

TC ABSTRACT

I. Basic Project Data

▪ Country/Region:	COLOMBIA/CAN - Andean Group
▪ TC Name:	Market Pull Technology Transfer as a Catalyst for Innovation in Colombia
▪ TC Number:	CO-T1475
▪ Team Leader/Members:	VARGAS CUEVAS, FERNANDO ESTEBAN (IFD/CTI) Team Leader; BOTTO LUGO, RAISA ISABEL (CAN/CCO); SUN, JU YOON (IFD/CTI); GONZALEZ ALZUALDE, YOHANA BEATRIZ (IFD/CTI); BUSTOS RIOS, MARIA PAOLA (CAN/CCO); TEFARIKIS, ELIAS (IFD/CTI); MAGENDZO WEINBERGER, ADRIAN (IFD/CTI); GONI PACCHIONI, EDWIN ANTONIO (IFD/CTI); SALAZAR ACOSTA, MONICA (IFD/CTI); VERISSIMO DA SILVA, CAROLINA (LEG/SGO); KELLY CASTILLO, EMILY LETICIA (IFD/CTI); CRAUSAZ SARZOSA, ERNESTO PATRICIO (VPC/FMP); CARDENAS GARCIA, CLAUDIA MYLENN (VPC/FMP); LAURA LOPEZ FONSECA (IFD/CTI); GENESIS MORALES (IFD/CTI)
▪ Taxonomy:	Client Support
▪ Number and name of operation supported by the TC:	N/A
▪ Date of TC Abstract:	29 May 2018
▪ Beneficiary:	Republic of Colombia
▪ Executing Agency:	INTER-AMERICAN DEVELOPMENT BANK
▪ IDB funding requested:	US\$600,000.00
▪ Local counterpart funding:	US\$50,000.00 (In Kind)
▪ Disbursement period:	36 months
▪ Types of consultants:	Individuals; Firms
▪ Prepared by Unit:	IFD/CTI - Competitiveness, Technology and Innovation Division
▪ Unit of Disbursement Responsibility:	CAN/CCO - Country Office Colombia
▪ TC included in Country Strategy (y/n):	Yes
▪ TC included in CPD (y/n):	No
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Productivity and innovation

II. Objective and Justification

- 2.1 The general objective of the project is to implement a market – pull technology transfer and innovation acceleration program which responds to the needs of companies and the markets and helps to catalyze the knowledge economy in Colombia. More concretely, the project seeks to: i) increase the success rates of technology transfer from universities and increase the economic and social impact of the universities by generating research aligned with industry needs; ii) accelerate innovation in large companies through engagement with entrepreneurship capabilities; iii) generate new products and services through open innovation processes. In the medium term, this project will help to generate employment from new science and tech-based firms and ventures and business models.
- 2.2 Technological innovation at modern organizations is shifting from a closed process conducted exclusively within the organization to a model where external knowledge – available in firms, entrepreneurs, universities, public sector, etc. can drive or complement the innovation efforts of the organization. This new paradigm of “open

innovation” increases significantly the possibilities for faster growth within communities as it synchronizes the needs of local corporations - or governments - with both, the innovative capacities of entrepreneurs avid to ideate and supply solutions, and the capacities for applied scientific research of universities waiting for opportunities to put out of the lab experimental innovations with potential disruptive effects. In this sense, open innovation can generate remarkable efficiency gains in several fronts: it enables an expedited match between the demand and the supply of solutions to critical problems of firms or governments; it reduces duplicity of efforts as capacities already existing outside the organization are used to conduct innovation instead of building up this capacity inside the organization again; it helps to reduce innovation efforts with unlikely commercial exit; it helps to define from the outset the appropriability rules of rents between entrepreneurs and corporations involved in the innovation; and, it facilitates patenting processes for smaller firms, backed-up by larger corporations. OECD (2013) report on Colombia’s innovation policies describes the national innovation ecosystem as small and lacking a strong industry and entrepreneurial base. The report also documents that technology transfer process in Colombia is very weak and incipient as solid and long-term research collaboration agreements with the industry are incipient in most universities . To reverse this disconnection, a pioneering initiative of open innovation was already piloted from 2014 to 2016 in the country through Innpulsa’s CO4 program. CO4 sought to encourage open and collaborative innovation between large companies and solution providers (the program was focused in two aspects; the definition of the problems or challenges and the liaison of solution demanders with the solution providers). Two key lessons emerged after the implementation of the pilot. First, expert support and monitoring is needed during the solution implementation phase. Second, funding to take the solution to prototype phase or to scale it up is also needed. This means that identification and liaising of actors is just a first – yet necessary – input to conduct open innovation. Other stakeholders participation - usually implicated with more ecosystem-oriented approaches - proved to be necessary (experts, mentors, financiers, etc.). The TC incorporates these lessons and take the open innovation effort started with CO4 to the next level. Regarding ecosystem-oriented approaches, according to Mulas et al (2015) , cities are increasingly emerging as the new innovation centers as they host and connect private corporations, local governments, university research centers and networks of entrepreneurs. As such, cities are natural hubs for open innovation, and Colombia has started moving into that direction, particularly in Medellín and Bogotá with the creation of Ruta N and Connect Bogotá-Región.

III. Description of Activities and Outputs

- 3.1 Component I: Market pull innovation, identification of market needs and open innovation challenges. This component of the project will involve the identification of innovation challenges and needs of companies, which can be solved through open innovation processes. The results obtained so far in the Regional Smart Specialization Strategy for Bogotá, including the technological roadmaps already defined for Biopole, will be the basis for identifying subsectors, companies and needs. The Biopole is oriented to the development of life science including technologies and productive activities related to agriculture and agroindustry, fine chemistry and health, more specifically the following subsectors or products: advanced health services , natural and functional foods , natural cosmetics, and pharmacogenomics .
- 3.2 Component II: Identification of resources, research results, technologies, solutions and startups with tech transfer and innovation potential. After structuring and selecting innovation challenges within the participating companies, Connect Bogotá will begin to search for solutions within universities, national and international research centers and startups. This component will also help to identify applicable research projects that

universities are trying to commercialize and potential market failures inhibiting their entrance into markets

- 3.3 Component III: Acceleration of technologies and startups that solve innovation needs of participating companies. In this phase, selected research groups will be prepared so they can transfer and commercialize their research results and/or technologies to the companies. Likewise, selected startups identified in the previous component will be accelerated so that they can work with the companies that defined innovation challenges.
- 3.4 Component IV: Diffusion of results. Although the main coverage of the executing agency is the Bogota region, the project aims to generate a model that can be replicated to other regions of the country and other countries in LAC. Therefore, Connect Bogota will produce a final report with policy recommendations to Colombian government agencies, such as Colciencias and Innpulsa, on tech transfer best practices and instruments needed for acceleration of technologies and start-ups. For diffusion of results, dissemination workshops/seminars with stakeholders including OTRI, government, universities, will be organized.
- 3.5 Component V. External evaluation and audit. An evaluation team composed of external consultants and IFD/CTI specialists will be conformed at the beginning of the TC in order to document and analyze the implementation and the results of the program. These two approaches will shed lights on market failures that block tech transfer from university to firms, the incentives deployed to attend those market failures, the characteristics of innovations obtained in open innovation processes, and the obstacles faced by the various actors (Connect Bogotá, large firms, providers of solutions, etc.); with the final objective of providing empirical evidence on this new innovation policy instrument and to produce policy recommendations.
- 3.6 **Component I: Market pull innovation, identification of market needs and open innovation challenges.** This component of the project will involve the identification of innovation challenges and needs of companies, which can be solved through open innovation processes
- 3.7 **Component II: Identification of resources, research results, technologies, solutions and startups with tech transfer and innovation potential.** . After structuring and selecting innovation challenges within the participating companies, Connect Bogota will begin to search for solutions within universities, national and international research centers and startups
- 3.8 **Component III: Acceleration of technologies and startups that solve innovation needs of participating companies.** In this phase, selected research groups will be prepared so they can transfer and commercialize their research results and/or technologies to the companies.
- 3.9 **Component IV: Diffusion of results.** the project aims to generate a model that can be replicated to other regions of the country and other countries in LAC
- 3.10 **Component V: External evaluation and audit.** An external evaluation of the program will be contracted, with special focus on the characteristics of innovations obtained in open innovation processes, and the obstacles faced by the various actors

IV. Budget

Indicative Budget

Activity/Component	IDB/Fund Funding	Counterpart Funding	Total Funding
Market pull innovation, identification of market needs and open	US\$120,000.00	US\$4,000.00	US\$124,000.00

innovation challenges			
Identification of resources, research results, technologies, solutions and startups with tech transfer and innovation potential.	US\$85,000.00	US\$6,000.00	US\$91,000.00
Acceleration of technologies and startups that solve innovation needs of participating companies	US\$380,000.00	US\$40,000.00	US\$420,000.00
Diffusion of results	US\$7,000.00	US\$0.00	US\$7,000.00
External evaluation and audit	US\$8,000.00	US\$0.00	US\$8,000.00
Total	US\$600,000.00	US\$50,000.00	US\$650,000.00

V. Executing Agency and Execution Structure

- 5.1 Connect Bogotá-Region, is a non-profit organization with a network of 60 private , academic and public organizations which work together in a collective impact model to transform the capital region into an innovation hub in Latin America. Connect develops programs in open innovation, tech transfer, acceleration of tech and science base entrepreneurs. Connect was created in 2011 under Connect San Diego's model (www.connect.org), entity created in 1985 and replicated in more than 40 countries around the world. Since its creation Connect has an accelerator of scientific and technological start-ups, with a methodology brought from Connect San Diego, and has developed several corporate-startup engagement program. Partner government agencies in the implementation of this project are Cundinamarca Regional Government and Bogotá City Government. And the government allies are: Colciencias, Innpulsa, the Ministry of Information and Telecommunications Technologies and the Ministry of Commerce, Industry and Tourism.
- 5.2 The execution of this TC will be carried out by the IFD/CTI Division of the Bank because of its considerable experience executing similar types of projects and technical operations in the field of innovation and technology.

VI. Project Risks and Issues

- 6.1 Some risks can be anticipated such as not finding suitable solutions for the firms, and coordination risks that come from the need to work with many different actors. On the first case to coordinate actions with the Pacific Alliance projects will reduce this possibility. There are also risks with the executor, since Connect has never executed a TC funded by the IDB group, although it does have experience coordinating projects for the Colombian government and some of its team members have been involved in IDB operations.

VII. Environmental and Social Classification

- 7.1 The ESG classification for this operation is "undefined".