

**Project to Support the Implementation of a Science,  
Technology, and Innovation Center of Excellence in Panama  
(PN-0134)**

**EXECUTIVE SUMMARY**

<b>Borrower:</b>	The Government of Panama	
<b>Executing agency:</b>	City of Knowledge Foundation	
<b>Amount and source:</b>	IDB: (OC)	US\$ 3.3 million
	Local counterpart funding:	US\$ 2.0 million
	Total:	US\$ 5.3 million
<b>Financial terms and conditions:</b>	Amortization Period:	15 years
	Grace Period:	3.5 years
	Disbursement Period:	2.5 years
	Interest Rate:	Variable
	Supervision and Inspection:	1% of loan amounts
	Credit Fee:	0.75% yearly over undisbursed balance
	Currency:	US dollars (Single currency facility)
<b>Objectives:</b>	<p>Created in 1995, the City of Knowledge Foundation (CK) is a private, non-profit institution responsible for developing a science and technology park and academic programs on 120 hectares of land and infrastructure that until recently comprised the US Fort Clayton. The facility forms part of the Inter Oceanic Region (ARI), previously the Panama Canal Zone, and is valued at an estimated US\$100 million. The CK's operations began at Fort Clayton in early 2000.</p> <p>The CK requires strategic support from the Bank to strengthen its organizational structure as it enters a critical phase of its development. Indeed, this period will be essential to forging the CK into an institution that is independent and sustainable. The present project aims to promote capacity building and learning, which will allow the CK to make optimum use of its endowment and define market demand before it commits to additional investments. Based on the recommendations of the two feasibility studies and the business plan, the project's objectives are:</p> <ul style="list-style-type: none"> <li>(i) The design and implementation of a new corporate-style organization.</li> <li>(ii) The development of a comprehensive and aggressive marketing plan.</li> <li>(iii) The renovation and upgrading of information technology facilities in order to provide requisite quality services.</li> </ul>	

**Description:**

The project has three components:

**1. Organizational Strengthening and Monitoring and Evaluation (US\$540,000)**

This is a key strategic component for institution building. The CK, as an open system, requires special expertise to design and implement mechanisms to interact with its environment; improving its capacity for strategic planning; articulate organizational tasks, define and assign accountable duties; and develop appropriate information gathering and processing technologies. An important first step will be to cultivate well-informed and experienced managers and to foster a "learning organization." Three different approaches will be tested for effectiveness.

**2. Marketing: Promotion and Diffusion (US\$1,160,000)**

The second component will finance activities to attract the types and numbers of tenants needed to guarantee the CK's financial and institutional sustainability. Since the CK is an emerging concept in the Central American region, it faces the challenge of educating prospective users about its advantages, compared to alternative options for obtaining science and technology services. The marketing activities will fall into two sub-components:

- (i) The first subcomponent will comprise a wide range of promotional activities.
- (ii) The second subcomponent will consist of a rebates-based incentive scheme that will extend existing practices through the project's implementation period.

**3. Upgrading of Information Technologies (US\$1,090,000)**

The project will support the conversion of existing conference facilities into a high-tech "intelligent center". Investments will provide the CK with the necessary capabilities to deliver teleconferences, distance education, rapid Internet connections, and other services demanded by industry and academia. In addition, the loan will provide resources to create a new position: information technology specialist/web master.

**Innovation,  
Monitoring and  
Evaluation**

The Innovation Loan Modality (Doc. GN-2085-1) supports experimental projects (under US\$10 million) that boost institutional capacity in preparation for larger programs, build valuable institutional experience, and demonstrate the potential of taking a specific approach to overcoming a development constraint. It is appropriate for the CK project because it will facilitate the following:

- (i) **Learning:** The acceleration of capacity-building and learning will encourage the CK to make optimum use of its endowment and to define its needs through market demand before it commits to additional investments.
- (ii) **Flexibility:** The CK needs to test a minimum number of alternative management and marketing strategies before it decides on an appropriate and sustainable organizational arrangement. This process will lead the CK administration to clarify its mission and to design a longer-term business and investment plan. Both of these critical activities will be crafted on a sound understanding of the character of the demand for services, infrastructure, and procurement needs.
- (iii) **A novel approach:** The CK is a novel approach to diffusing technology that has not been tried on this magnitude in any small developing country. The institutional strengthening provided by this loan is critical to assessing how effective this new strategy can be in linking industry and knowledge-providers and in shrinking the digital divide .

The Innovation Loan Modality is also designed for projects that require rapid implementation in order to maximize the impact of the Bank's intervention. The CK has reached a point in its institutional development –especially now that it has to manage the former Fort Clayton premises- where it requires speedy strengthening of its organizational and marketing capacities. The sooner the administration puts in place strategic planning in these areas, the faster potential tenants will be able to sign contracts and fundraising activities will be able to take off. This will also allow the CK to capitalize on favorable political and institutional momentum, and to respond most effectively to the growing number of local and international firms that are already installing their operations. A more lengthy project preparation runs the risk of losing these advantages.

**Bank's country  
and sector  
strategy:**

This proposal supports the Bank's country strategy, which includes the development of the ARI and Panama's new National Competitiveness Strategy. The project has the full support of the GOP, which has developed the CK as part of a stimulus package to create growth, opportunity, and employment in the ARI region.

With its focus on improving the productivity of industry, the CK is also a key element in the National Competitiveness Strategy and it complements the technological innovation program initiated by the National Secretariat for Science and Technology (SENACYT). SENACYT's program is establishing the coordination of national technological change (IDB loan PN-0109, under execution). The CK project, in turn, will develop new markets for knowledge services and strengthen Panama's comparative advantages.

Finally, the proposal is consistent with the Bank's support of other technology and productivity projects in Central America. The CK could make a substantial contribution to regional technology diffusion and share benefits with these similar initiatives. Guatemala recently approved a loan for science and technology (GU-0134), Panama has a science and technology loan in execution to create competitiveness in the productive sector (PN-0109), and loans are under preparation in Nicaragua (NI-0147) and El Salvador (ES-0114). Further examples include the Dominican Republic's CyberPark and Costa Rica's recent incursion into high-tech services (spearheaded by Intel Corporation).

**Environmental/  
social review:**

The project will not require the construction of new buildings or infrastructure, only the refurbishing or renovation of military barracks into offices and meeting rooms. The project does not meet any of the five conditions, as stipulated by the regulations of the 1998 General Environmental Law (Law 41), that would place it in the so-called "taxative list" of projects, which require an environmental impact assessment due to their negative environmental impact. It can be concluded that the environmental impact of the CK project is negligible or zero. In addition, the CK will emphasize research and academic programs that will improve capacity for conservation and environmental responsibility. As such the CESI did not recommend any further action (TRG 30-00, Aug. 11, 2000). (Par. 5.8)

**Benefits:**

The preparation studies concluded that if the project is quickly implemented, it is likely that it will be economically sound and financially self-sustainable with positive returns-on-investment. The project has been conceived at a time when the emerging global economy—largely driven by knowledge-based exchanges—is forcing local enterprises to acquire new skills and to think and act more competitively and efficiently. The CK will now have the opportunity to focus its efforts in these directions, and to derive maximum benefit from developing its operations at the former US Fort Clayton.

A spin-off of the project will be the transfer of skills and technology to the local and regional economy, thereby producing a highly trained and qualified labor pool. The effects will extend beyond Panama and should favorably impact the economies of the sub-region.

**Risks:**

The fundamental risks of this project are: (i) the minimum necessary strategic international alliances cannot be established due to time constraints; (ii) the required minimum number of tenants for financial viability is not achieved; and/or (iii) the current high level of support from the GOP or within the ARI may falter. The experts who will be contracted with bank resources will design a strategy to reduce these risks, with control mechanisms flexible enough to correct deviations from pre-established indices or to reinforce certain components as the project evolves.

In the worst case scenario, where none of the envisioned alternatives crystallize, the land and facilities could be returned to the GOP intact or improved. They would not have lost their value (in fact, they may have increased in value, both due to improvements and the expected future shortage of land in the Panama City area). The GOP could use them for other development purposes. Unlike Singapore or similar projects, the CK requires very little investment and the opportunity cost is relatively low due to the existing supply of land and infrastructure.

**Special  
contractual  
clauses:**

**1. Conditions precedent to first disbursement of the loan:**

The borrower must demonstrate to the IDB, that:

- (i) It has signed the Funds Transfer Agreement by which the proceeds of the Bank loan are transferred to the Executing Agency, and that the Executing Agency has assumed the obligations incumbent upon it, according to the terms previously agreed upon with the IDB. (Par. 3.1)
- (ii) It has entered into force the Project Operations Manual, according to the terms previously agreed upon with the IDB. (Par. 3.5)
- (iii) The plans (terms of reference for consultants, and time and cost schedules) for marketing and management reorganization have been agreed by the Bank and the CK Board of Trustees. (Par. 3.2)

**2. Recognition of expenses**

It is proposed that up to the equivalent of US\$250,000 be recognized to cover expenses incurred since 1 December 1999. These should be credited to local counterpart used to finance activities eligible under the terms of the project. Normal IDB procedures will be used to verify that criteria and procedures substantially similar to those established in the loan contract were followed (Par. 3.13).

**Poverty-targeting  
and social sector  
classification:**

This operation does not directly qualify as a social equity enhancing project, as described in the indicative targets mandated by the Bank's Eighth Replenishment (Document AB-1704). Furthermore, this operation does not qualify as Poverty Targeted Investment (PTI). (See par. 5.7). The borrowing country will not be using the 10 percentage points in additional financing.

**Exceptions to  
Bank policy:**

None

**Procurement:**

The procurement of goods and services will be governed by the IDB's procurement procedures. Execution of the program will require consulting and supervisory services, the acquisition and installation of equipment, and contracts for construction. International competitive bidding will be required for: construction contracts worth more than US\$1,000,000; goods and related services contracts over US\$250,000; and consulting contracts exceeding US\$200,000 (Par. 3.11).

## **I. BACKGROUND**

- 1.1 Created in 1995, the CK Foundation operates as a private non-profit organization. Its mission is to bring together recognized businesses and technology, research and educational services, and to foster a climate that allows them to exchange ideas and develop synergistic working relationships. This not only benefits individual institutions, but also, over the long term, strengthens Panama's ability to compete in the global economy, helps to bridge the technology divide, increases economic productivity through technological advances, and potentially improves national and regional living standards.
- 1.2 Feasibility studies recommended that the CK be located on the 120 hectares of land and buildings of a former US military base, Fort Clayton. Formal operations on the Fort Clayton premises began in early 2000, following a 1998 agreement between the Foundation and the Government of Panama (GOP) for the use of Fort Clayton. Fully equipped with buildings, roads, utilities and recreational facilities, the property is valued at over US \$100 million.
- 1.3 To fulfill its mandate, the Foundation requested the Bank's support in developing a strategy and business plan. The Bank designed a decision model and approved a technical cooperation (ATN/JC-6295-PN), carried out by the Mitsubishi Research Institute, a major Japanese think-tank. Supported fully by both the previous and current governments, the study identified short-term objectives that could be used to frame a longer-term business strategy.
- 1.4 The proposed operation, under the Innovation Loan Modality, will assist the CK in applying this research, particularly to build its capacity in management, marketing and technology, and to explore the combination of organizational inputs most appropriate for carrying the CK toward independence and sustainability.

### **A. The economic context**

- 1.5 In the 21st century, Panama faces a mixed bag of opportunities and challenges. Several traditional income sources have stabilized or declined, including those related to Panama Canal revenues, Colon Free Zone import-export services, the US military presence, and the closing of the international oil pipeline.
- 1.6 **Comparative Advantages:** To compensate and to boost competitiveness, the GOP plans to encourage the growth of activities that build on areas where Panama either enjoys or can create comparative advantages. These include: political stability; high levels of basic education; a bilingual and culturally diverse society; highly developed transport facilities, including the inter-oceanic Panama Canal and an international airport with Latin America's longest landing strip; a convenient geographical location; well-established international banking services; and extensive biological resources, which have received increasing scientific attention in the past decades and are served by adequate infrastructure and research capacities.

- 1.7 Panama can also take advantage of its position as a fulcrum for worldwide data communications businesses. Most of the international undersea fiber optic cables—the Pan-American, Global Crossing, Maya, Project Oxygen, Arcos and others—converge to offer an attractive combination of extensive capacity and cost-effectiveness. In addition, Panama's International Banking Center, its duty-free zone, the recent creation of processing zones, and initiatives to foment small and medium enterprises offer significant opportunities for incubating new industries.
- 1.8 **Obstacles:** Despite these advantages, however, Panama faces a number of obstacles in identifying and obtaining appropriate technologies and in developing the corresponding human resources. Panama needs to provide state-of-the-art technological services; to adapt technologies for local use; to support new technology-based start-ups, specialized education, training and research; and to develop for business–university collaboration and international networking.
- 1.9 Accomplishing these goals requires a critical mass of key institutions that complement each other's efforts, and provide students, engineers, enterprises, researchers and technologists with access to modern technological tools. This will upgrade quality and increase efficiency in the production of goods and services; strengthen Panama's ties to critical international markets and generate new sources of income. The CK concept emerged with these considerations in mind.

## **B. The feasibility studies**

- 1.10 To design a market-informed strategy and business plan for the CK, the GOP financed two major studies, one by the Academy for Educational Development (a leading US research and consulting institution) and the other by the United Nations Education, Science and Culture Organization (UNESCO). The Bank complemented these efforts by financing a technical cooperation, carried out by the Mitsubishi Research Institute. These studies concluded that the CK should become a regional hub for education, research and transfer of technologies, including through the establishment of a research and technology park.
- 1.11 Broadly speaking, a science and technology park consists of an area large enough to allow the installation of enterprises wishing to be in direct contact with research, consulting and training that supports their activities, including the creation of new ventures. The main attractive features of such parks include lower cost installation and ancillary services, as well as the easier and faster development of ideas due to the proximity to research and development facilities. Typical participants are private enterprises; associations of entrepreneurs or industries; and national, regional and/or municipal governments that recognize technoparks as a tool for economic development.
- 1.12 In Panama the feasibility studies identified an unmet demand for a place where quality higher education, research and development, and modern technologies could flourish together. The scattered availability of research services, in particular, has dampened the interest of firms looking to conduct R&D work there. In addition, there is also a clear need for modern information technology and services such as e-commerce and other computer-related applications. The



studies concluded that the CK was well placed to offer new options in these areas and to build on existing comparative advantages or to foster new ones. The prerequisites for success were either in place or could be obtained with minor investments.

- 1.13 The business plan developed by Mitsubishi Research, "Strategy and Business Plan for the City of Knowledge", noted that successfully moving the CK toward self-sufficiency would require renewed and strengthened management and a more focused marketing plan. It identified three short-term objectives: (i) income sufficient to demonstrate sustainability; (ii) an ability to attract world class institutions and firms; and (iii) improved management and operation.
- 1.14 These objectives shaped a longer-term strategy for moving the CK into a growth stage of the business cycle. This consists of: (i) consolidation of advances in education and technology diffusion through the appointment of permanent appropriate staff; (ii) further development of the physical plant of the CK through fundraising and partnering; (iii) transformation of the CK into a prominent and internationally recognized entity; and (iv) consolidation of mechanisms to bring together tenants and local firms and institutions. To ensure that substantial progress was made toward these goals, the business plan recommended that support be obtained from an institution like the IDB. This would achieve both financial and non-financial objectives, such as credibility.

#### **C. The institutional context and accomplishments**

- 1.15 The CK Foundation Board of Trustees oversees the CK's operation, and is comprised of prestigious members of the private sector, government, and academia. Successful leaders recognized for their vision and fundraising capacity, these individuals realized the comparative advantages of Fort Clayton's facilities and modest costs for physical space, and convinced the government to allow the CK access to the property. They have created an image for the CK in Panama, and are in the process of moving the CK into its operative and corporate stage.
- 1.16 Currently, the chief operations officer is the executive director, who reports to the president of the Board of Trustees and, with an administration division, manages six activity centers: local alliances promotion; scientific and technological services; specialized educational programs; the International Technopark; the Panama Technological Business Incubator; and external cooperation, including work related to fundraising and collaboration with international development agencies. The CK employs 32 professionals (including 3 Ph.Ds.), and 5 secretarial assistants, maintenance personnel are outsourced. The annual operating budget is US\$200,000. In August, the Foundation developed the financial capacity, through rental income, to cover personnel costs and some administrative costs. It is concluding agreements for a credit line for working capital from a local bank, and for obtaining funding from the European Union (approximately 900,000 Euros) to promote the CK in Europe. It is also finalizing the legal framework to raise funds in the United States.

- 1.17 From its inception, the CK has focused on two major areas (or clusters) where comparative advantages exist or could be developed: biodiversity and communications (including transportation and information technology). These clusters have been emphasized in the development of plans for activities related both to industry and research.
- 1.18 **Industry:** With a significant number of multinational firms seeking a convenient Central American base to operate training centers, maintenance shops, call centers and other regional activities, the CK has prioritized the establishment of its Technopark and Business Incubator operations. These build upon Panama's current comparative advantages in biodiversity, multi-modal transport and international banking, as well as its potential comparative advantages in information technology and business incubation. Residents to date include companies producing banking software, setting up websites and e-commerce, and using information technology for transportation logistics. Xerox, Citigroup, OMNES Schlumberger and others have installed network operations.
- 1.19 **Research and Education:** The CK also stresses its potential role as an academic clearinghouse under which universities and other academic and research-related institutions converge to support the CK's areas of concentration. The five primary subject areas currently include commerce and business, social development, intercultural studies and arts, biology and the environment, and languages. Florida State University is already operating a full degree college in the CK, and the Smithsonian Tropical Research Institute, a member of the CK board, attracts over 400 internationally recognized researchers annually in bio-diversity and biomass projects. Other institutions seek to take advantage of Panama's biological diversity through activities such as genetic information processing, as well as research for the cosmetics, food, pharmaceutical and agrochemical industries.

**D. Responding to new and existing challenges**

- 1.20 In contrast to the normal growth cycles of start-ups, the CK started huge. The challenge to fill 120 hectares of facilities is a daunting one. Normally, enterprises grow as they learn their business and expand their clientele. Here, the reverse is true. While much progress has been made to date, the task will be neither easy nor quick.
- 1.21 **Weaknesses:** Initially, external assistance focused on developing the CK's Technopark and Incubator facilities. The latter has already been fully rented to businesses. But other divisions received little or no support to guide their strategic planning and development. The result was unbalanced operational growth, which means the CK lacks the organizational resources, outreach capacity, and the technology and related services demanded by the clientele it hopes to attract. With no information technology specialists on staff, no servers or teleconference facilities, and little in the way of business support services, the CK is still limited in its ability to support either a technology park or an international educational exchange.

- 1.22 Lack of forecasting and coordinated planning, along with a fuzzy operational mission, also hinder the CK's present organizational structure. Division chiefs have targets that are not always fully compatible with or complementary to each other. For instance, each division maintains its own statistical records and other data using its own formats and software. The result is an organization that is somewhat slow and a staff largely unable to provide the top-notch professional services that industrial and academic leaders expect.
- 1.23 **Responses:** The CK Foundation and the GOP justify the CK venture based on Panama's need to close the technology gap, which is critical to sustained productivity increases and economic growth. They maintain that a leapfrog approach can accelerate human capital formation and direct foreign investment, and that over time the close collaboration between industry, research and academic organizations will produce new comparative advantages and place Panama at a higher stage of development. In addition, the significant number of solicitors and contracts already signed at the CK attest to a growing demand for its unique services and opportunities.
- 1.24 However, the CK's long-term goal of financial sustainability requires certain inputs upfront. For many corporations and universities, the absence of basic technological services and a high quality professional infrastructure is enough to offset the fiscal and migratory incentives currently in place. The Mitsubishi Research study stressed the CK's potential to become sustainable if it can expand its organizational capacity and develop its human and technological resources. This requires specialized expert knowledge on technological change and on attracting and negotiating with potential tenants.
- 1.25 Creating these specialized functions and responsibilities must be balanced with the trustees' desire to keep the number of staff and administrative structures to a minimum, and with the need to consider quantity-quality and cost-benefit trade-offs. The CK Foundation has grown significantly since its inception. Such growth was both necessary and planned, given the size of the current facilities. But the CK can be better managed with a more concerted effort. The proposed Bank loan, with its emphasis on strategic planning, marketing and upgraded technology, can allow the CK to assess the viability of different approaches.
- 1.26 **The Innovation Loan Modality:** Global business, research and technology are all rapidly evolving fields. To capitalize most effectively on changing opportunities and its comparative advantages, the CK requires time to seek out those variables that emerge as most important and strategic, within the framework of decision points set along an implementation calendar. This need for a period of learning has prompted the IDB to propose application of the Innovation Loan Modality.
- 1.27 The Bank loan comes at a critical juncture in the CK's development. Great momentum was created by the move into Fort Clayton's impressive quarters, as shown by heightened interest by international firms and institutions and by widely favorable press. However, the CK is not yet fully equipped to respond to this growing interest or to provide a credible expectation of stable growth and

development. There is always a risk that potential tenants may retreat, and political favor will wane. It is necessary for the CK to act quickly to build its basic capacities. Once it has been strengthened as an institution, the CK will be able to pursue the most appropriate path to long-term sustainability.

## **II. PROJECT DESCRIPTION**

### **A. Objectives of the project**

- 2.1 The project will help to create those conditions required at a critical stage of the development of the CK to ensure its sustainability over the long-term. Based on the recommendations of the two feasibility studies and the business plan, referred to above, the project's objectives are: (i) the design and implementation of a new corporate-style organization; (ii) the development of a comprehensive and aggressive marketing plan; and (iii) the renovation and upgrading of information technology facilities in order to provide requisite quality services.
- 2.2 By the end of the project, the CK will have built a solid institutional structure. It will be able to respond effectively to market demand and provide credible guarantees of financial sustainability.

### **B. Innovation loan modality**

- 2.3 The Innovation Loan Modality (Doc. GN-2085-1) supports experimental projects (under US\$10 million) that boost institutional capacity in preparation for larger programs, build valuable institutional experience, and demonstrate the potential of taking a specific approach to overcoming a development constraint. It is appropriate for the CK project because it will facilitate the following:
  - (i) **Learning:** The acceleration of capacity-building and learning, which will encourage the CK to make optimum use of its endowment, and to define its needs through market demand before it commits to additional investments.
  - (ii) **Flexibility:** The CK needs to test a minimum number of alternative management and marketing strategies before it decides on an appropriate and sustainable organizational arrangement. This process will lead the CK administration to clarify its mission and to design a longer-term business and investment plan. Both of these critical activities will be crafted on a sound understanding of the character of the demand for services, infrastructure, and procurement needs.
  - (iii) **A Novel Approach:** The CK is a novel approach to diffusing technology that has not been tried on this magnitude in any small developing country. The institutional strengthening provided by this loan is critical to assessing how effective this new strategy can be in linking industry and knowledge-providers and in shrinking the digital divide.
- 2.4 The Innovation Loan Modality is also designed for projects that require rapid implementation in order to maximize the impact of the Bank's intervention. As discussed in the background, the CK has reached a point in its institutional development—especially now that it has to manage the former Fort Clayton premises—where it requires speedy strengthening of its organizational and marketing capacities. The sooner the administration puts in place strategic planning in these areas, the faster potential tenants will be able to sign contracts and fundraising activities will be able to take off. This will allow the CK to

capitalize on the current favorable political and institutional momentum, and to respond most effectively to the growing number of local and international firms that are already installing their operations. A more lengthy project preparation runs the risk of losing these advantages.

- 2.5 Chapter IV, Innovations, Monitoring and Flexible Implementation, will describe the decisions that will be made over the course of the project and provides a timeline for review.

**C. Architecture of the project**

- 2.6 The project will fortify CK's management structure and marketing capabilities and upgrade its information technology facilities. Its three components include:

**1. Organizational strengthening, monitoring and evaluation (US\$540,000)**

- 2.7 This is a key strategic component for institution building. The CK, as an open system, requires special expertise to strengthen its organizational framework, systems and processes. This will include designing and implementing mechanisms to interact with its environment, improving its capacity for strategic planning, articulating organizational tasks, defining and assigning accountable duties, and developing appropriate information gathering and processing technologies. An important first step in achieving this is to foster well-informed and experienced managers and to foster a "learning organization". Three different approaches will be tested (See Chapter IV).

- 2.8 This component includes a long-term management consultant to help identify priorities, calendars, processes, and controls for organizational efficiency. Support for training will be provided to ensure that management and staff are able to respond to challenges they will face. During the first twelve months of the project, an experienced consultant will oversee the implementation of daily changes required to re-engineer the organization. In addition, a Monitoring and Evaluation Office (MEO) will be established within the Foundation to manage the execution of the Bank's loan. This unit also will oversee the learning and technology transfer activities outlined in the logical framework.

**2. Marketing: promotion and diffusion (US\$1,160,000)**

- 2.9 The second component will finance activities to attract the types and numbers of tenants needed to guarantee the CK's financial and institutional sustainability. Since the CK is an emerging concept in the Central American region, it faces the challenge of educating prospective users about its advantages, compared to alternative options.
- 2.10 The tenants sought are those: (i) capable of implementing research, education or technology development programs in the areas where the CK has or will develop comparative advantages; (ii) requiring facilities and technological support in the development or incubation of innovative enterprises; and/or (iii) prestigious medium- to high-tech firms and/or institutions who are operating in areas where

Panama has comparative advantages and are willing to install some part of their operations in the CK.

2.11 The marketing activities fall into two subcomponents:

**(i) Subcomponent 2.1: Promotion and diffusion**

2.12 This subcomponent will consist of a wide range of promotional activities with the following five objectives: (i) to secure the support of Panama's public institutions and of the business and financial community; (ii) to seek assistance from multilateral and bilateral aid donors; (iii) to design promotional materials (brochures, CD-ROMS, videos, web page, etc.); (iv) to orchestrate a well-targeted program of international visits to and from the CK; (v) to lease unoccupied facilities to businesses compatible with the CK's mission and comparative advantages, including recognized scientific, academic or technological institutions; (vi) to obtain support from prestigious Latin American and international public figures.

2.13 The promotional activities will be directed by an international consultant or firm working with staff from the CK Foundation.

**(ii) Subcomponent 2.2: Pricing incentives**

2.14 A second subcomponent will consist of a rebates scheme to finance an important promotional/price incentive. This will extend existing practices through the project's implementation period. Rebates entail the CK returning a portion of the per-meter rental price to those firms or/and institutions that commit to long-term installations.

**3. Upgrading of information technologies (US\$1,090 million)**

2.15 In order to fill the information technology deficiencies outlined above, the project will support the conversion of existing conference facilities into a high-tech "intelligent building." Investments will provide the CK with the necessary capabilities to deliver teleconferences, distance education, rapid Internet connections, and other services demanded by users. In addition, the loan will provide resources to create a new position: information technology specialist/web master. This position will report directly to the executive director.

**D. Total cost of the project and its components**

2.16 The estimated cost of the project is US\$5.3 million. A detailed account of its components appears in the Cost Table below. The project will receive US\$3.3 million from the Bank (in Ordinary Capital). In addition, it will receive US\$2.0 million in counterpart financing.

**Table 2.1 Cost Table (in thousands of US\$)**

Category	IDB	Local	Total	%
<b>1. Engineering and Administration</b>	<b>145</b>	<b>927</b>	<b>1,072</b>	<b>20</b>
1.1 Monitoring and Evaluation Office	105	0	105	2
1.2 Supervision	40	227	267	5
1.3 Concurrent costs	0	300	300	6
1.4 Membership incentives	0	400	400	8
<b>2. Component I: Organization</b>	<b>540</b>	<b>75</b>	<b>615</b>	<b>12</b>
2.1 Coordination	150	60	210	4
2.2 Consultancies and evaluation	320	0	320	6
2.3 Equipment and property	40	15	55	1
2.4 Customization of facilities	30	0	30	1
<b>3. Component II: Marketing</b>	<b>1,160</b>	<b>177</b>	<b>1,337</b>	<b>25</b>
3.1 Coordination	419	162	581	11
3.2 Consulting firm	641	0	641	12
3.3 Equipment property and materials	100	15	115	2
<b>4. Component III: Upgrade IT</b>	<b>1,090</b>	<b>100</b>	<b>1,190</b>	<b>22</b>
4.1 Coordination	225	53	278	5
4.2 Consultancies	136	0	136	3
4.3 Equipment and property	476	47	523	10
4.4 Customization of facilities	253	0	253	5
<b>5. Not specifically assigned</b>	<b>332</b>	<b>217</b>	<b>549</b>	<b>10</b>
5.1 Unforeseen expenses (10%)	252	179	431	8
5.2 Expense scaling (3%)	80	38	118	2
<b>6. Financial costs</b>	<b>33</b>	<b>515</b>	<b>548</b>	<b>10</b>
6.1 Interest	0	487	487	9
6.2 Commitment commission (0.75%)	0	28	28	1
6.3 Inspection and monitoring	33	0	33	1
<b>Total</b>	<b>3,300</b>	<b>2,011</b>	<b>5,311</b>	<b>100</b>
<b>Percent</b>	<b>62%</b>	<b>38%</b>	<b>100%</b>	

## **E. Sources of financing and financial conditions**

2.17 The financial conditions of the loan are as follows:

Amortization Period:	15 years
Grace Period:	3.5 years
Disbursement Period:	2.5 years
Interest Rate:	Variable
Supervision and Inspection:	1% of loan amounts
Credit Fee:	0.75% yearly over undisbursed balances
Currency:	US dollars (Single Currency Facility)

## **F. Bank's country and sector strategy**

2.18 The CK proposal supports the Bank's country strategy, which includes developing the Inter-Oceanic Region and assisting the design and implementation of Panama's new National Competitiveness Strategy.

2.19 The GOP has placed a high priority on the CK, which forms part of a stimulus package it is implementing to create growth, opportunity, and employment within the ARI. The CK is also a key element in the National Competitiveness Strategy.



Since it focuses on improving the productivity of industry, it complements the GOP's plans for new investments encouraging the growth of tourism, transportation, ship repair, and telecommunications, as well as the provision of technical assistance to enterprises engaged in international commerce and agriculture.

- 2.20 The CK proposal also complements the technological innovation program initiated by the National Secretariat for Science and Technology (SENACYT). SENACYT's program is aimed at developing science and technology policy, improving coordination of technological change, and expanding the national innovation system (IDB loan PN-0109, under execution). The CK project, in turn, will foster new markets for knowledge services and strengthen Panama's comparative advantages.
- 2.21 Other related Bank activities, both ongoing and in preparation, are: (i) investments in the infrastructure and training required to provide high quality virtual (electronic) science in secondary education schools; (ii) a program to develop the market for e-commerce (MIF); (iii) strengthening technical services in metrology, standards, testing, and quality (MIF); and (iv) training and knowledge improvement in enterprise incubator techniques (MIF).
- 2.22 In general, a growing number of the Bank's clients are placing a strong emphasis on technology and productivity enhancements. The CK project will identify successful strategies for the management and marketing of technological services in small countries. The CK could make a substantial contribution to regional technology diffusion and share benefits with similar initiatives, including those already supported by the Bank. Guatemala recently approved a loan for science and technology (GU-0134), Panama has a science and technology loan in execution to create competitiveness in the productive sectors (PN-0109), and loans are under preparation in Nicaragua (NI-0147) and El Salvador (ES-0114). Further examples include the Dominican Republic's CyberPark and Costa Rica's recent incursion into high-tech services (spearheaded by Intel Corporation).

### III. INSTITUTIONAL CONTEXT AND EXECUTION ARCHITECTURE

- 3.1 The borrower is the Republic of Panama. The Executing Agency will be the CK Foundation. The Foundation will enter into an official Funds Transfer Agreement with the Ministry of Economy and Finance (MEF) to administer the funds and execute the project. The agreement will consist of the regulations and responsibilities the Foundation will incur in exchange for the transfer of funds. Thus, the Foundation will be bound by the same conditions and requirements that the Bank accords the MEF (in representation of the GOP). The exchange of reports and other communication will be exercised directly with the Foundation as the institution delegated by the GOP to execute the project. The Bank's resources will go to an account indicated by the MEF, and in accordance with the Funds Transfer Agreement, the Foundation will have immediate access to these funds for the purposes specified in the Loan Agreement. **The signing of the Funds Transfer Agreement is a condition precedent to first disbursement.**
- 3.2 Given the CK's innovative focus, its administration has concentrated mainly on conceptual elements. The original organization therefore requires adjustment, with the support of consultants, so that the CK may explore strategies to develop the corporate image and the appropriate institutional response mechanisms necessary to attract and maintain the types of high-level industries and services that will amplify the CK's impact. **The plans (terms of reference for consultants, and time and cost schedules) for marketing and management reorganization need to be agreed by the Bank and the CK Board of Trustees as a condition precedent to first disbursement.**
- 3.3 The CK administration will be enhanced by the creation of a Monitoring and Evaluation Office (MEO). Institutionally, the MEO will fall under the CK's Department of Cooperation. It will be responsible for: (i) planning, organizing and coordinating the project's activities; (ii) supervising the execution of the project and the attainment of the indicators; (iii) preparing progress reports required by the Bank; (iv) maintaining the project's accounting and files; (v) preparing the terms of reference for the consultants; (vi) dealing with the procurement of goods and services; and (vii) proposing budget allocations to CK authorities. The MEO will implement the Project Operations Manual, which will define and regulate the mechanisms for execution of the project, as previously agreed with the Bank. **The Project Operations Manual needs to be entered into force as a condition precedent to first disbursement of the loan.**
- 3.4 These activities will be undertaken with the collaboration of other CK staff. At the end of the project, the CK will incorporate the MEO into its budgetary and administrative structures.
- 3.5 MEO staff will be selected through interviews and competitive tests. For those newly contracted, their salaries will be paid with resources from Bank financing. The office will be constituted in the following way:
- (i) **A coordinator of the MEO.** The coordinator will oversee implementation of all project components and will ensure that all reports are presented

according to the calendar. S/he will also write reports for the advisory board (See Chap. IV), guided by the indicators being used to monitor and direct the project.

- (ii) **A coordinator of Component II, Marketing.** With the support of marketing consultants, this professional will work in close coordination with both the Academic Department and the International Technopark Department. The main function of the Coordinator will be to attract public and private institutions, international organizations, universities, private enterprises, and other organizations that excel in the key fields. In compliance with the Operational Regulations, these institutions must develop programs of common interest to the CK and respond mainly to national and/or regional demands.
- (iii) **A coordinator of Component III, Information Technology.** Her/his main functions will be to facilitate the technical services of information and logistics support, and to review the technical specifications of physical facilities required by participating institutions and enterprises.
- (iv) **An administrative/financial coordinator and an assistant.** They will be responsible for project accounting, the preparation of requests for disbursements and the paperwork for the procurement of goods and the contracting of services. They will be supervised by the chief of the CK's administrative department.
- (v) **A strategic planning specialist.** S/he will be in charge of organizational planning, and responsible for the execution of the Organizational Strengthening component and the coordination of external evaluations.

3.6 The following consultancies are also anticipated. For Component II, Marketing, a consultancy firm or a specialized entity will be hired for eight months, in two periods. During the first two-month period, the design of the strategies, programs and operational plans will be carried out; this includes the preparation of promotional and other materials and the training of the CK staff. A period of six months for the initial implementation and monitoring will follow. Working in close collaboration with CK staff, the consultants will particularly emphasize visits to the main international academic centers, development institutions and private enterprises to encourage them to participate in the project. They will also extend invitations to visit and learn about the CK's facilities, services and incentives. One of the consultants will design and implement a diffusion system, develop a set of potential strategic achievements, and supervise the overall promotional effort.

3.7 To reinforce and generate a continuous strategic planning routine and establish a corporate culture, an individual consultant will be hired to design short-, medium- and long-term planning strategies for the CK. S/he will work in close collaboration with the strategic planning specialist and will also define the methodology for the monitoring, follow-up and evaluation of the project on the basis of the indicators agreed with the Bank. There will be two phases, the first for 12 months during which the consultant will be full time, and the second for 8

months during which the consultant will remain on a retainer fee to review progress and provide advise.

- 3.8 Another consultant will be contracted for six weeks to carry out the intermediate evaluation.
- 3.9 **Execution Schedule:** The execution period will be 30 months, through the following estimated delivery timetable:

**Table 3.1**

<b>Schedule of Disbursements (In millions of US\$)</b>					
<b>Source</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>	<b>%</b>
<b>IDB</b>	2.0	0.9	0.4	3.3	62
<b>Local</b>	0.9	0.7	0.4	2.0	38
<b>Total</b>	2.9	1.6	0.8	5.3	100
<b>%</b>	55%	30%	15%	100%	

- 3.10 After the loan agreement has entered into effect and before all the conditions prior to the first disbursement are fulfilled, it is recommended that the Bank release up to US\$200,000 of the funding to hire the organizational management expert and the specialized marketing firm under the terms and conditions outlined above.
- 3.11 **Procurement Plan:** The procurement of goods and services will be governed by the IDB's procurement procedures. Execution of the program will require consulting and supervisory services, as well as the acquisition and installation of equipment, and contracts for construction. International competitive bidding will be required for: construction contracts worth more than US\$1,000,000; goods and related services contracts over US\$250,000; and consulting contracts exceeding US\$200,000.
- 3.12 **Monitoring and Evaluation:** The CK will present periodic progress reports in which achievements and obstacles will be clearly identified according to the agreed indicators that appear in the Logical Framework and related tables. A mid-term evaluation will take place 18 months after execution has commenced and a final evaluation will take place 30 days after the execution period has terminated.
- 3.13 Through the services of a consultancy firm, one mid-term and one final evaluation will be made independently of what has been presented by the CK. Chapter IV details the major aspects to be evaluated.
- 3.14 **Supervision:** The Panama Representation will be directly responsible for the supervision of the project's execution. The Social Programs Division 2 will support the Representation in technical and other aspects that require special attention as specified by the guidelines of the Innovation Loan Modality.
- 3.15 The loan contract will also include the standard clauses of the Bank on: auditing, inspection, maintenance, procurement of goods and services, supervision, evaluation, and recognition of expenditures chargeable to the financing and the local counterpart funding.

#### IV. INNOVATION, MONITORING, AND FLEXIBLE IMPLEMENTATION

- 4.1 Given the innovative character of this project and its potential importance for Panama's growth, a permanent team of advisors will be set up to follow the process of development. The Advisory Board will consist of one member of the CK Board, one member of the CK administration, one member from the MEF, one external consultant expert in innovation systems for developing countries, and one member of the Bank team.
- 4.2 In the final analysis, the CK needs to attain financial sustainability. This entails a critical mass of tenants who have committed to signing either a real-estate contract or a contingent letter of understanding for reserving space. After 18 months, the Bank will conduct a mid-term evaluation to assess whether the income and expenditure projections show a break-even point within five years following the first loan disbursement. After 30 months, a final evaluation will be conducted to confirm projections and expectations.
- 4.3 The flexible design of the project allows for a period of testing to discover the most effective management and marketing strategies a process that will allow the CK to adjust its mission and direction as required by the goal of financial sustainability. Midcourse, the project may call for changes to the marketing strategy, for example, or the contracting of additional management expertise. Some changes will become clearer as the marketing campaign sheds light on the type and character of the demand for CK services. Before making any new decisions or alterations, the MEO will consult the Bank; consultation mechanisms will be specified.
- 4.4 For Component I, Organizational Strengthening, the CK will explore various directions with the target of showing after 18 months that financial projections guarantee sustainability and that one of the following management modes should be pursued:
  - (i) **Technology management**— if at least 51% of revenues from actual or committed potential tenants derive from those using research and development services to adapt or transfer technology and/or to develop technologically innovative applications for products or services. The rest of the strengthening effort would then go into developing technology-based management.<sup>1</sup>
  - (ii) **Landlord/real-estate management**—if at least 75% of revenues from actual or committed potential tenants derive from the provision of the basic services and conveniences of location and infrastructure. The tenants would be basically self-contained, and not in need of networking

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<sup>1</sup> Technology management is defined here to mean an approach to management that seeks synergies among clusters of tenants for the exchange of services, as well as the provision of the basic services needed by technology-based tenants. This approach emphasizes information gathering and diffusion about issues such as the range of services and capabilities of the different tenants and opportunities to explore networking possibilities.

synergies. An existing example is the Xerox case. This firm is using the CK to train its employees for regional services and providing other services such as a call center.

- (iii) **Direct service provider management**—if at least 51% of revenues from actual and committed potential tenants derive from services directly provided by the CK (such as those provided by the Incubator).

- 4.5 A fourth option is a combination of any the above, as long as the contribution of any of the modes does not fall below 40%.
- 4.6 In Component II, Marketing, the CK will face the challenge of a target market that has little experience with what is being sold. This market is currently defined as local and international firms and institutions working in technology and science, particularly in biodiversity, information technologies and transportation.
- 4.7 Therefore, the marketing efforts will test a number of promotional activities. These include: (i) searching for and attracting a major 'anchor' tenant; (ii) use of world leaders to help in advertising; (iii) appropriate brochures to target clients; (iv) town meetings to present the CK to various constituencies; (v) a state-of-the-art web page; (vi) international conferences to attract scientists and scholars—who in turn will bring institutions and corporations to use the CK's services; (vii) favorable rental terms, particularly fiscal and rental price incentives; (viii) invitations to foreign institutions to conduct joint programs—educational or research—in areas compatible with the CK mission; (ix) personal contacts and calls made to target institutions and corporations; and (x) site visits to the CK.
- 4.8 The effectiveness of any marketing approach will be gauged in relation to its cost-effectiveness. Measurements will include costs to attract one new request for information and costs to achieve one signed contract.
- 4.9 A logical framework will be used to follow-up and evaluate the execution of the project at its mid-term (18 month) and terminal (30 month) stages. A set of indicators will link the learning goals to other project objectives, and will be assessed at the mid-term evaluation. (Annex I presents the framework and indicators.) At this time, the Bank, along with the CK administration, will analyze progress made and consider possible re-directioning using the indicators as well as reports periodically submitted by the MEO.
- 4.10 Many variables can undermine or propel the CK's performance, and no single indicator can adequately capture progress toward success. The project's monitoring and evaluation system must also be able to assess unexpected outputs or/and impacts.
- 4.11 To monitor progress systematically while allowing this flexibility, indicators have been selected using four categories: (i) effectiveness, to monitor whether programs produce desired outcomes; (ii) financial self-sufficiency, to check whether revenues are sufficient to cover total variable and fixed costs; (iii) efficiency, to assess whether internal processes add to productivity; and (iv)

promotion/price mix, to evaluate whether promotional and pricing strategies position the CK effectively in the market place.

## V. BENEFITS, ISSUES AND ANSWERS

- 5.1 **Benefits:** The preparation studies conclude that if the project is quickly implemented, it is likely that it will be economically sound and financially self-sustainable with positive returns-on-investment. The project has been conceived at a time when the emerging global economy—largely driven by knowledge-based exchanges—is forcing local enterprises to think and act more competitively and efficiently. The CK will now have the opportunity to focus its efforts in these directions, and to derive maximum benefit from the former US Fort Clayton.
- 5.2 A spin-off of the project will be the transfer of skills and technology to the local and regional economy, thereby producing a highly trained and qualified labor pool. The effects will extend beyond Panama and should favorably impact the economies of the sub-region.
- 5.3 **Technical Viability:** The feasibility studies support further investments in the CK. Even before the CK moved to its current, spacious quarters in 2000, a significant number of firms and institutions signed contracts or letters of intention, or expressed interest. Today, just a few months after installation, there are already firms, institutions, and universities operating or initiating operations.
- 5.4 **Financial Viability:** Financial simulations were carried out for three possible scenarios, and they suggest that the CK is financially viable. By monitoring indicators closely related to break-even considerations, it will be possible to consider switching from one scenario to another as more adequate market information is obtained during the project.
- 5.5 The first scenario assumes that: (i) 95% of the space allocated to the Technopark is rented in six years, and 75% of the space for academic programs will be rented in nine years; (ii) the center for academic programs offers five programs within the next three years; (iii) rent is set at US\$3/m<sup>2</sup> per month as per CK's present marketing strategy (against US\$10/m<sup>2</sup> in the local market); and (iv) IDB approves a loan such as described above. The second scenario has the same assumptions as the first, but also assumes that the CK sells 25% of the houses (46 units), invests the proceeds and uses the income of the investment to finance its activities. The third scenario is the same as the first, but in addition, the CK takes a line of credit of US\$2 million to hedge against intangibles, and holds off the sale of the houses until market demand dynamics are better understood.
- 5.6 The results of the first scenario indicate that the CK barely misses financial self-sustainability by the year 2008 as mandated by its agreement with the GOP. The CK would have to charge higher rates to tenants (possibly decreasing demand) or raise US\$1 million from Panama's private sector and international donors. In scenario two, with the sale of the houses and investing the proceeds of the sale, the CK could find itself in a very comfortable position. It would have a positive cash flow by 2004. By 2008, it would have a cash reserve of almost US\$8.6 million. The final scenario, the one actually taken by CK, provides it with a break-even point in 2004.



- 5.7 **Social equity and poverty reduction classification.** The project does not specify explicit performance indicators to measure poverty reduction and social equity enhancement. This project is not poverty targeted, but it is expected to have long-term impact on social equity via employment and productivity increases.
- 5.8 **Environmental Viability:** The CK's academic and technological components will not require the construction of new buildings or infrastructure, only the refurbishing and renovating of old military barracks to be used as offices and meeting rooms. The project does not meet any of the five conditions, as stipulated by the regulations of the 1998 General Environmental Law (Law 41), that would place it in the so-called "taxative list" of projects, which require an environmental impact assessment due to their negative environmental impact. It can be concluded that the environmental impact of the CK project is negligible or zero. In addition, the CK will emphasize research and academic programs that will improve capacity for conservation and environmental responsibility. The CESI did not recommend any further action (TRG-Aug 30 2000).
- 5.9 **Issues and Risks:** As with any truly innovative project, there are some clear risks. These include: (i) the minimum necessary strategic international alliances cannot be established due to time constraints; (ii) the required minimum number of tenants for financial viability is not achieved; and/or (iii) the current high level of support from the GOP or within the ARI may falter. The experts who will be contracted with bank resources will design a strategy to reduce these risks, with control mechanisms flexible enough to correct deviations from pre-established indices or to reinforce certain components as the project evolves.
- 5.10 There is also the issue of synergies. The fact that a cluster of related services or industries is geographically together does not guarantee collaboration. This occurs only when key managers perceive that a link makes sense for their respective businesses or institutions. It is possible that the CK's plan to capture synergies and channel communications may not be effective. For example, key managers may not recognize the importance of multi-business systems, such as frequent data-focused meetings among leaders or external metrics to gauge individual business performance. It is therefore proposed that an expert consultant design a strategy within the first six months, and put it in place to receive feedback as soon as possible.
- 5.11 In the worst case scenario, where none of the envisioned alternatives crystallize, the land and facilities could be returned to the GOP intact or improved. They would have not lost their value (in fact, they may have increased in value, both due to improvements and the expected future shortage of land in the Panama City area). The GOP could use them for other development purposes. Unlike similar projects, the CK requires very little investment and the opportunity cost is relatively low due to the initial excess supply of land and infrastructure.

**LOGICAL FRAMEWORK**

**CT TO SUPPORT THE IMPLEMENTATION OF A SCIENCE, TECHNOLOGY AND INNOVATION CENTER FOR EXCELLENCE IN PANAMA. (P**

Summary	Indicators (end of project)	Means of verification	Major assumption
			<b>Sustainability</b>
to the sustainability of a city of CoK)	1. CoK breaks even in year 5	1. Accounting records of CoK	Panamanian government continues CoK program priority
			<b>Purpose to end</b>
for financial sustainability of CoK and implemented on the basis of lessons learned from program	1. Upon completion of program (month 30), financial projections and break-even analysis ensure sustainability of CoK five years after first disbursement 2. Program marketing and administration models can be replicated	1. Final evaluation report 2. Final evaluation report	CoK satisfactorily implements recommendations contained in final report.
			<b>Components to purpose</b>
onal strengthening carried out, e of the 4 options for the tional system selected (see n Chapter IV of the loan )	Mid-term evaluation (18 months) confirms that: 1.1 Accounting system operational at end of year one, as per consultant's recommendations 1.2 Information/accounting system operational at end of year one, as per consultants work 1.3 At end of year one, administrative management system selected and justified using criteria and methodologies agreed on with the Bank (The indicators and criteria are described in loan proposal). At end of month 18, this system should be operating efficiently (includes: definition of mission, objectives and targets, monitoring, follow up, evaluation and system of verifiable indicators)	1. Inspection reports 2. Consultants' reports 3. Mid-term and final evaluations conducted by external consultants	1. Universities and institutions of excellence, and innovative companies taking part, are involved in program and benefit from the synergies envisaged. 2. Panamanian government continues to provide tax incentives 3. The Office of Immigration fulfills contractual commitments 4. Users of facilities assisted to renew their contracts 5. Assumptions used to determine projections of revenue and continue to be valid

Summary	Indicators (end of project)	Means of verification	Major assumption
	<p>1.4 Electronic communications system (INTRANET) functioning</p> <p>1.5 Short-, medium-, and long-term strategic planning paper based on management system selected is approved by board of trustees and the Bank at the end of year one</p> <p>1.6 Targets to be reached by month 30 established with the Bank</p>		
on and dissemination pilot , completed	<p>2.1 At month 18, mid-term evaluation, based on a methodology agreed on with the Bank, assesses the marketing findings and establishes courses of action for the continuity of the program with a view to ensuring its financial sustainability. The indicators and criteria are described in the loan proposal</p> <p>2.2 Targets to be reached by month 30 established with the Bank</p>	<p>1. Inspection reports</p> <p>2. Consultants' reports</p> <p>3. Mid-term and final evaluation conducted by external consultants</p>	
tion technology pilot developed employed by participants ities, public and private ons, international organizations, companies and individuals)	<p>At month 18, mid-term evaluation confirms that:</p> <p>3.1 The "Intelligent Center" consisting of: (i) a video conferencing room with seating capacity for 50; (ii) audio visual services center for the development of education packages for use in virtual education; (iii) classrooms; (iv) computer room; (v) cubicles for professors; (vi) office automatization; and (vii) Virtual Library is functioning, then on the basis of a methodology agreed on with Bank establishes its modus operandi</p> <p>3.2 Intranet service provides expected services to CoK users</p>	<p>1. Acceptance satisfactory</p> <p>2. Inspections</p> <p>3. Mid-term and final evaluation reports</p>	

Summary	Indicators (end of project)	Means of verification	Major assumption
	3.3 Conference rooms with seating capacity for 100, with audiovisual and teleconferencing equipment		
	3.4 Then, on the basis of a methodology agreed on with the Bank, defines the components operating conditions. The indicators and criteria are described in the loan proposal		
Activities	Inputs/precourses		Activities to Component
<p>ion of consultants' TOR</p> <p>f consultants</p> <p>ancies completed</p> <p>consultants hired and work ed</p> <p>n evaluation I</p> <p>valuation</p> <p>ion of TOR for hiring of ng firm</p> <p>f consulting firm</p> <p>ng work completed</p> <p>of designs for upgrading of s and facilities</p> <p>f construction firm and works ed</p> <p>ment of equipment and erection</p> <p>nt hired for design of education s</p> <p>ment of education packages</p>	<p><b>Organizational strengthening</b></p> <p>IDB                      US\$540</p> <p>Local                    US\$ 75</p> <p>Total                    US\$615</p> <p><b>Promotion and dissemination program</b></p> <p>IDB:                      US\$1,160</p> <p>Local:                    US\$ 177</p> <p>Total:                    US\$1,337</p> <p><b>Information technology</b></p> <p>IDB:                      US\$1,090</p> <p>Local:                    US\$ 100</p> <p>Total:                    US\$1,190</p>	<p>Program budget</p> <p>Program budget</p> <p>Program budget</p>	<p>1. Local counterpart contribution sufficient</p> <p>2. Favorable response from universities, institutions of excellence visit innovative private companies, campaign</p> <p>3. Processing of tax exemptions completed promptly</p> <p>4. Immigration procedures are completed expeditiously and efficiently</p> <p>5. ARI fulfills commitments assumed CoK</p> <p>6. Equipment acquired reaches component</p>

**PROCUREMENT PLAN**  
**PROGRAM TO SUPPORT THE FOUNDATION OF A SCIENCE AND TECHNOLOGY PARK IN PANAMA (PN-0134)**

Components/ Activities	Financing (US\$000)			Method of Procurement	Prequalification
	IDB	LOCAL	TOTAL		
<b>g and administration</b>					
consultants	105.0	0.0	105.0	LCB	NO
equipment and communications	536.0	77.0	603.0	ICB	NO
n work (renovations)	283.0	0.0	283.0	LCB	NO
<b>I. Institutional strengthening pilot</b>					
consultants (coordination)	150.0	60.0	210.0	LCB	NO
consultants (evaluations)	320.0	0.0	320.0	ICB	YES
<b>II. Promotion and dissemination pilot</b>					
firm	541.0	0.0	541.0	ICB	YES
<b>III. Information technology pilot</b>					
consultants (coordination)	225.0	53.0	278.0	LCB	NO
ational competitive bidding					
competitive bidding					
Quarter					

PROPOSED RESOLUTION

PANAMA. LOAN No. \_\_\_\_/OC-PN TO THE REPUBLICA DE PANAMA

(Project to Support the Implementation of a Science, Technology, and Innovation Center of Excellence in Panamá)

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 República de Panamá, as Borrower, for the purpose of granting it a financing to cooperate in the execution of a Project to Support the Implementation of a Science, Technology, and Innovation Center of Excellence in Panamá. Such financing will be for the amount of up to US\$3,300,000, from the resources of the Single Currency Facility of the Bank's Ordinary Capital, and will be subject to the "Special Contractual Conditions" and the "Financial Terms and Conditions" of the Executive Summary of the Loan Proposal.