

## TECHNICAL COOPERATION ABSTRACT (TC-ABSTRACT)

### I. BASIC INFORMATION

<b>Country/Region:</b>	Regional
<b>TC Name:</b>	Development of new services and applications leveraging broadband
<b>TC Number:</b>	RG-T2505
<b>Team Leader/Members:</b>	Félix Gonzalez (IFD/ICS); Lorena Cano (IFD/ICS); Enrique Iglesias (IFD/ICS); Cecilia Bernedo (IFD/ICS).
<b>Date of TC Abstract authorization:</b>	May 2014
<b>TC Taxonomy</b>	Research and Dissemination (RD)
<b>Donors providing funds:</b>	Special Program for Broadband Services
<b>Beneficiary</b>	Public and private sector from Latin America and the Caribbean
<b>Executing Agency and contact name:</b>	Inter-American Development Bank, Institutional Capacity of the State Division, Félix González (felixg@iadb.org)
<b>IDB Funding Requested:</b>	IDB: US\$ 400,000
<b>Local counterpart funding</b>	<b>Local:</b> US\$ 0
	<b>Total:</b> US\$ 400,000
<b>Execution period:</b> 12 months	<b>Disbursement period:</b> 15 months
<b>Required start date:</b>	July 1 <sup>st</sup> 2014
<b>Types of consultants:</b>	Firm
<b>Prepared by Unit:</b>	Institutional Capacity of the State (IFD/ICS)
<b>Unit of Disbursement Responsibility:</b>	IFD/ICS
<b>TC Included in Country Strategy</b>	No
<b>TC included in CPD</b>	No
<b>GCI-9 Sector Priority:</b>	The current Sector Strategy: “Institutions for Growth and Social Welfare” identifies improving innovation and productivity as a major area where the Bank can help the Region overcome the challenges that hinder growth and social welfare. To this end, the IDB will work towards strengthening institutions, and has specifically recognized the need to improve policies and governmental action in the ICT sector (par.5.21 of the referred Sector Strategy). It is also worth remarking that the Sector Strategy: “Support Competitive Global and Regional Integration”, identifies bridging the digital divide as one of the Bank’s priorities to promote integration, placing specific emphasis on promoting broadband infrastructure. Consistent with these Strategies, the Bank has been working in the design and implementation of a Broadband Platform to accelerate the penetration rate and usage of broadband services in the Region.

## II. OBJECTIVE AND JUSTIFICATION

- 2.1 Broadband is well known as a lever for countries in the pursuit of economic and social development since it drives economic growth by contributing to the enhancement of national competitiveness, to the increase of productivity and efficiency, as well as job creation. In recent years, the economic impacts of broadband, through its access, adoption and use have brought clear social and economic benefits, which have been substantiated with concrete statistics. It has been estimated that 10 percent growth of broadband penetration would raise GDP of high-income countries by 1.21 percent and that of low-income countries by 1.38 percent.<sup>1</sup> In particular, in the Latin American and the Caribbean (LAC) Region, it is estimated that an increase of 10 percent in broadband penetration, on average, is expected to be associated with the increase of 3.19 percent in GDP; 2.61 percent in productivity and a net generation of more than 67,000 jobs.<sup>2</sup>
- 2.2 This macro impact relies on the various potential benefits that broadband brings to the economy in terms of improvement in the delivery of education and accessibility to training, promotion of equality and inclusion of rural or vulnerable communities, support to civil disaster relief, remote medical assistance (known as ‘telemedicine’), increasing competition, competitiveness and productivity; and social cohesion and interaction<sup>3</sup>, among others. These advantages lead the governments to announce significant broadband development programs in order to take advantage of the new and different technologies that are available.
- 2.3 However, to harness the power of broadband, the latter has to be conceived as an ecosystem where it is important to focus efforts not only on deploying infrastructure (supply) but also on allowing the development of applications (demand), all of them accompanied by the right policies, strategic regulation and the appropriate capacity building elements.
- 2.4 The Region is working intensively in the universality of connectivity with improved and wider networks that reach all citizens, companies and governments. Nonetheless, there is less of a focus on developing an applications (and services) ecosystem (both at a national and a regional level) that takes advantage of the infrastructure and that has three major benefits for the countries of the Region. First of all, it will allow citizens,

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<sup>1</sup> World Bank, 2009

<sup>2</sup> García-Zaballos, A. / López-Rivas, R.: Governmental control on socio-economic impact of broadband in LAC countries. IDB, 2012.

<sup>3</sup> Broadband may lead to development of a new model of education and health, for they could get substantial efficiency improvements in its processes, which would lead to lower costs while enabling disadvantaged areas closer to education and health. McKinsey & Company points out that those SMEs that are intensive Internet users improved their productivity by 10 percent, which is a reflection in sales and cost savings. Moreover, the consultant concluded that small and medium sized companies that made heavy use of the Internet in business relationships grew twice as fast as those who did not. In addition to the impact of ICT in education, health and productivity / competitiveness of enterprises, there are examples of how ICTs can improve traffic, assist in natural disasters, or monitor certain public services (sewer, electricity, air and maritime transport , etc). Moreover, for the ordinary citizen, the use of ICT services in both their personal lives and in their careers (electronic payment of value added tax, electronic transactions, information search,) helps to reduce the number of transactions needed, increasing productivity and quality of life.

businesses and public institutions to make use of the connectivity and adopt the technology. Secondly, it will help create economic growth because an applications-and-services industry can be created in each of the countries. Thirdly, in terms of the data traffic, if content is produced and hosted locally, two positive effects are created that may lead to a decrease in prices. On the one hand, more national and regional traffic is created providing greater leverage to negotiate better international connectivity rates. On the other hand, there is less dependency on other countries.

- 2.5 The development of new applications and services that use broadband as a key enabler is fundamental to ensure not only that demand will grow at the desired rate (ensuring sustainability) but also that citizens, companies and institutions are able to harness all the expected social and economic benefits of broadband services.
- 2.6 **Objectives.** The main objective of this TC is to facilitate the development and use of new applications and services in the Region by providing a set of recommendations (both at the technical, financial, public policy and regulatory levels) on how to foster the creation of a robust applications and services ecosystem. Moreover, beyond benefiting the countries of the Region, this TC will help the Bank's broadband team define the adoption and use component in broadband loan operations.

### III. DESCRIPTION OF ACTIVITIES/ COMPONENTS AND BUDGET

- 3.1 The activities included in this TC will be structured around the following components:
- 3.2 **Component 1: Analysis of the status quo of the broadband and the applications ecosystems in the countries of the Region.** This component will finance the assessment of the broadband ecosystem as well as the ecosystem applications in each of the 26 IDB countries.
- 3.3 **Activity 1.1: Assessment of the broadband ecosystem.** This activity will consist of the preparation of a high level study for each country of the degree of development of the different transversal elements of the ecosystem (infrastructure, devices, applications and content) and those that are vertical (public policies, regulation, capacity building) as they are currently ([AS-IS]). Taking this into account and the characteristics of each country (socio-demographic, poverty, sector development, etc.) and the government priorities, the study will prioritize the sectors that may be suitable to have applications and services developed (e.g. health, education, financial services, e-government, agriculture). The information about infrastructure and devices will also be used as a side input to understand the national reality and to define the best technologies that may be used in each country.
- 3.4 To undertake this analysis the consulting firm selected will take into account two knowledge products developed by the broadband team<sup>4</sup>: (i) the broadband development index (IDBA); and (ii) the infrastructure maps.

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<sup>4</sup> The tools are available at digiLAC ([www.iadb.org/digiLAC](http://www.iadb.org/digiLAC))

- 3.5 **Activity 1.2: Assessment of the applications ecosystem.** This activity (a zoom-in on one of the transversal elements of the broadband ecosystem and the focus of this project), will help define the different elements of the above-mentioned ecosystem and of the innovation value chain (e.g R&D, incubators, market, investors) with specific variables associated to each of them to perform the assessment. This activity will also entail an assessment in the form of a new index or the use of an existing one, for each of the countries.
- 3.6 **Component 2: Country grouping and development of technical recommendations on how to develop the applications ecosystem.** Based on the diagnosis conducted in Component 1 (both activities 1.1. and 1.2), this component will finance: (i) the grouping of all the countries in clusters based on the status of the broadband and the applications ecosystems; and (ii) the development of technical recommendations to develop the applications ecosystem.
- 3.7 **Activity 2.1. Country grouping.** This activity will consist of placing in clusters the 26 IDB borrowing countries according to the status quo of the broadband and the applications ecosystem. The goal will be to group the countries to facilitate the development of the recommendations for each of the clusters. The analysis will determine the number of clusters of countries to be created. An illustrative list is the following: (i) infrastructure-focus cluster (in which the main challenge is developing the broadband infrastructure and creating an applications ecosystem that currently does not exist); (ii) an adoption-focus cluster (in which connectivity exists at least in certain areas but the main challenge is fostering the adoption of broadband services and creating an applications ecosystem that presently does not exist); (iii) application-focus cluster (in which the main challenge is developing and strengthening an emerging applications ecosystem); and (iv) industrialization-focus cluster (in which the main challenge is in taking the application ecosystem to a level where applications and innovation are industrialized).
- 3.8 **Activity 2.2. Definition of the [TO-BE] scenario.** This activity will define the expected and desired situation [TO-BE] in a 5-year time horizon for each of the clusters regarding the broadband ecosystem (infrastructure, devices, applications and content) as well as for the applications ecosystem (according to the innovation value chain). Specific goals will be established for each of the variables used in the assessment (Component 1) so that the gap can be identified. To establish the [TO-BE] scenario, an analysis of reference countries (e.g. United States, United Kingdom, Israel) will be done.
- 3.9 **Activity 2.1. Elaboration of technical recommendations.** Based on the results of Component 1, this activity will generate a set of recommendations on how to bridge the gap from the [AS-IS] to the [TO-BE] situation across the broadband and the applications ecosystem. Recommendations may encompass proposals that range from improving the infrastructure, spreading the use of devices to the creation of ICT skills. Furthermore, it will include a proposal of specific projects to boost the applications ecosystem, including for example the creation of innovation centers, competitions, incubators and so forth (projects should be across all elements of the application ecosystem). These technical recommendations will be customized for each of the sectors identified in Component 1 and will also include proposals on how

governments can partner with existing stakeholders in the country (e.g. universities, investors) or elsewhere (e.g. GSMA, device manufacturers) to achieve their goals.

- 3.10 **Component 3: Development of public policy and strategic regulation recommendations for each cluster.** This component will finance a set of public policy and strategic regulation recommendations for the defined clusters that will ensure the right implementation as well as the maximum impact of all the technical recommendations proposed in Component 2. These recommendations will go across the broadband and the applications ecosystems and may include: change in the educational curricula for the promoting of applications development, incentives to favor investment, financial incentives to favor the creation of companies. It could also include some other recommendations more related to broadband such as policies/regulation to favor last-mile development or policies to lower the cost of devices.
- 3.11 **Component 4: Development of a roadmap, financial estimation and governance model for the proposed recommendations.** This component will finance the development of a roadmap, financial estimation and governance model for the each of the project proposals and recommendations provided in Component 2 and Component 3. The roadmaps will define timeline, main milestones and follow-up framework (with specific indicators –KPIs-). The governance model will include roles and responsibilities of those stakeholders that will be involved. The high level financial study will quantify the expected investment needed to undertake each of the proposed projects.
- 3.12 **Component 5: Dissemination.** This component will finance the development of: (i) a report with the products of Component 1, Component 2, Component 3 and Component 4; (ii) a promotional video; and (iii) an event to present the results of the project inviting the main stakeholders.

**Table 3.1: Indicative Results Matrix**

Suggested indicator	Measurement Unit <sup>5</sup>	Base-line	Target at end of TC
<b>Output Indicators:</b>			
Component 1: Analysis of the status quo of the broadband and the applications ecosystems in the countries of the Region			
- Report with the assessment of the broadband ecosystem in the 26 IDB borrowing countries	No. of documents	0	1
- Report with the assessment of the applications ecosystem in the 26 IDB borrowing countries along with the methodology for the assessment if a new way is developed	No. of documents	0	1
Component 2: Country grouping and development of technical recommendations on how to develop the applications ecosystem			
- Report explaining with the country grouping and its methodology	No. of documents	0	1
- Report with the technical recommendations for each cluster and sector	No. of documents	0	1

<sup>5</sup> For appropriateness reasons, the different documents will be consolidated into a single one.

Suggested indicator	Measurement Unit <sup>5</sup>	Base-line	Target at end of TC
Component 3: Development of public policy and strategic regulation recommendations for each country in the respective clusters - Set of public policy and strategic regulation recommendations for each cluster	No. of documents	0	1
Component 4: Development of a roadmap, financial estimation and governance model for the proposed recommendations - Roadmap for the implementation of the recommendations and projects proposals in each cluster - Governance Model for the implementation of the technical recommendations in each cluster - Financial Study for the implementation of the technical recommendations in each cluster	No. of documents No. of documents No. of documents	0 0 0	1 1 1
Component 5: Dissemination - Report explaining the TC's results - Video to communicate the results and conclusions of the TC - Dissemination event	No. of copies No. of videos No. of events	0 0 0	50 1 1
<b>Outcome Indicators:</b>			
Increased awareness and understanding of tools, strategies and policies to foster the applications and content ecosystem	No. of citations of the TC products in national government strategic documents	0	2

**Table 3.2: Indicative Budget Split**

Item	Total (US\$)
Component 1: Analysis of the status quo of the broadband and the applications ecosystems in the countries of the Region	175,000
Component 2: Country grouping and development of technical recommendations on how to develop the applications ecosystem	105,000
Component 3: Development of public policy and strategic regulation recommendations for each country in the respective clusters	50,000
Component 4: Development of a roadmap, financial estimation and governance model for the proposed recommendations	50,000
Component 5: Dissemination	20,000
<b>Total budget</b>	<b>400,000</b>

#### IV. EXECUTING AGENCY AND EXECUTION STRUCTURE

4.1 **Execution.** Considering that the project is regional and needs interactions with governments of the Region, the executing agency will be the Inter-American Development Bank, through IFD/ICS. In that sense, it is expected that the Bank will play a catalytic role in facilitating the success of interaction among partners as is the case in other projects (e.g. RG-T2295 – Broadband Policy Toolkit for Latin America and the Caribbean).

## **V. PROJECT RISKS AND ISSUES**

- 5.1 The project presents two risks that could affect the impact, quality or effectiveness of the expected results. First, the results of the project are not taken into account to develop the applications and content ecosystem, due to the lack of commitment from the different governments. This risk is mitigated by the fact that broadband has become an important subject in the policy agenda of countries in the Region and many of them have prioritized the creation of local content. Secondly, that there is a lack of regulatory framework or institutional capability to carry out the recommendations formulated. This risk will be mitigated by the recommendations foreseen as part of Component 3, which will provide specific public policy and regulatory recommendations for each of the clusters.

## **VI. EXCEPTIONS TO BANK POLICY**

- 6.1 There are no exceptions to Bank policy.

## **VII. ENVIRONMENTAL AND SOCIAL CLASSIFICATION**

- 7.1 Given that the current TC revolves around a study, there are no social or environmental risks associated with it. This operation is classified as a Category “C” according to the classification toolkit of the Bank (see link: [IDBdocs# 38846646](#)).