

TERMS OF REFERENCE

(Insert Title Name of the Assignment/Consultancy)

Costa Rica
CR-T1275

[\[Web link to approved document\]](#)

Promotion of Technology Guarantee and Technology Appraisals for SMEs with Innovative and Technological Potential

1. Background and Justification

1.1. Costa Rica is a country in Central America between Panama and Nicaragua with 5,5 million people and a nominal per capita income of US\$13.090¹. Costa Rica's economic growth performance has been remarkable. Over last 20 years average growth (4,5% annual) has been above the Latin American and the Caribbean (LAC) average (2,5% annual)². Despite this there are persistent problems that hinder future growth perspectives and partially explain a growing inequality that compromises forthcoming social and institutional stability. First, there is persistent gap in infrastructure³; second, there is a decline in human capital (which used to be a strength of the country)⁴ and third, domestic innovation capabilities are still weak⁵. On the top of this there is a growing geographical inequality with around 70% of the Gross Domestic Product (GDP) concentrated in the Great Metropolitan Area (GAM) around San Jose, the capital. The economic structure of Costa Rica shows all the features of a dual economy. There is an "old" economy with low growth, limited diversification, and productivity (mainly explained by SMEs operating in natural resource-based sectors -such as agriculture, food and fishing-, basic metalworking and traditional services) but that explains 85% of the GDP and a "new" economy which is very dynamic, diversified and based in high technology sectors (explained by subsidiaries of multinational corporations in semiconductors, medical devices, and business services) that is responsible for 15% of the GDP. The country has 137.378 registered firms of which 133.845 are SMEs (97,4%)⁶ although very few of them have the minimum productivity to become part of the "new" economy⁷. Costa Rica's Development Banking System (SBD) could become the right institution to help SMEs to close the productivity gap between the old and new economy

¹ World Bank (2022).

² During the COVID pandemic there was a decline of 4,1% of GDP in 2020 which was followed by a recovery of 7,1% in 2021 mainly explained by foreign investment. The tourism sector was strongly shocked by the recession, and it has not recovered so far. The SMEs were severely affected.

³ Costa Rica is 63/141 in the WEF infrastructure ranking.

⁴ High levels of repetition and dropouts in secondary schools together with a mismatch between talent demand and supply.

⁵ According to the last Global Innovation Index (2022), Costa Rica descended from the place 55 to the place 68 of the Global Innovation Ranking moving from the 3rd to the 7th place in the region.

⁶ Ministry of the Economy, Industry and Commerce (MEIC, 2019).

⁷ Different estimates suggest that for those SMEs that are close to the minimum productivity required to operate in the "new" economy (for example as a supplier of the multinational), the productivity gap is at least 10% (Ons, 2021).

sectors⁸.

- 1.2. Despite that Costa Rica has good indicators of financial inclusion, most of financing provided by private and commercial banks focuses on consumption and housing with just 8% of lending allocated to productive development projects. The commercial banking market is very risk averse, so entrepreneurs that start high risk projects (as the ones related to innovation and technological upgrading) and do not have enough collateral are excluded from a market which basically is known in the country as one of “banks of guarantees”. On the other hand, the capital market is reduced with 90% of the funds invested in public debt bonds. Because of this 90% of SMEs finance their technological modernization and innovation projects by reinvesting their own dividends, with only 7,6% of them getting innovation financing from commercial banks and just 1,2% receiving financing from the public sector⁹. Of the innovative SMEs, about 35,1% report severe problems for accessing to financing due to the lack of collateral (MICITT, 2022). Of course, financing is not the only factor affecting innovation by Costa Rica’s SMEs as the imitation by third parties (37,1%) and the lack of enough technological information (27,7%) are other important obstacles (MICITT, 2022). In summary, Costa Rica’s SMEs face three specific problems to modernize and innovate: (i) low access to finance; (ii) low appropriability of the returns to innovation and (iii) low deployment of technology information and assistance services. Each of these obstacles should be tackled with a different and specific policy intervention: (i) technological guarantees in the case of low access to finance; (ii) soft loans in the case of appropriability problems and (iii) extension services in the case of technological information¹⁰.
- 1.3. To tackle these problems, Costa Rica established the Development Banking System (SBD) in 2008 by Law 8634. According to its legal mandate SBD must fulfill 10 strategic objectives of which five are related to: (i) credit supply for productivity; (ii) innovation financing; (iii) regional productive development; (iv) entrepreneurship and (v) suppliers and value chains promotion. The other 5 remaining specific objectives are mostly related with fostering financial inclusion. Since 2008 the SBD has managed to finance 63.000 SMEs, of which 37% are first time borrowers of the financial system. Currently the SBD represents 2,4% of national financial system (SFN) lending and 33% of lending to SMEs. Despite this progress, most SBD’s activity has focused on the strategic objectives related to financial inclusion. As the National Assembly SBD Evaluation Commission indicates:” The SBD has not managed so far to build an integrated portfolio of financial and non-financial instruments for the support of entrepreneurship, value chains and innovation”¹¹. The SBD must grow its productive development arm by offering new financial instruments and services that specifically tackle the obstacles that entrepreneurs face to start a technology-based business, that provide soft financing to SMEs innovation projects with high externalities and the provisions

⁸ Evaluation Commission of the SBD (2022)

⁹ Public financing programs are currently very limited due to the budget constraints that the Government faces under the new fiscal rule implemented under an Extended Facilities Program with the International Monetary Fund (IMF). According to it, it won't be until after 2027 that public programs funded through the national budget will be revamped. Mobilizing private financing by using the SBD's capital will be critical during this transition.

¹⁰ In Costa Rica this is responsibility of the National Learning Institute (INA). However, the extension system is still in its early stage of development with low integration with the other SMEs programs.

¹¹ Evaluation Commission of the SBD (2022).

of technological guarantees to SMEs with growth potential.

- 1.4. Distinguished from conventional soft credit instruments, guarantee issuance based on companies' technology appraisals allows early staged tech-based SMEs and innovative start-ups liquidity from private investment. The SBD manages the National Development Fund (FONADE) which allows the SBD to provide funding to SMEs through loans, grants, and equity. SBD also manages, with resources from FONADE, a relatively small guarantee fund (Fondo Avales) which should be largely redesigned and expanded in order to mobilize private sector funding. Fondo Avales has not been used to promote innovation and technology upgrading yet. Different from traditional guarantees, a technology guarantee system provides technology-based startups and innovative SMEs access to financing that they would otherwise have constraints accessing and can have a significant impact on technological innovation of these firms (BID, 2022).

2. Objectives

- 2.1. (The general objective of this consultancy is to develop a technology guarantee and rating system for Costa Rica. Specific objectives of this consultancy are as follows: (i) to design technology innovation support scheme for Small and Medium Enterprises (SMEs); (ii) to design a technology guarantee and certification system to support innovative SMEs; and (iii) to design a technology rating methodology to support innovative SMEs.

3. Scope of Services

- 3.1. General requirements: The team must have national and / or international experience of at least 10 years in executing and advising on technology appraisals and technology guarantee issuance. The team must include at least one team leader that will be responsible for the overall coordination of the project activities and management of the team and will act as the primary contact for communications with the IDB and the SBD.
- 3.2. Team Composition: The team should be comprised of practitioners and researchers in technology appraisals including at least one specialist in rating indicators classification and appraisal, one specialist in public innovation agency capacity building, and one specialist in testing Korea's Technological Rating System in developing countries.

4. Key Activities

- 4.1. **Design of a Costa Rican Technology Rating System (CTRS) and capacity building for its management and recalibration.** To efficiently identify innovative SMEs with a good technology and market potential a scoring system should be devised in order to inform decision makers for guarantee issuance. Different from traditional finance-based scoring methods, a technology rating system measures the future growth potential of firms and technologies, as well as their likelihood of insolvency, thereby determining the feasibility of technology commercialization. In the case of Costa Rica, this rating system should be developed considering that there are currently no established technology scoring methodologies in the country to identify remarkable

technology SMEs and there is also a lack of procedures and methods to carry out a technology appraisal specialized in innovative SMEs. Therefore, based on the KTRS experience and the current situation in the country the following activities will be carried out: (i) the design of the model for a Costa Rica Technology Rating System (CTRS) including conceptual framework, evaluation metrics, rating algorithm and overall rating system; (ii) the design of a set of indicators, including their respective weights, needed to operationalize the CTRS model taking into consideration both country's culture and industry, including detailed guidelines to compute the indicators. The definition of the final set of proposed indicators will be based on the experience of the few organizations in the country that carry out the evaluation of technology projects, such as Costa Rica's Innovation and Research Promotion Agency (PROINNOVA), Costa Rica's Trade Promotion and Investment Agency (PROCOMER), and the National Learning Institute (INA); and (iii) capacity building and training activities on management and recalibration of the CTRS model in collaboration with experts in charge at the SBD.

4.2. Design of the Costa Rica Technology Guarantee Scheme and a pilot plan for testing the CTRS.

The focus of this activity will be the development of a proposal about a technology guarantee scheme that will have to be put in place in order to operationalize the CTRS. To achieve this, the following two activities will be carried out: (i) a diagnosis of the institutional capacities of Costa Rican organizations that should collaborate in the implementation of the CTRS. A primary organization leading the process will be the SBD, but this should be complemented through an assessment of relevant organizations that could support SBD, particularly with the technology assessment part of the CTRS. These include, in particular, the Costa Rica's Innovation and Research Organization; the National Center of High Technology (CENAT) and the Costa Rica's Technology Institute (TECH). Moreover, (ii) based on this diagnosis an operational model for the CTRS will be proposed and follow by, (iii) including a pilot plan to roll over the newly developed CTRS in a controlled sample of firms. The executing agency of the pilot plan will be the SBD and the resources will come from the National Development Fund (FONADE) managed by the SBD.

4.3. Benchmark study, dissemination seminar and joint publication.

A CTRS does not operate in a vacuum but within an ecosystem of other policy tools and a business environment that encourage innovation. The purpose of this activity is to provide the essence of Korea's experience in innovation support policy since the 1960s as a useful reference for Costa Rica's policymakers and to propose innovation policy directions appropriate for the country reality and environments. To achieve this the following activities will be implemented: (i) a benchmark study on Korea's innovation policies including the experience from Korea's rapid economic development since the 1960s, including the national policy flow and achievements in supporting technology-based SMEs through technology finance, which began in earnest in the 1990s. The basic structure and characteristics of the current innovation support programs managed by the Ministry of Trade, Industry and Energy (MOTIE) and the Ministry of SMEs and Start-Ups (MSS) will be also explained. The study will also include specific innovation policy recommendations for Costa Rica. Based on the lessons learned and field work findings from interacting with Costa Rican counterparts during the KOTEC's country missions, and taking the Korean experience as a benchmark, a set of policy recommendations for the Costa Rican authorities will be prepared on

how they could improve the effectiveness of the innovation policies in the country; (ii) a final dissemination seminar will be delivered with high-level policy makers in order to discuss the policy recommendations of the benchmark study, to socialize the new CTRS developed and to seek for political support for the scaling-up of the scheme for future pilot. This activity will also finance knowledge exchange missions between South Korea's and Costa Rica's public officers as needed; and (iii) the publication of a joint IDB-KOTEC report compiling the experience and lessons learned for the implementation of the KTRS model in Peru and Costa Rica in order to disseminate the findings across the LAC region.

5. Expected Outcome and Deliverables

#	Deliverable	Expected contents
1.	Work Plan	a detailed Work Plan including proposed activities, their sequence and timing, the proposed technical team, and the methodology to be used, specifying people responsible for each milestone.
2.	Design of a CTRS System	A report including the design of the CTRS system including evidence of the capacity building activities. Capacity building activities should aim at achieving gender balance among the participants.
3.	Design of the CRTG Scheme.	A report including the design of the CRTG model including findings from the pilot.
4.	Benchmark study.	A report including a benchmark study on Korea's innovation policies including the experience from Korea's rapid economic development with policy recommendations for Costa Rica's policy makers.
5.	Dissemination seminar	A report with the contents (agenda and presentations) of a final dissemination seminar delivered with high-level policy makers in order to discuss the policy recommendations of the benchmark study, to socialize the new CTRS developed and to seek for political support for the scaling-up of the scheme for future pilot.
6.	Joint publication KOTEC-IDB	A report with a joint publication with the IDB compiling the experience and lessons learned for the implementation of the KTRS model in Peru and Costa Rica in order to disseminate the findings across the LAC region.

6. Project Schedule and Milestones

Deliverables	Deadline
1. Work Plan	15 days after signing the contract
2. Design of a CTRS System	16th weeks after signing the contract
3. Design of the CRTG Scheme	32th weeks after signing the contract
4. Benchmark study	40th weeks after signing the contract

5. Dissemination seminar	48th weeks after signing the contract
6. Joint publication KOTEC-IDB	55th weeks after signing the contract

7. Reporting Requirements

- 7.1. The person responsible in the IDB for the consultancy and the comments to the reports generated by the Consulting firm will be Gustavo Crespi, Principal Specialist of the Competitiveness, Technology, and Innovation Division (CTI) at the IDB. It will be consulting firm’s responsibility to ensure that all required activities in the country are conducted, and reports are submitted to the Bank.
- 7.2. As for technical coordination on the counterpart, the supplier will have the Technical Secretariat of the SBD as focal point. The focal point monitors the development of the consultancy, supporting the supervision work of the Team Leader of the IDB. In this regard, the Technical Secretariat may issue observations, comments or instructions for changes, or a favorable technical opinion.

8. Acceptance Criteria

- 8.1. The consulting firm will submit deliverables of each consultancy milestone electronically to the IDB. All deliverables should be in English. The IDB will make comments on each deliverable as well as relevant SBD counterparts, which the consulting firm will need to reflect on and address in the final version of each project deliverable. Deliverables must contain the corresponding supporting information in annexes and in the case of database, they must be incorporated as part of the deliverables.
- 8.2. Meetings with interested parties must be attended and coordinated by a focal point of the SBD, especially from the Division/department in charge.

9. Schedule of Payments

- 9.1. Payment terms will be based on project milestones or deliverables. The Bank does not expect to make advance payments under consulting contracts unless a significant amount of travel is required. The Bank wishes to receive the most competitive cost proposal for the services described herein.
- 9.2. The IDB Official Exchange Rate indicated in the RFP will be applied for necessary conversions of local currency payments.

Deliverables	Deadline
1. Work Plan	15 days after signing the contract
2. Design of a CTRS System	16th weeks after signing the contract
3. Design of the CRTG Scheme	32th weeks after signing the contract
4. Benchmark study	40th weeks after signing the contract
5. Dissemination seminar	48th weeks after signing the contract
6. Joint publication KOTEC-IDB	55th weeks after signing the contract

10. Characteristics of the Consultancy

- 10.1. Contract category and modality: Products and External Services Contractual (PEC), International, Firm, Lump Sum
- 10.2. Workplace: mostly remote with 3 missions trips to San Jose, Costa Rica
- 10.3. Contract duration: 15 months (starting date TBD)