf,
https://www.catalyst.org/system/files/The_Bottom_Line_Corporate_Performance_and_Womens_Representation_on_Boards.pdf.

⁵⁰ Program graduates resident in Uruguay will be able to avail of the ANII's credit instruments for local companies.

strengthened through the integration of human capital with advanced digital skills. In terms of general criteria, preference will be given to entrepreneurs graduating from the program supported under Component 1. The process will be demand-driven, and projects will be selected based on criteria such as: (i) relevance; (ii) consistency between the companies' needs and the project proposal; and (iii) the capabilities of the beneficiary company. Portals such as SmartTalent.uy, which is operated by [Uruguay XXI](#), will be used to match job supply and demand.

- 1.44 **International promotion of the program.** The program will be promoted to international companies and professionals in the knowledge-intensive sector, with the dual objective of promoting investment by foreign companies in the knowledge-intensive ecosystem and international student enrollment. To this end, the project will finance design of the program brand and the advertising and communication expenditures deemed necessary. It will also coordinate efforts with [Uruguay XXI](#), which is responsible for executing program [2590/OC-UR](#) and handles promotional activities and a register of capacities in several knowledge-intensive industries.⁵¹
- 1.45 **Actions to connect graduates with the innovation and entrepreneurship ecosystem.** Actions will be designed to inform and promote the use of instruments to support innovation and entrepreneurs in Uruguay, such as incubation services, ANII programs that foster innovation by example, and programs to support and strengthen innovation and highly qualified human resources in companies.⁵²
- 1.46 **Administration and monitoring costs.** Administration and monitoring costs are estimated at US\$150,000, as set out in the [multiyear execution plan](#).
- 1.47 **Beneficiaries.** The following project beneficiaries have been identified: (i) professionals with undergraduate degrees in ICT or similar fields⁵³ who enroll in the advanced diploma course proposed under the program; (ii) Uruguayan lecturers who teach graduate or postgraduate courses in ICT or similar fields⁵⁴ and who are exempted from tuition when enrolling in the advanced diploma course; (iii) female lecturers within the aforementioned segment that benefit from admission preferences and tuition exemptions for obtaining the advanced diploma; (iv) key local government actors in ICT or similar fields who are exempted from tuition when enrolling in the advanced diploma course; (v) local companies in any sector that employ program graduates with a view to incorporating knowledge-intensive into their operations or enhancing their existing ones; (vi) Uruguayan companies in any sector that employ foreign graduates from the program with a view to incorporating knowledge-intensive goods and services into their operations or enhancing their existing ones; (vii) foreign companies using the soft landing instrument to implement innovative

⁵¹ <http://www.smartservices.uy/>.

⁵² <http://www.anii.org.uy/apoyos/innovacion/>.

⁵³ In 2016, a total of 4,255 students were enrolled in ICT courses in Uruguay, with 1,256 new students and 416 graduating students. [CUTI](#).

⁵⁴ There are 18,633 university lecturers in Uruguay, including 11,382 at Universidad de la República, 142 at UTEC, and 6,926 in private institutions. There is no data available that breaks down the number of lecturers by field of study (undergraduate, postgraduate, associate, and short degree courses). Source: INE. Statistical Yearbook, 2017.

projects; and (viii) Uruguayan university students who participate in university courses using hybrid models and innovative teaching methods that have been adopted due to the influence of this advanced diploma.

C. Key results indicators

- 1.48 **Expected impacts, outcomes, and outputs.** Results indicators linked to disbursements are as follows: (i) students enrolled in the program; (ii) students who have graduated from the program; (iii) agreements signed with academic partners; (iv) dissemination strategy implemented; and (v) business ventures created or innovations generated as a result of the program.⁵⁵ These were selected based on the following criteria: (i) relevance to the attainment of project objectives; and (ii) the existence of information sources for the purposes of measurement (Results Matrix – Annex II).
- 1.49 The project is expected to yield the following impacts: (i) increased exports by knowledge-intensive sector companies supported under the program; (ii) increased investment in knowledge-intensive sector companies supported under the program; and (iii) increased earnings for program graduates resident in the country. The following outcomes are expected: (i) strengthened supply of human capital with advanced digital skills; and (ii) strengthened entrepreneurial ecosystem in the knowledge-intensive sector. Indicators for monitoring results by beneficiary gender have also been included.
- 1.50 **Economic evaluation.** A cost-benefit analysis was carried out at the aggregate level for each component for a five-year horizon. The evaluation showed that the project has a positive net present value of US\$2.8 million and an internal rate of return of 36%—higher than the 12% annual discount rate used by the Bank. The results are robust to a sensitivity analysis of the main project parameters, modeled as a symmetric triangular distribution ([optional link 1](#)).

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instruments

- 2.1 **Loan based on results.** The operation will be executed by an executing agency, which is justified due to both the behavioral change in the method of building human capital with digital skills in Uruguay (which will be based on modern, hybrid teaching methods and advanced knowledge concerning artificial intelligence and data science) and the fact that the operation will support the delivery of results under a government program by financing its expenditure framework. The results linked to disbursement thus relate to the signing of agreements with the program's academic partners and the enrollment and graduation of students from the program.
- 2.2 In accordance with the Proposal to Establish the Bank's Sovereign Guaranteed Loan Based on Results (document GN-2869-1),⁵⁶ an assessment was conducted of CEIBAL's institutional capacity and found that its legal authority, governance, institutional environment, and managerial and technical capacities are sufficient

⁵⁵ Enrollment and graduation costs of students and the business ventures created, or innovations generated, are higher in the first year of the program, due to the sunk costs, which include creation of the platform, procurement of technology, and program dissemination strategy.

⁵⁶ See rationale for the loan based on results (LBR).

to administer an LBR. The evaluation of CEIBAL's procurement and financial management systems was conducted using the Platform for the Analysis of Institutional Capacity and is consistent with the executing agency's track record in implementing previous operations, as confirmed by the unqualified opinions issued on its audited financial statements. This is further supported by the findings of the Bank's supervision activities, which were carried out regularly during execution of the aforementioned programs in accordance with Bank policies and other rules that the borrower and CEIBAL were required to observe under the respective loan contracts ([3225/OC-UR](#) and [3398/OC-UR](#)). In addition, the Bank's Office of Institutional Integrity was consulted on 18 July 2018 regarding CEIBAL's ability to execute Bank operations and the ANII's ability to serve as the subexecuting agency, and a positive response was issued.

- 2.3 Since this is a pilot project for a relatively low amount, the disbursement period will be five years. Table 1 sets out the budget disaggregated by components and the annual disbursement schedule. The disbursement schedule is included in the [multiyear execution plan](#).

Table 1. Disbursements (US\$)

	Year 1		Year 2		Year 3		Year 4		Year 5		
Components	IDB	Local	IDB	Local	IDB	Local	IDB	Local	IDB	Local	Total
Component 1: Digital human capital	1,860,001	737,277	1,540,001	1,531,508	1,948,578	803,215	394,710	265,500	146,710	300,000	9,527,500
Component 2: Developing the knowledge-intensive ecosystem	150,000	12,500	320,000	62,500	550,000	80,000	910,000	100,000	30,000	107,500	2,322,500
Administration and monitoring*	18,000		48,000		18,000		18,000		48,000		150,000
Total costs	2,028,001	749,277	1,908,001	1,594,008	2,516,578	883,215	1,322,710	365,500	224,710	407,500	12,000,000

* Includes the cost of the results-verification consulting assignment.

B. Environmental and social risks

- 2.4 This project has been classified as Category "C" operation in accordance with the Environment and Safeguards Compliance Policy (document OP-703), inasmuch as the expected social impacts of the operation will be positive and it does not include physical infrastructure or any alterations to the physical environment.

C. Other project risks

- 2.5 Design and launch of this project presupposes the following risks: (i) Public management and governability: medium risk relating to political commitment and coordination with participating entities, with mitigation measures that include the signature of execution agreements between the ANII, CEIBAL, and Uruguay's Public Higher Education Institutions (IPES), and the creation of coordination mechanisms in the [Operating Regulations](#), including a project technical committee with the participation of relevant actors; (ii) Development: a medium risk of resistance to change on the part of local actors, for which agreements will be signed with local higher education institutions, incorporating them into the teaching program and seeking the participation of their lecturers in the courses offered through the program; (iii) Political: low political risk associated with a change of government; (iv) Macroeconomic: low risk of a deterioration in macroeconomic variables; (v) Demand: a medium risk of lower-than-expected demand for the courses and the instruments for promoting internationalization and entrepreneurship, for which international campaigns will be run to publicize the

program and mechanisms will be established to monitor their effectiveness in real time; (vi) Demand: a medium risk that international students fail to remain in Uruguay after the academic program, for which Component 2 was designed; (vii) Cybernetic: low cybersecurity risk; and (viii) Replication: a medium risk that the program will be replicated in other countries in the region, for which exclusivity clauses will be negotiated with the participating universities, at least for the South American region.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of execution arrangements

- 3.1 **Borrower and executing agency.** The borrower will be the Eastern Republic of Uruguay, and CEIBAL will be the executing agency for the operation with the IDB. The ANII will act as the subexecuting agency for the purposes of subexecution of Component 2. CEIBAL will have a project coordination unit made up of: (i) a general coordinator; (ii) an academic coordinator; and (iii) permanent members from the administration and finance and the monitoring and evaluation areas of CEIBAL and the ANII.
- 3.2 CEIBAL and the ANII will sign an institutional cooperation agreement setting out the scope of ANII's participation and its responsibilities as subexecuting agency for the project, together with the respective mechanisms for transferring funds and rendering accounts. The ANII will have a person responsible for coordinating project subexecution with CEIBAL, who will cooperate on the programming and organization of activities and evaluation of results and will provide the information necessary to demonstrate fulfillment of the results indicators associated with Component 2. Program execution will be governed by the project [Operating Regulations](#).
- 3.3 **Project administration and execution mechanism.** Component 1 will be executed by CEIBAL in coordination with one or more of Uruguay's Public Higher Education Institutions (IPES), with which it will sign a subsidiary agreement for this purpose. CEIBAL will be responsible for developing and administering the online content platform. The IPES, in turn, will be responsible for academic management of the program. The graduates will receive an advanced diploma in the fields concerned, such as artificial intelligence and data science. A technical committee will be established with representation of all the participating actors (CEIBAL, ANII, and IPES) to coordinate decision-making processes based on a shared technical perspective of the project.
- 3.4 **Functions of the project coordination unit.** The project coordination unit will be responsible for coordinating the implementation of Component 1, including the programming and organization of activities, the evaluation of results, fulfillment of contractual conditions, and communications with the Bank. It will also coordinate the implementation of Component 2 with the subexecuting agency.
- 3.5 **Disbursement mechanism.** The following procedure will be used to process disbursements: (i) CEIBAL will prepare a progress report covering project execution and the results indicators used for disbursements, as listed in paragraph 1.48 and the section on disbursement indicators in Annex II. This report will be submitted for external verification of results, and achievement of the latter will be assessed on the basis of the protocols established in the [monitoring and](#)

[evaluation plan](#) and the [Operating Regulations](#). Information on the targets for the disbursement indicators will be consolidated at the end of each year; (ii) the independent external evaluator will verify achievement of the results based on the objectives described in the following paragraph and within the time frames agreed upon in the corresponding terms of reference; and (iii) once achievement of the results has been verified, CEIBAL will submit the corresponding disbursement request. The Bank, following standard procedures and time frames, will disburse the funds to the account indicated by the borrower. The Bank will disburse the amount corresponding to each indicator if and only if the external verification shows that the value of the indicator in question is equal to or greater than the stated target. If the value is lower, the disbursement will be proportional to the degree of achievement of the target. Unused balances may be rescheduled for subsequent disbursements. Four disbursements are planned during project execution.

- 3.6 **External verification of results.** Verification will be conducted by a firm or individual consultant acting as an independent external evaluator of the achievement of results. The evaluator will be responsible for submitting a results verification report to the Bank in advance of each disbursement request. Verification of the achievement of results will focus on two objectives: (i) rendering an opinion as to the accuracy, reliability, validity, and consistency of the information on results; and (ii) determining the values of the results indicators established for each disbursement tranche. The team must be experienced in project evaluation and monitoring, working with results indicators, and evaluating the reliability of information sources and the methods used to produce them. The firm or individual will be hired in accordance with the Bank's Policies for the Selection and Contracting of Consultants (document GN-2350-9) and with the terms of reference previously agreed upon with the Bank.
- 3.7 The purpose of the [Operating Regulations](#) is to establish the terms and conditions of the financing provided for project execution.
- 3.8 **Fiduciary agreements and requirements.** Annex III contains the guidelines for financial management and procurement execution that will apply to the project. Procurements will be carried out directly by the executing agency and the subexecuting agency using the executing agency's systems, procedures, and policies, as validated by the Bank. Transfers of funds within the framework of the project will be governed by the procedures established in the [Operating Regulations](#) and by the executing agency's procurement instructions, which will be included in the [Operating Regulations](#).
- 3.9 **Special contractual conditions precedent to the first disbursement of the loan proceeds:** The following will be special contractual conditions precedent to the first disbursement: (i) signature and entry into force of an agreement on execution and the transfer of resources between the borrower and CEIBAL, as well as a subexecution agreement between CEIBAL and the National Agency for Research and Innovation (ANII), in accordance with terms previously agreed upon with the Bank. This condition is justified by the fact that CEIBAL is a nongovernmental legal entity, and the purpose is to ensure that loan proceeds are available to the executing agency. The agreement will establish the conditions governing the transfer of funds from the Ministry of Economy and Finance to the executing agency, as well as the obligations of the latter; (ii) **presentation of evidence of the entry into force of the project**

[Operating Regulations](#), under terms previously agreed upon with the Bank, for the purpose of ensuring that the various contracts and calls for tender follow the procedures agreed upon with the Bank; and (iii) **engagement of the consulting firm responsible for external verification of results**, inasmuch as this is a loan based on results (LBR), which requires that an independent consultant be hired to verify results linked to disbursements.

- 3.10 **Retroactive recognition of results.** The Bank may recognize up to US\$800,000 for the financing of prior results, as long as these were achieved after 28 June 2018 (the project profile approval date) and before the loan eligibility date. Results are eligible for retroactive financing provided that the expenditures associated with attaining the results were essential to the project and attributable to achievement of the development results, subject to independent verification. This financing is justified in accordance with paragraph 2.27 of the Guidelines to Process the Bank's Sovereign Guaranteed Loan Based on Results (document GN-2869-3).⁵⁷ In the case of UR-L1150, the first retroactive result is explicitly identified in Annex II (the signature of agreements with the academic partners identified under the project) as indicated in Component 1 – Digital Human Capital.
- 3.11 **Financial audit.** As part of CEIBAL's annual institutional audit, an independent auditing firm will audit the expenses incurred in achieving the results, under the terms agreed upon with the Bank.

B. Summary of arrangements for monitoring results

- 3.12 **Monitoring.** The project will be monitored by the executing agency and the subexecuting agency, which will submit semiannual reports to the Bank reflecting achievements in terms of the outcome and output indicators included in Annex II and the [monitoring and evaluation plan](#). The reports for the second half of each year will include an annual work plan by component, together with any revision of targets for the remainder of the project.
- 3.13 **Evaluation.** Evaluation will be conducted by the executing agency and the subexecuting agency in accordance with the guidelines set out in Annex II and the [monitoring and evaluation plan](#). A final evaluation will be carried out once 90% of funds have been disbursed. The main objectives of the final evaluation report will be to: (i) determine the extent to which the indicators for the project's general objectives have been met; (ii) evaluate the degree to which the different components and instruments have been executed in relation to the targets included in Annex II; and (iii) identify lessons learned for future projects. The final evaluation will assess the project's impact using quasi-experimental methods such as double difference with paired statistics in the baseline. This will provide specific evidence regarding the effectiveness of this type of intervention ([monitoring and evaluation plan](#)).

⁵⁷ Section 2.27 of document GN-2869-3 allows retroactive financing in the case of results related to the strengthening of institutional capacity necessary for implementation of an operation.

Development Effectiveness Matrix		
Summary		
I. Corporate and Country Priorities		
1. IDB Development Objectives	Yes	
Development Challenges & Cross-cutting Themes	-Productivity and Innovation -Economic Integration	
Country Development Results Indicators	-Students benefited by education projects (#)* -Teachers trained (#)* -Amount of international trade promoted (US\$)* -Companies supported in innovation activities (#)* -Amount of FDI promoted (US\$)*	
2. Country Development Objectives	Yes	
Country Strategy Results Matrix	GN-2836	El proyecto contribuirá con los objetivos estratégicos de Inserción internacional integral y coordinada (mediante el incremento de las exportaciones e inversión en Servicios y Bienes Intensivos en Conocimiento, SBIC) así como con los indicadores diversificar los mercados de exportación (párrafo 1.50, dado que se espera incrementen las exportaciones de SBIC, tal y como se describe en la matriz de resultados) y promover la innovación empresarial (párrafos 1.42-1.48, mediante instrumentos específicos de fomento empresarial, atracción de empresas extranjeras, entre otros, tal y como se describe en el Componente 2)
Country Program Results Matrix	GN-2915-2	The intervention is included in the 2018 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		8.0
3.1 Program Diagnosis		1.8
3.2 Proposed Interventions or Solutions		4.0
3.3 Results Matrix Quality		2.2
4. Ex ante Economic Analysis		6.0
4.1 Program has an ERR/NPV, or key outcomes identified for CEA		3.0
4.2 Identified and Quantified Benefits and Costs		0.0
4.3 Reasonable Assumptions		0.0
4.4 Sensitivity Analysis		2.0
4.5 Consistency with results matrix		1.0
5. Monitoring and Evaluation		8.9
5.1 Monitoring Mechanisms		2.5
5.2 Evaluation Plan		6.4
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood		Medium
Identified risks have been rated for magnitude and likelihood		Yes
Mitigation measures have been identified for major risks		Yes
Mitigation measures have indicators for tracking their implementation		Yes
Environmental & social risk classification		C
IV. IDB's Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury, Accounting and Reporting, External Control, Internal Audit. Procurement: Information System, Price Comparison, Contracting Individual Consultant, National Public Bidding.
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		

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

The program "Uruguay Global: Program of promotion of digital skills for internationalization (UR-L1150)" is a result based loan that has as a general objective the promotion the international integration of Uruguay, through the increase of investments and exports of the SBIC sector. The specific objectives of the project are: (i) to increase the supply of human capital with advanced digital skills; and (ii) create new SBIC ventures with export potential. The two components of the program are: (i) strengthen the supply of human capital in advanced digital skills through the implementation of partnerships between local and foreign training centers, and (ii) the promotion of the SBIC ecosystem through the creation and the development of SBIC enterprises, with an export profile. The executing agency of the program is Centro CEIBAL, while the National Research and Innovation Agency will officiate as a sub-executing agency of component (ii).

The project identifies the lack of human capital, the low proportion of graduates of TIC careers, and the fragmented SBIC ecosystem as the main problems that the program will support in order to promote Uruguay's international integration through the SBIC sector. Given the lack of data, the multiple beneficiaries, and the novelty of the sector, in some cases there is a lack of evidence and quantification of the determinants of some of the problems identified.

The cost-benefit analysis of the project suggests a positive net result, mainly due to the benefit of the salaries of the graduates of the program and the firms' exports. However, some of the assumptions used to calculate these benefits are not supported with empirical evidence. Given the lack of relevant evidence for the effectiveness of this type of program, the project includes an impact evaluation. The evaluation plan is based on a non-experimental methodology. A more detailed explanation of the sources and the temporality of the data that will be used to carry out the evaluation is needed.

RESULTS MATRIX

Project Objective:	The general objective is to promote Uruguay's integration into global markets by increasing investments and exports in the knowledge-intensive goods and services sector. The specific objectives are to: (i) increase the supply of human capital with advanced digital skills; and (ii) create new business ventures with export potential in the knowledge-intensive goods and services sector.
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EXPECTED IMPACT

Indicators	Unit of measure	Baseline	Baseline year	Project completion	Means of verification	Comments	Measurement year
Impact 1. Increase in exports of knowledge-intensive goods and services							
Increased exports by knowledge-intensive goods and services sector companies supported under the program ¹²	%	0	2018	15	Surveys by the Uruguayan Chamber of Information Technologies (CUTI) and the Innovation Activity Survey (EAI)	The target of 15% is the average of average estimated effects of export promotion programs on export growth in supported firms in six countries in the region (Argentina, Chile, Colombia, Costa Rica, Peru, and Uruguay); it is almost identical to the figure for Uruguay (14%) (Volpe, 2010). It is assumed that public programs supported under the program will have a comparable effect. Exports by CUTI member companies stood at US\$379 million in 2016. Source: CUTI surveys and the EAI conducted by the National Statistics Institute (INE). Measured at the baseline and in 2025.	2025, coinciding with the EAI for 2022-2024.
Impact 2. Increase in investment in the knowledge-intensive sector							
Increased investment in knowledge-intensive goods and services sector companies supported under the program ³⁴	%	0	2018	10	CUTI and EAI surveys	The target is a conservative estimate consistent with the results of impact evaluations from the programs to support dynamic business ventures in Chile, Peru, and Uruguay. For reference purposes, foreign investment in the information and communications technology (ICT) sector in 2016 was US\$302 million. Source: CUTI surveys and the EAI conducted by INE. Measured at the baseline and in 2025.	2025, coinciding with the EAI for 2022-2024.

¹ Both the extensive margin (i.e. increased exports by companies already exporting) and the intensive margin (i.e. exports by companies selling abroad for the first time).

² CRF Indicator: Value of international trade promoted (US\$).

³ Both the intensive margin (i.e. increased investment by companies already investing) and the intensive margin (i.e. investment by companies investing for the first time).

⁴ CRF Indicator: Value of foreign direct investment promoted (US\$).

Indicators	Unit of measure	Baseline	Baseline year	Project completion	Means of verification	Comments	Measurement year
Impact 3. Increased earnings for graduates resident in the country							
Earnings of program graduates resident in the country	US\$	30,000	2018	50,000	Follow-up surveys of graduates and Continuous Household Survey	Annual salary measurement. Increased salaries are expected as a result of completing the program as graduates are promoted to positions of greater responsibility within their companies. Source: follow-up surveys of graduates and INE's Continuous Household Survey. Measured at the baseline and in 2025. Baseline values were checked against current market values paid by CUTI member companies and Plan Ceibal to professionals with and without the postgraduate training on offer.	2025

EXPECTED OUTCOMES

Indicators	Unit of measure	Baseline	Baseline year	2019	2020	2021	2022	2023	Final target	Means of verification	Indicators for disbursement (Yes/No)	Comments
Outcome 1: Strengthened supply of human capital with advanced digital skills												
1.1 Students enrolled in the program	#	0	2018	50	100	150	200	0	500	Program management report	Yes	Those fully completing the program in the academic year.
1.2 Percentage of students who have graduated from the program ⁵	%			0	70	70	70	70	70 ⁶			The denominator for each year is defined by the number of students in 1.1., while the numerator refers to the total number of graduates who studied and enrolled in the same year. This is a conservative estimate of the graduation rate in the National Postgraduate Grants System (SNBP). Source: ISA (2017), ANII.

⁵ CRF Indicator: Students benefiting from education projects (#).

⁶ Graduation rates from fully online programs are around 10% (see [optional link 7](#)), while those of traditional MBAs [in the U.S. are above 85%](#). The target was set at 70% due to both the higher cost of program enrollment compared to MicroMasters and the traditional component of the program.

Indicators	Unit of measure	Baseline	Baseline year	2019	2020	2021	2022	2023	Final target	Means of verification	Indicators for disbursement (Yes/No)	Comments
1.3 Percentage of local lecturers graduating ⁷				0	80	80	80	80	80		No	The denominator will be the number of lecturers enrolling during the academic year, while the numerator will be the number completing the course in the same year. This is a conservative estimate of the SNBP graduation rate. Source: ISA (2017), ANII. The graduation rate among lecturers tends to be higher.
1.4 Percentage of graduates involved in knowledge-intensive activities in the country				0	0	40	40	40	40			The denominator will be the number of students who have graduated, while the numerator will be the number involved in these activities. These figures will be cumulative over the duration of the program. Knowledge-intensive activities in any productive sector are those that have a high ICT component in their design and/or production. Source: interviews and focus groups with potential beneficiaries in the design phase.
Outcome 2: Strengthened entrepreneurship ecosystem in the knowledge-intensive sector												
2.1 Percentage of graduates who create knowledge-intensive business ventures	%	0	2018	0	0	5	5	5	5	Universidad Tecnológica del Uruguay (UTEC) survey	No	Creation of a business venture refers to new companies registering with the General Tax Directorate (DGI). The target is consistent with the Entrepreneurial Activity Rate due to opportunity for Uruguay in the Global Entrepreneurship Monitor 2017.

⁷ CRF Indicator: Teachers trained (#).

Indicators	Unit of measure	Baseline	Baseline year	2019	2020	2021	2022	2023	Final target	Means of verification	Indicators for disbursement (Yes/No)	Comments
2.2 Business ventures created or innovations generated as a result of the program ⁸	#	0	2018	0	1	2	2	2	7	UTEC survey and ANII Board memorandum	Yes	Program participants that register new companies with the DGI or companies assisted under the program that release new products or processes into the market, as recorded by the EAI in accordance with the OECD's Oslo Manual. The target is consistent with an innovation success rate of 30% according to the EAI. Additionally, business ventures supported by the ANII in 2016 consisted of six people on average. ⁹ Accordingly, the target is based on the fact that if 18 graduates (500*0.7*0.05) establish business ventures, then at least 3 ventures (18/6) will be created.
2.3 Dissemination strategy implemented ¹⁰				1	1	1	1	1	1	Record of verification by the ANII Board		Outcome generated by the output involving design of the dissemination strategy. This will be considered implemented once verified through the dissemination materials that have been produced and subsequently reproduced across the different channels of communication.

⁸ CRF Indicator: companies supported in their innovation activities (#).

⁹ <http://www.anii.org.uy/upcms/files/listado-documentos/documentos/informe-de-evaluaci-n-capital-semilla.pdf>.

¹⁰ The dissemination strategy will be considered implemented once the dissemination materials have been produced and subsequently reproduced across different channels of communication.

TRACKING INDICATORS

Indicators	Unit of measure	Baseline	Baseline year	2019	2020	2021	2022	2023	Final
1.1 Percentage of foreign students enrolled in the program	%	0	2018						
1.2 Percentage of women receiving tuition exemptions that graduate from the program									
2.1 Percentage of foreign graduates involved in knowledge-intensive activities in Uruguay									

OUTPUTS

Outputs	Unit of measure	Baseline	Baseline year	2019	2020	2021	2022	2023	Total	Means of verification
Component 1. Digital Human Capital										
1.1 Academic curriculum developed	#	0	2018	1	0	0	0	0	1	Program management report.
1.2 Agreements in effect with academic partners ^{11, 12}				2	2	2	2	2	2	Draft collaboration agreement.
1.3 Active learning platform in operation ¹³				1	1	1	1	1	1	Certification that the e-learning platform is in operation.
1.4 Tuition-exempt places ¹⁴				15	15	15	15	0	60	Tuition exemption contracts signed.

¹¹ Refers to collaboration agreements in effect signed and ratified by the parties.

¹² Disbursement indicator.

¹³ Must be in operation throughout the entire life of the project.

¹⁴ For local participants.

Outputs	Unit of measure	Baseline	Baseline year	2019	2020	2021	2022	2023	Total	Means of verification
1.5 Tuition-exempt places for women ¹⁵				5	5	5	5	0	20	
1.6 Program dissemination strategy designed				1	0	0	0	0	1	Management report.
Component 2. Developing the knowledge-intensive ecosystem										
2.1 Agreement with Uruguay XXI adopted	#	0	2018	1	0	0	0	0	1	Agreement with Uruguay XXI.
2.2 Soft landing instrument designed				1	0	0	0	0	1	Board memorandum.
2.3 Existing ANII instruments adapted				0	2	0	0	0	2	
2.4 Dissemination strategy designed				1	0	0	0	0	1	Memorandum of the Executive Secretary.

MATRIX OF DISBURSEMENT INDICATORS

Indicator	Baseline	2019		2020		2021		2022		Project completion	
		Target	Attached financing	Target	Attached financing	Target	Attached financing	Target	Attached financing	Target	Attached financing
Students enrolled in the program	0	50	2,000,000	100	300,000	150	450,000	200	150,000	500	2,900,000
Percentage of students who have graduated from the program	0%	0%	0	70%	300,000	70%	340,000	70%	100,000	70%	740,000

¹⁵ Subcomponent of 1.4.

Indicator	Baseline	2019		2020		2021		2022		Project completion	
		Target	Attached financing	Target	Attached financing	Target	Attached financing	Target	Attached financing	Target	Attached financing
Agreements in effect with academic partners ¹⁶	0	2	800,000	2	935,500	2	514,500	2	150,000	2	2,400,000
Dissemination strategy implemented	0	1	200,000	1	90,000	0	0	0	0	2	290,000
Business ventures created or innovations generated as a result of the program	0	0	0	1	260,000	2	860,000	2	550,000	5	1,670,000

MATRIX OF DISBURSEMENT INDICATORS

Indicator	Definition / Estimation method	Means of verification	Verifying entity	Verification process
Students enrolled in the program	Number of students enrolled in the academic year defined (registered, accepted, and confirmed)	Program management report	Independent consultant/firm	Verification in the student management system
Students who have graduated from the program	Number of students obtaining certification			
Agreements signed with academic partners ¹⁷	Agreements signed with academic institutions that involve academic activity	Agreements signed		

¹⁶ Retroactive outcome.

¹⁷ Retroactive outcome.

Indicator	Definition / Estimation method	Means of verification	Verifying entity	Verification process
Dissemination strategy implemented	Dissemination strategy implemented through different channels	Record of verification by the ANII Board / Memorandum of the Executive Secretary		Board memorandum approving the dissemination strategy designed.
Business ventures created or innovations generated as a result of the program	The ventures created are obtained from the seed capital projects of graduates under Component 1 and from enterprises attracted by the soft-landing instrument. The innovations generated are obtained from the projects approved using any innovation support instrument generated by graduates under Component 1.	UTEC surveys and Project Management System (Gespro and ANII Board memorandums)		The database of projects approved by the ANII (with their respective Board memorandums) will be cross-referenced with the database of graduates under Component 1, using the Project Management System (Gespro and Board memorandums).

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Country: Uruguay
Project number: UR-L1150
Name: Uruguay Global: Promoting Digital Skills for Internationalization
Executing agency: Centro CEIBAL para el Apoyo a la Educación de la Niñez y la Adolescencia [CEIBAL Center for Educational Support for Children and Teens] (CEIBAL)
Prepared by: Abel Cuba and Emilie Chapuis (FMP/CUR)

I. EXECUTIVE SUMMARY

- 1.1 The operation consists of a loan based on results (LBR). The project is for US\$12,000,000, of which US\$8,000,000 will be financed by the Bank from its Ordinary Capital and US\$4,000,000 will be financed by local counterpart funds. The borrower is the Eastern Republic of Uruguay, and the executing agency is CEIBAL, which is currently executing the loan based on results (LBR) [4290/OC-UR](#) (approved on 14 September 2017 for US\$30,000,000) to a satisfactory standard. This institution has an organizational and administrative structure that will be responsible for executing funds under the operation.
- 1.2 The fiduciary agreements and requirements established for this program are based on CEIBAL's track record as the executing agency for loans [4290/OC-UR](#) (in execution), [2260/OC-UR](#) (completed), and [3225/OC-UR](#) (nearing completion), and of technical cooperation operations [ATN/KP-14301-UR](#) and [ATN/KP-15744-UR](#).
- 1.3 Since this is a loan based on results, an institutional capacity assessment of CEIBAL was conducted in April 2017 using the Institutional Capacity Analysis Platform, with satisfactory results. The fiduciary evaluations (financial management and procurement) were reviewed for this operation, and the conclusion was that the entity has sufficiently well-developed fiduciary systems in place to ensure proper management in support of fulfillment of the expected results.

II. FIDUCIARY CONTEXT OF THE EXECUTING AGENCY

- 2.1 Law 18,719 (approving the national budget for the period 2010-2014), which was enacted on 27 December 2010 and published on 5 January 2011, established CEIBAL as a nongovernment legal entity under public law reporting directly to the Office of the President of the Eastern Republic of Uruguay. Based on the results of the institutional assessment, the key features are as follows: CEIBAL's activities are supported by a modern organizational structure that has worked internally to strengthen a process-based management system. This has enabled

it to internalize the strengthening support received and develop an ongoing process of updating and improving various aspects of management, as demonstrated by the entity's updated procurement regulations, which focus on improving processes and efficiency. CEIBAL's regulatory and institutional framework for financial management and procurement is adequate.

- a. The results of the assessment using the Institutional Capacity Analysis Platform are consistent with the executing agency's track record in the implementation of previous operations, as substantiated by the unqualified opinions issued on its audited financial statements. This is further supported by the findings of the Bank's supervision activities, which were carried out regularly during execution of the aforementioned programs in accordance with Bank policies and other rules that the borrower and CEIBAL were required to observe under the respective loan contracts.

III. FIDUCIARY RISK EVALUATION AND MITIGATION ACTIONS

- 3.1 In view of the foregoing considerations and the assessments performed, CEIBAL is considered to be low risk, and only minor mitigation measures may be required to address its weaknesses. These may take the form of suggestions for the efficient and effective administration of program resources.

IV. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF CONTRACTS

- 4.1 **Exchange rate:** For accounting in U.S. dollars, the exchange rate on the effective date of CEIBAL's local-currency payments will be used, with specification of the conversion method indicated in General Condition 4.10 b (i) of the loan contract.
- 4.2 **Audited financial statements:** Statements will be presented within 120 days after the end of each fiscal year. The terms of reference are to be agreed upon with the Bank, and the auditing firm must be acceptable to the Bank. The time frame for presentation will be specified as indicated in General Condition 7.03 of the loan contract.
- 4.3 **Condition precedent to first disbursement:** The consultant responsible for verification of the disbursement indicators will be hired in accordance with the requirements for the direct contracting of individual consultants, as indicated in paragraph 5.2 below. As this is a loan based on results (LBR), hiring of an independent consultant will be needed to verify results tied to disbursements.

V. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

- 5.1 The fiduciary agreements and requirements for procurements set out the rules governing the execution of all procurement processes planned under the project.
 - A. **Procurement execution**
- 5.2 Based on the relevant assessment, the executing agency's own procurement systems will be used in LBRs.

5.3 **Use of the executing agency's procurement system:** The executing agency's procurement system was evaluated by the Bank in 2017, and this evaluation has been updated as part of the preparation for this program. Based on the results of this process, the system has been deemed consistent with internationally accepted principles, practices, and standards for all procurement methods, and it allows participation by bidders from all countries. The system will be used for the procurement of goods, nonconsulting services, and consulting services (firms and individuals).

5.4 **Direct contracting of consulting services for the verification of results.** The procedures set out in the Policies for the Selection and Contracting of Consultants (document GN-2350-9) will be followed only for the selection and hiring of the consultant responsible for verifying results tied to disbursements. The executing agency has requested direct contracting of the consultant who will verify results, in accordance with paragraph 5.4 of document GN-2350-9, based on tasks that are a continuation of work carried out previously with acquired experience and satisfactory performance. The same individual consultant was hired in April 2018 through a competitive process subject to ex ante Bank review under operation [4290/OC-UR](#);¹ the consultant's fees for activities relating to the new program will remain the same. The results verification consultant will be hired for an initial period of one year, which may be extended to completion of the loan contract based on performance verification, subject to a maximum of US\$50,000 in the estimated budget for the operation. This figure may be adjusted in the course of program execution. The results verification consultant will not be hired in advance or retroactively, and the executing agency will submit the documentation regarding the selection process to the Bank before the contract is signed.

B. Retroactive financing of results

5.5 The Bank may recognize up to US\$800,000 for the financing of prior results, as long as these were achieved after 28 June 2018 (the project profile approval date) and before the loan eligibility date. Results are eligible for retroactive financing provided that the expenditures associated with attaining the results were essential to the project and attributable to achievement of the development results, subject to independent verification. This financing is justified in accordance with paragraph 2.27 of the Guidelines to Process the Bank's Sovereign Guaranteed Loan Based on Results (document GN-2869-3).² In the case of UR-L1150, the first retroactive result is explicitly identified in Annex II (the signature of agreements with the academic partners identified under the project) as indicated in Component 1 – Digital Human Capital.

C. Procurement supervision

5.6 Procurements will be supervised by means of the audits planned under the program.

¹ [Contract letter](#).

² Section 2.27 of document GN-2869-3 allows retroactive financing in the case of results related to the strengthening of institutional capacity necessary for implementation of an operation.

D. Records and files

- 5.7 With respect to the supporting documentation for the procurement of works, goods, and consulting services, CEIBAL has a filing and recording system that:
- a. Allows direct referencing and identification of the procedures followed in the bid opening process;
 - b. Allows direct referencing and identification of transactions performed;
 - c. Allows purchases received to be monitored and recorded in the inventory system;
 - d. Is available for review;
 - e. Uses an outsourced operator to manage the archive; and
 - f. Has a computerized system that supports the entire procurement process. While full process traceability is available in the procurement module of its integrated management system (ERP), a digital and physical record of the entire procurement file is kept in parallel.

VI. AGREEMENTS AND REQUIREMENTS FOR FINANCIAL MANAGEMENT

A. Programming and budget

- 6.1 Under the execution agreement between CEIBAL and the Ministry of Economy and Finance (MEF), the former receives an annual budget allocation. CEIBAL has an integrated management system (ERP), of which the budget module is a part. Its structure reflects the nature of the execution of the resources it manages, which are basically defined as projects. The loan proceeds will therefore be recorded under a project, which will show the resource and expenditure budget records. Both the MEF allocation and budget execution are recorded in the country's national system.

B. Accounting and information systems

- 6.2 CEIBAL's accounting is governed by Ordinance 89 issued by the Tribunal de Cuentas, the provisions of which mandate the adoption of International Financial Reporting Standards. The integrated management system is set up so that each accounting record will have an associated account in the chart of accounts and a cost center category, as well as budget account and line item, subject to the availability of budget funds.
- 6.3 For purposes of this program, it is agreed that CEIBAL will establish a specific cost center category that will group entries together involving the use of Bank funds. Accordingly, the institution's financial statements will include the balances of the accounts concerned in the context of program execution.

C. Disbursements and cash flow

- 6.4 CEIBAL's ERP has a treasury module that provides traceability of incoming funds in real time and execution of the funds assigned to the project through the use of budget items, cost center categories, and separate bank-related book accounts. No separate bank accounts are therefore necessary for administering the Bank loan.

- 6.5 Bank loan proceeds will be made available to CEIBAL to support the sequencing of outcomes and the fulfillment of the targets proposed in the matrix of disbursement indicators.

D. Internal control and auditing

- 6.6 CEIBAL's control environment focuses on the systematization of its processes, supported by computerized management systems and the definition of formal internal control procedures that are available through its intranet portal. Its internal administrative processes have obtained quality certification for more than five years. It also has an internal audit function, which is tasked with evaluating and verifying the systems deployed for using the financial resources that it administers. Since this program will be managed using CEIBAL's institutional structure and systems, it is agreed that the reports to be prepared by this unit will be available for Bank supervision and for review under the program's financial audits.

E. External control and reports

- 6.7 CEIBAL is subject to annual financial audits, performed by an independent audit firm hired through a competitive process for periods of at least three years. The audit report is submitted to the Board in the first quarter of each fiscal year for consideration and approval. These audits have always resulted in an unqualified opinion. In addition, and at the request of the institutions financing the projects that it executes, CEIBAL has submitted the financial statements of these projects to independent reviews, none of which have resulted in qualified opinions or significant comments.
- 6.8 For purposes of the program, it is agreed that CEIBAL's financial audit report will be sufficient to fulfill the contractual requirement stipulated by the Bank, provided that: (i) the auditing firm is deemed eligible by the Bank; (ii) the terms of reference have been agreed with the Bank; (iii) international audit standards are used in financial statement audits; and (iv) the report includes a section referring to the balances in the book accounts used for the Bank's loan proceeds.

F. Execution mechanism

- 6.9 For the implementation of Component 2 of the program, CEIBAL will receive the support of the National Agency for Research and Innovation (ANII), with the signing of an interagency agreement defining the obligations and responsibilities of both parties. Based on this, the ANII will transfer loan funds that will be subject to periodic reporting as part of the external audit arranged by CEIBAL. The operational aspects of the financial management of these funds will be set out in the [program Operating Regulations](#).

G. Financial supervision plan

- 6.10 The financial supervision plan allows for the possibility of reviewing the annual audit report in the meetings held to monitor the project's risk matrix. This could result in on-site visits to update knowledge of CEIBAL's internal systems.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/18

Uruguay. Loan ____/OC-UR to the Eastern Republic of Uruguay
Uruguay Global: Promoting Digital Skills for Internationalization

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 Eastern Republic of Uruguay, as Borrower, for the purpose of granting it a financing aimed at cooperating in the execution of the Uruguay Global: Promoting Digital Skills for Internationalization. Such financing will be in the amount of up to US\$8,000,000 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 ____ 2018)

LEG/SGO/CSC/EZSHARE-1028536987-9654
Pipeline No. UR-L1150