

## TECHNOLOGY INCUBATORS

(TC-97-03-49-9-BR)

### EXECUTIVE SUMMARY

**EXECUTING AGENCY:** Instituto Euvaldo Lodi de Santa Catarina (IEL/SC)

**OBJECTIVES:** The Program will contribute to raising the productivity and competitiveness of small industrial enterprises in the state of Santa Catarina by establishing technology incubators (TIs) in industrial complexes in the region. A technology incubator (TI) is understood here to mean a specially structured and flexible environment in support of new enterprises that provides them, for a limited period of time, with shared infrastructure, technical assistance and manpower training so that they can grow and gain a foothold in the market. Technology incubators are an efficient instrument for economic development, job creation, and promoting a science- and technology-based entrepreneurial culture.

<b>FINANCING:</b>	IEL/SC:	US\$3.500.000
	MIF (Window III):	US\$3.500.000
	Total:	US\$7.000.000

**EXCEPTIONS TO BANK** None.  
**POLICY:**

**SPECIAL CONTRACTUAL CONDITIONS:** Contractual conditions during implementation: (a) within the first six months of the effective date of the agreement, consultants shall have been hired to manage the technology incubators; (b) for the procurement of laboratory and computer equipment, funds from the IDB financing will cover only up to 70% of the cost of each item of equipment; and (c) three evaluations: the first 12 months after signature of the agreement; the second 24 months after completion of the execution phase; and the third 30 months into project execution.

## I. COUNTRY ELIGIBILITY

- 1.1 Brazil was declared eligible to receive MIF financing on February 5, 1995.

## II. BACKGROUND

- 2.1 In 1996, Santa Catarina's gross domestic product was up by 3.11% from the year before, with the primary sector representing 16.71% of the total, the secondary sector 43.07%, and the tertiary sector 40.22%. Growth of approximately 5.5% is forecast for 1997. The 130,000 small businesses in Santa Catarina account for almost 70% of all jobs in the state and 50% of wages paid in the state, and produce 24% of its GDP.
- 2.2 Santa Catarina has one small business for every 36 inhabitants, and its outsourcing networks are the most successful anywhere in the country. Small textile companies predominate in the Itajaí Valley, metallurgical plants in the North, agroindustry in the West, and microinformatics and telecommunications in the Litoral area, with enterprises devoted to giving birth to high-technology companies. These businesses not only turn out finished products but are also significant suppliers to larger-scale industries.
- 2.3 In 1996, the Instituto Euvaldo Lodi de Santa Catarina (IEL/SC), in cooperation with the German Development Institute (GDI), completed a study on the overall competitiveness of industry in Santa Catarina. This study's findings underscored the need to increase the synergies between businesses and institutions fostering industrial growth by developing technology-based firms.
- 2.4 The study identified the factors that make up competitiveness, and suggested a series of practical measures to be taken by the Government in the short, medium and long term, in its capacity as a promotor of technology development, together with other measures to be taken by the business sector. Based on the study's findings, industry in Santa Catarina enjoys comparative advantages in terms of production: sectors concentrated in six industrial "poles", as a factor promoting collective efficiency; and a level of internal competitiveness above the average for Brazilian firms.
- 2.5 Santa Catarina's experience with TIs is one of the most important in the country. In 1984, the first technology incubator initiative, Incubadora Empresarial Tecnológica (IET), came into being in Florianópolis, under the direction of the CERTI Foundation and the Federal University, with the assistance of the State government. The IET conceived a unique incubator strategy, using national and international technology-based companies.

### III. PROGRAM OBJECTIVES AND COMPONENTS

#### A. Objective

- 3.1 The Program will help to increase the productivity and competitiveness of small industrial enterprises in the state of Santa Catarina by establishing technology incubators (TIs) in regional industrial complexes. Upon completion, the productivity and competitiveness of Santa Catarina industry will have increased by about 3% by the year 2012, as a result of the technological innovations developed by the 60 enterprises which it is planned to incubate.
- 3.2 Technology incubators are understood to mean a specially structured and flexible environment to support new companies by making available to them, for a limited time, share infrastructure, technical assistance, and human resources training to develop and occupy a market niche, to create employment, and stimulate the evolution of a science- and technology-based entrepreneurial culture development.

#### B. Components

- 3.3 Under the program, the TIs will provide assistance to new emerging companies in the form of physical facilities as well as technical and administrative for a limited time. The following types of TIs will be financed under the program.
- 3.4 Joinville Electrical/Metalworking/Engineering TI in the north-eastern region: This will have a diversified industrial park near Brazil's new automobile industry. 1/ These industries offer the opportunity to expand production of components and precision items in support of high-value-added production.
- 3.5 Criciúma Ceramics TI in the southern region: This area, home to a mining complex and the Centro de Tecnologia em Cerâmica, is a traditional coal producer and center for the expanding ceramics industry (dependent on imported technology). The TI will add its own design technology, new products, enamel components, and automation of management processes.
- 3.6 Chapecó Agroindustrial TI in the western region: This is where the agroindustrial complex is located. In addition to agribusiness, farm production will encompass the livestock industry and food processing, where development has been strongest in meat and meat

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1/ Assembly plants including Renault, Audi, Chrysler and General Motors have decided to build their facilities in the southern region of Brazil near Joinville.

products and fruit and vegetable processing. This is a market with unmet demand. The TI will serve as a mechanism to generate new products and technologies and add value to current products.

- 3.7 The selection of incubators has stemmed from a process of rationalization and optimization of resources. The original project, which envisaged six incubators (for complexes in the areas of minerals, metalworking and engineering, textiles, agroindustry, wood and paper, and technology), was pared down by identifying those areas and sectors with the greatest needs but also offering the greatest technological advantages.
- 3.8 In addition, through the TIs, this program will finance the following services for incubated companies: (a) physical infrastructure (on a lease basis at non-commercial rates): modules for enterprises, electric power, meeting rooms, etc.; (b) operational support services: reception, library, security, mail, cleaning, procurement of materials and equipment, telecommunications system (telephone, fax, Internet); (c) strategic support services: assistance in securing financing, preparing special projects, providing intermediary services, etc.; (d) business development services: advice and assistance with marketing, finance and total quality management, support for attendance at trade fairs and congresses, training for new entrepreneurs, panels of advisers, specialized consultants, manpower, etc.; and (e) technical support services: finding technological information, access to specialized laboratories, registration of trademarks and patents, assistance with setting up companies and standardizing products and processes, etc.

#### IV. PROGRAM EXECUTION

##### A. The executing agency and form of execution

- 4.1 The executing agency will be the Instituto Euvaldo Lodi de Santa Catarina (IEL/SC), which is linked to the Federação das Indústrias do Estado de Santa Catarina (FIESC). IEL/SC is a non-profit civil organization governed by private law, which was established in 1970. It is an industrial and technology development agency, designed to foster and promote links between society and industrial enterprises, universities, research centers, and government agencies. It acts as an inducing agent and implements projects, and is governed by a Conselho Deliberativo (Management Board) made up of representatives from business, academia, and the government.
- 4.2 IEL/SC receives its income from contributions from FIESC, the Serviço Social da Indústria (SESI) and SENAI, which channel 1% of their institutional income to it. IEL/SC also receives and acts as an intermediary for public and private incentive funds for research

and projects of economic interest.

- 4.3 This project employs an instrument for industrial development within a physical space specially configured to support technology-based enterprises wishing to transform ideas into products and processes into services, using equipment, infrastructure and services on a shared basis. It will also be a "bridge" between the market and technological advances generated within teaching and research institutions and within other enterprises, helping to bring products developed within the world of research to potential consumers.

- 4.4 The consultants recruited for management of the TIs will be hired within six months of the effective

date of agreement in accordance with terms of reference previously agreed on with the Bank. The project will be implemented over a period of 48 months, with funds being disbursed over a period of 54 months.

#### B. Procurement and disbursements

- 4.5 As the executing agency and the beneficiaries are private enterprises, those Bank policies and MIF provisions which refer to proper use of loan funds, eligibility of goods (MIF member countries), together with the rule of efficiency and cost-

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#### BASIC PROCESS FOR TECHNOLOGY INCUBATORS

**Qualifying enterprises:** Businesses established by individuals, bodies corporate, departments of previously established enterprises, and enterprises previously established in other locations wishing to join the present project, excluding however enterprises already participating in similar development projects.

**Length of time in the incubator and cost:** Each participation agreement will lay down the length of time (48 months) and the amount of its participation in the costs of management, services, technical assistance and other expenses. Shared costs will be evaluated, based on their actual amount, and will vary by a factor representing the enterprise's phase of development. The breakdown will be based on the **shared actual cost** (*Costo Compartido Real* — CCR).

**Selection criteria:** Viable project, technology-intensive products, commercial return, autonomous enterprise, in conformity with the incubator objectives, products in conformity with environmental legislation, socially acceptable.

**Business plan:** A form will be developed for the candidate enterprise to present its business plan, covering the following topics: outline of the business to be developed, business objectives, description of products or services, identification of target market, description of the enterprise's macro and micro environment, description of technology to be employed, source of technology, production process, description of current phase of the product, marketing, financial, organizational and management aspects, services used by the enterprise, and registration and legal authorization of the enterprise.

**Call for bids:** The selection process will be initiated with the publication of a call for bids in a newspaper with statewide circulation, indicating the date for submission of proposals, which must comply with the criteria set forth in the business plan. The business plans will be examined by an Evaluation Committee; this Committee will also be responsible for monitoring the evaluation of the business plans submitted by the enterprises.

**Operation of the incubator:** Once the enterprises have been selected and the participation agreement has been signed, the start-up and operation phase of the technology incubator will begin, in accordance with the provisions of the agreement and the Operating Regulations.

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effectiveness, will apply in the procurement of goods and services. For procurement of goods and services, IEL/SC will employ competitive methods and will reach agreement with the Bank on limits and/or cases in which it will ask for a prior statement of non objection based on the terms of reference and the equipment specifications and the procedure to be followed for selection and/or procurement of goods and services.

- 4.6 After the provisions of the covenants prior to first disbursement have been met, the Bank may advance funds, against the contribution, to establish a revolving fund amounting to 10% of the contribution.

C. Environment and social impact

- 4.7 The Bank's Committee on Environment and Social Impact considered this operation at its meeting of November 7, 1997 (TRG39/97). The recommendations have been incorporated into the project. The state of Santa Catarina has among the best bodies of environmental legislation in Brazil. The project was designed and revised to take account of environmental protection standards.

## V. COST AND FINANCING

A. Budget and use of resources

- 5.1 The cost of the project has been estimated at US\$7,000,000. IEL/SC will contribute US\$3,500,000 and the MIF will provide US\$3,500,000 on a non-reimbursable basis. A summary of the budget by source of financing is presented in the following table.

**Budget and Sources of Financing (in US\$000s)**

CATEGORIES	TECHNOLOGY INCUBATORS						TOTAL	
	JOINVILLE		CHAPECO		CRICIUMA			
	MIF	Local	MIF	Local	MIF	Local	MIF	Local
1. Project management	250	100	250	100	250	100	750	300
2. Infrastructure, equipment and services	356	536	167	670	167	670	690	1,876
3. Training	238	221	238	211	238	211	714	643
4. Technical assistance	316	100	290	100	290	100	896	300
5. Evaluation and audit	30	10	30	10	30	10	90	30
6. Project dissemination	20	17	20	17	20	17	60	51
7. Contingencies	100	100	100	100	100	100	300	300
TOTAL	1,310	1,084	1,095	1,208	1,095	1,208	3,500	3,500
%	38.0	31.0	31.0	34.5	31.0	34.5	100	100

- 5.2 Funds from the contribution and the local counterpart will cofinance the categories specified in the budget. MIF funds will be used principally to contract for consulting services for management of the incubators, technical assistance, training and technical enhancement of services, database, software development and up to 20% of the contribution for computer equipment and laboratories (the financing resources will cover only up to 70% of the cost of each item of equipment), audits, evaluation and dissemination.

**B. Sustainability**

- 5.3 The feasibility of the operation is guaranteed by financial contributions already committed to the project by the State government (land, facilities, and exemption from taxes), by the University (facilities, laboratories, post-graduate program), and by FIESC (sites, construction, laboratories, equipment, and support services).
- 5.4 The participation agreements, to be signed between the project management organization and the enterprise wishing to be incubated, will specify the period of time the enterprise is to remain within the incubator and the enterprise's participation in the shared costs, which are to cover management of the business, technical support services, exchange of experiences, and other expenses.
- 5.5 The experience gained in incubators previously established in the state and in other parts of Brazil show that shared costs (market prices), expressed in terms of their actual value, ought to vary in relation to the stage of the enterprise's development. The

different stages and allocation of the **Shared Actual Cost** (*Costo Compartido Real - CCR*) will be as follows: start-up phase (year 1): 0.5 x CCR; growth phase (year 2): 0.7 x CCR; consolidation phase (year 3): 0.9 x CCR; leaving-the-incubator phase (year 4): 1.0 x CCR. Enterprises will generally remain in the TI for 48 months. In exceptional cases, with Management approval, a 12-month extension may be granted, but with no subsidy for shared costs; in such cases, the entrepreneur will be required to pay 1.25 x CCR.

## VI. PROGRAM JUSTIFICATION AND RISKS

### A. Justification

- 6.1 The benefits expected from the project reside in the fact that the knowledge brought to Brazil or produced by Brazilian universities or industry can result in benefits for the country through the establishment of technology-based enterprises, allowing such knowledge to reach the market more easily, through shared efforts and practical, down-to-earth companies incorporating innovations or results from research conducted by the government, the productive sector and educational and research institutions.

### B. Risks

- 6.2 A project with as many variables as the present one will always entail risks. In this particular case, however, these risks have been minimized because: (a) the State has built up valuable experience with world-class projects over nearly 15 years; (b) management of the project will be in the hands of IEL/SC, which has the requisite institutional capacity as an executing agency; and (c) the university, industry and the State government have all committed themselves to the project.

## VII. FOLLOW-UP AND EVALUATION

### A. Follow-up

- 7.1 The project is based on a Logical Framework which provides the requisite elements for its implementation, monitoring and evaluation. Responsibility for on-site monitoring by the Bank will rest with the Bank's Country Office in Brazil. The principal instruments for project follow-up will be the required progress reports, independent audits, consultants' reports, and the results of the evaluations included in the project.



B. Evaluation

- 7.2 The project calls for three evaluations, to be conducted by outside consultants: the first after completion of the first 12 months following the signing of the Agreement, the second upon completion of 24 months, and the third after 30 months. IEL/SC will engage the outside consultants in accordance with terms of reference previously agreed with the Bank. The evaluations will take account of information received from IEL/SC, under the reporting system required. If these evaluations prove satisfactory to the Bank, it will authorize IEL/SC to continue committing project funds. If not, IEL/SC will have to make the necessary adjustments before the Bank authorizes the resumption of disbursements.

**PLANNING OF THE GOALS-DIRECTED PROGRAM  
TECHNOLOGY INCUBATOR PROJECT**

OBJECTIVES	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS																											
se the productivity and ss of industry in Santa Catarina	Productivity and competitiveness increased at an annual rate of 3% to the year 2012	Publication of "Santa Catarina in figures" and "Analysis of competitiveness of industry in Santa Catarina"	Economic policy stable																											
of Technology Incubators (TIs)	<ul style="list-style-type: none"><li>- 60 technology companies created in 3 incubators by 2002 (*)</li><li>- 9,000 persons trained in technology</li><li>- 12,000 persons receive refresher training</li><li>- 400 members of senior management trained</li></ul>	<ul style="list-style-type: none"><li>- Evaluation of the program</li><li>- Visual inspection</li><li>- Surveys</li><li>- Evaluation of training programs and surveys</li></ul>	Funding will need to be available maintenance and operation to ens are sustainable.																											
S: ical Metalworking Engineering  industrial TI mics TI	<ul style="list-style-type: none"><li>- TI established to I/iii quarter</li><li>- TI established to I/iv quarter</li><li>- TI established to I/iv quarter</li><li>- 250 events (conferences, seminars, showrooms, internet terminals) by the 2002</li><li>- 1,000 events in refresher training offered (in a single occupational area, in the same sector, intersector, informal to formal activity, to raise minimum level of education)</li><li>- 30 management events (universities, courses, in-service training, business simulation, total quality) for entrepreneurs and businessmen.</li></ul>	<ul style="list-style-type: none"><li>- Reports on acceptance of TI civil works</li><li>- Purchases and physical acceptance of equipment</li><li>- Consultants' reports</li><li>- Audited financial statements</li><li>- Inspections</li></ul>	Priority and support of participatin sector companies and Santa Catar government																											
management re, equipment, services  assistance and audit ion of project cies	Budget (in US\$000s) <table><tr><td><u>LOCAL</u></td><td><u>IDB</u></td><td><u>TOTAL</u></td></tr><tr><td>300</td><td>750</td><td>1,050</td></tr><tr><td>1,876</td><td>690</td><td>2,566</td></tr><tr><td>643</td><td>714</td><td>1,357</td></tr><tr><td>300</td><td>896</td><td>1,196</td></tr><tr><td>30</td><td>90</td><td>120</td></tr><tr><td>51</td><td>60</td><td>111</td></tr><tr><td><u>300</u></td><td><u>300</u></td><td><u>600</u></td></tr><tr><td>3,500</td><td>3,500</td><td>7,000</td></tr></table>	<u>LOCAL</u>	<u>IDB</u>	<u>TOTAL</u>	300	750	1,050	1,876	690	2,566	643	714	1,357	300	896	1,196	30	90	120	51	60	111	<u>300</u>	<u>300</u>	<u>600</u>	3,500	3,500	7,000	<ul style="list-style-type: none"><li>- Chart of accounts</li><li>- Disbursements</li><li>- Financial statements</li><li>- Progress reports</li></ul>	
<u>LOCAL</u>	<u>IDB</u>	<u>TOTAL</u>																												
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3,500	3,500	7,000																												

or company is one that after an incubation process emerges as an established company operating in the market, producing and selling as envisaged, providing employment, and applying and developing the technology employed.

PROPOSED RESOLUTION

BRAZIL. NON-REIMBURSABLE TECHNICAL COOPERATION FOR A  
TECHNOLOGICAL BUSINESS INCUBATORS PROJECT

The Donors Committee of the Multilateral Investment Fund

RESOLVES:

1. That the President of the Inter-American Development Bank, or such representative as he shall designate, is authorized, on behalf of the Multilateral Investment Fund, to enter into such agreements as may be necessary with the Euvaldo Loti Institute of Santa Catarina and to adopt such other measures as may be pertinent for the execution of the plan of operations referred to in Document MIF/AT-\_\_\_\_ with respect to a technical cooperation, the purpose of which is to support a project for technological business incubators.
2. That up to the amount of US\$3.500.000 is authorized for the purpose of this resolution, chargeable to the Small Enterprise Development Facility of the Multilateral Investment Fund.
3. That the above mentioned sum is to be provided on a non-reimbursable basis.