ANNUAL REPORT 2012

LABelectron

Sapiens Parque

Two CERTI initiatives are 10 years old and now nationally recognized.

certi®

Reference Centers
in Innovative Technologies

CONTENTS

Annual Report 2012
Approved by the Board of Advisors at its Ordinary Meeting of April 12, 2013


UFSC
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UFSC
METRO
FLORIANÓPOLIS

PRESENTATION

The expressive 31% growth in the productive activity of the CERTI Reference Centers in 2012 was certainly a consequence of the focus, agility and effectiveness of the services offered to clients. Once again the organization registered important advances in its technical and scientific capacity to meet the demands of companies and other organizations that require innovative solutions for their products, processes and systems. CERTI supports innovative entrepreneurs by providing motivational and training activities, system and business modeling, advanced software development and mechaoptoelectronic hardware, and at times even offers production or a pilot-operation of the innovative solutions generated.

Thus, together with MIT, at the event "Challenge of Innovation 2012," directors of large and small companies were guided towards radical innovation. On another front, working together with the Santa Catarina State Secretariat of Sustainable Development (SDS) and the state research finance agency (FAPESC) in the Synapse of Innovation Program, thousands of young students, researchers and technicians were induced towards innovative entrepreneurship. Concerning the development of the innovations, hundreds of clients made use of technological services, consultancies, prototyping of specific ICT solutions and of new technological competencies in sustainable energy and green economy, which are now strategic for competitiveness. The Santa Catarina State government and state governments in other regions of Brazil have had CERTI as a partner for the promotion of innovation with facilities such as Poles, Parks, Incubators and Information and Communication Technology Institutes (ICTIs), in which CERTI conducts operations from planning to implementation.

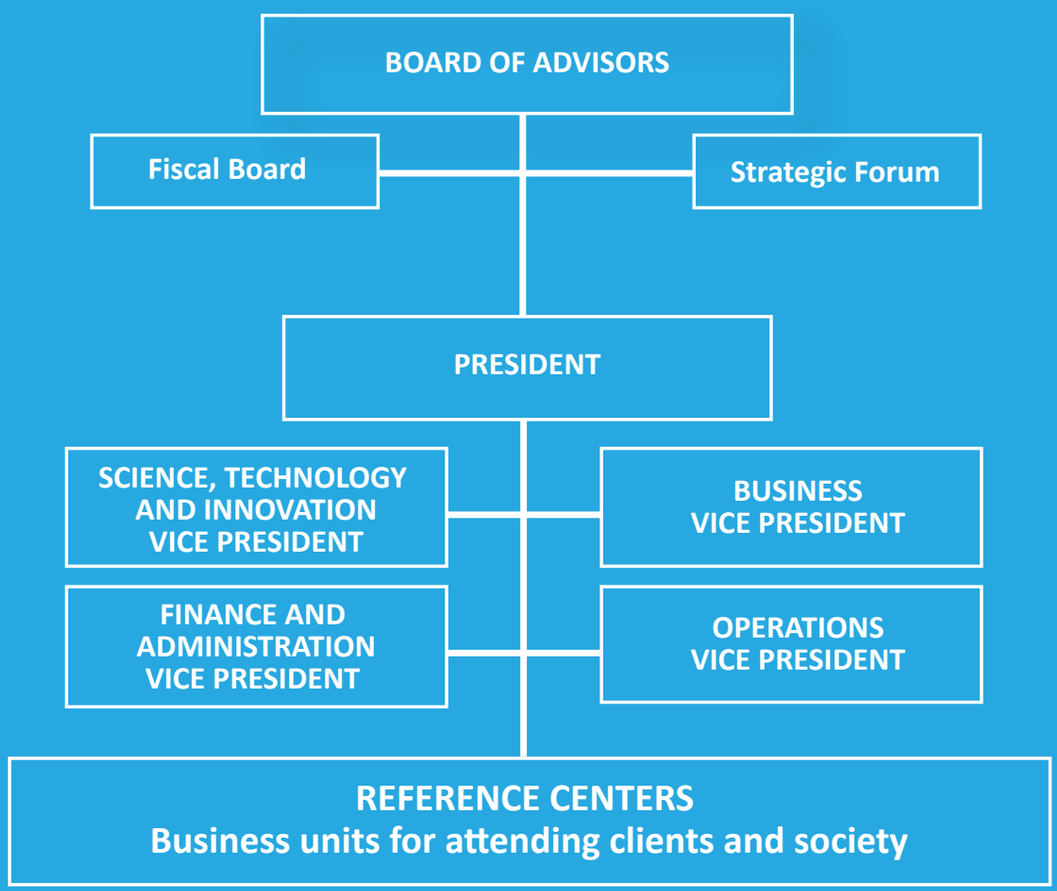
This Annual Activities Report presents examples of the work and the technological platforms undertaken by CERTI in 2012. The institution has its doors open for your visit, whether at its main offices at the campus of the Federal University at Santa Catarina, or in any of the other executive branches presented here.

We would like to thank our clients and suppliers for the constructive partnerships. We would also like to thank our staff, which was motivated by the challenges presented to them and made a great effort in the generation of innovative solutions, assuring CERTI's sustainability and strongly contributing to Brazil's social and economic development.

Carlos Alberto Schneider, Prof. Dr.-Ing
President
CERTI Foundation

MANAGEMENT 2012

Governance at CERTI is the responsibility of the Advisory and Fiscal Boards and its Board of Presidency, and receives advice from a Strategic Forum. The following pages present the routine and special administrative actions undertaken in 2012, supported by the Strategic Plan 2020 and by the Action Plan 2012, which resulted in considerable institutional growth and expressive promotion of development with innovation in the community attended.



CERTI ADMINISTRATORS

Board of Advisors

Members:

Amir Antônio Martins de Oliveira Júnior
Armando Albertazzi Gonçalves Júnior (substitute)
Juan Carlos Sotuyo
Gilberto Heinzelmann
Giorgio Rodrigo Donini (substitute)
Márcia Ligocki Lins
Moacir Antônio Marafon
Moacyr Rogério Sens (President)
Ronald Martin Dauscha

Fiscal Board

Members:

Altair Acelon de Melo (substitute)
Elias Fernandes Eufrásio
Eugênio Busnardo
Guilherme Júlio dos Santos (substitute)
Nelson Ronnie dos Santos (President)

Strategic Forum

Members:

Bruno Domenico Bragazza
Carlos Henrique Ramos Fonseca
Erich Muschellack
Ernesto Heinzelmann
Guilherme Stark Bernard
Luiz Fernando Gerbase
Marcelino Guedes Ferreira Mosqueira Gomes
Márcio Ellery Girão Barroso
Roselane Neckel (President)- Dean of UFSC

Presidency Board

Members:

Carlos Alberto Schneider (President)
Günther Pfeiffer (Operations)
Günther Pfeiffer (Finances and Administration - Interim)
José Eduardo Azevedo Fiates (Science, Technology and Innovation)
Laercio Aniceto Silva (Business)

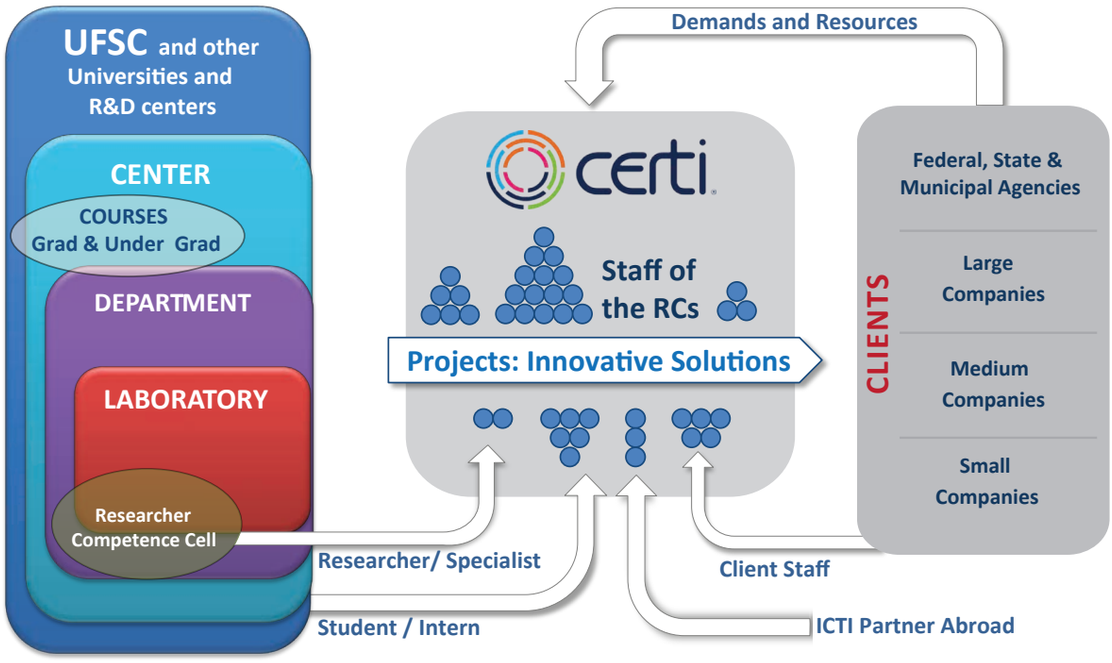
CERTI is an organization dedicated to Science, Technology and Innovation monitored by the Public Ministry of Santa Catarina State

MPSC
MINISTÉRIO PÚBLICO
Santa Catarina

CERTI MISSION

To create and provide innovative solutions in technology products and processes, entrepreneurship and sustainability, of a strategic character for clients, using universal knowledge and the results of advanced research, its own and that of its partners, to support development and social well-being.

CERTI OPERATIONAL MODEL



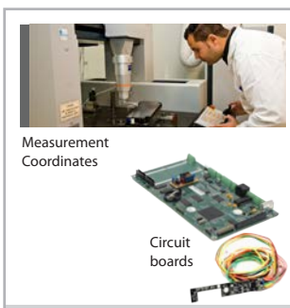
INNOVATIVE SOLUTIONS FOR CLIENTS

DEVELOPMENT (complete or partial)

Products

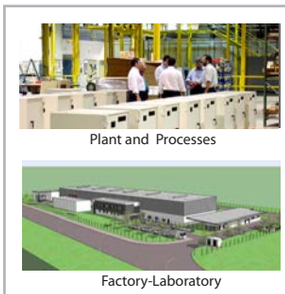
Processes and Systems

Technology Services



Consulting & Training

Industrial Factories



Innovation Mechanisms

INNOVATION MECHANISMS

FROM PLANNING TILL IMPLEMENTATION

INSTITUTIONAL AND STRATEGIC MANAGEMENT

With the enthusiastic support of the superior administrative councils and the complete dedication of the executive directors and the other teams of employees, significant results were achieved according to all the indicators of institutional performance in 2012, despite the fact that Brazil's economic, institutional and operating environment registered growing complexities, making the operation of this organization even more challenging, with burdensome consequences for the performance of its mission.

Carlos Alberto Schneider,
President

CERTI Advisory Board

At the three ordinary and one extraordinary meetings of 2012, the Advisory Board, a superior administrative body of CERTI, closely accompanied the compliance with the mission and the technical, economic and financial performance, necessary for the organization's sustainability.

CERTI Strategic Forum

At its annual meeting, which involves a complete day of observation and orientation, the board members dedicate themselves to offering reflections and contributions about the dynamic of meeting demands for innovation from the productive sector.

PRESIDENCY BOARD OF THE CERTI FOUNDATION

From left to right: Laércio (Business), Schneider (President)
Günther (Operations, Admnistration and Finance) and José Eduardo (S&T&I).

The Presidency Board, with their specialized support units, in addition to the permanent challenge of maintaining the organization's economic sustainability and supervising the Reference Centers in the production and maintenance of the technical-scientific competencies to operate as a reference on the national level, confronted Frothe complex challenge of finding physical space for growing staff and laboratory infrastructure. A new and broad operating plant is planned at Sapiens Park, for which a financing solution is being sought (sponsorship) as is the custom in developed countries.

The Science, Technology and Innovation Vice Presidency, in 2012, was expressly dedicated, together with other units of the CERTI System, to improving the processes of planning, promotion and stimulation of innovative projects, particularly those applied in Santa Catarina State. Its work was conducted in alignment with the strategic policies established by state Governor Raimundo Colombo, by SDS Secretary Paulo Bornhausen and by the President of FAPESC Sergio Gargioni, by means of the Programs SC@22 and Inova@SC. CERTI, with satisfaction and dedication, adhered to this initiative and thus strengthened its action in support of Santa Catarina.

José Eduardo Azevedo Fiates
Science, Technology and Innovation Vice President

The following are some of the outstanding organizational actions undertaken in 2012 with direct support from the CERTI Superintendencies:

Modeling of the Santa Catarina Entrepreneurial and Innovation System

To support the public policy "Maximum State of Innovation," established by the Program SC@22, in the innovation promotion line, CERTI assisted in mapping and organizing the Santa Catarina Entrepreneurial and Innovation System (SEI-SC), with the goal of promoting sustainable development in the state based on knowledge and innovation. This system encompasses various facilities for promoting technological innovation and support for the creation of innovative projects such as Poles, Parks, Clusters, Incubators and Nuclei for Technology Innovation.

Planning of Innovation Poles in SC

The Inova@SC Program was conceived by the Secretariat for Sustainable Development to develop, organize, implement and manage the Santa Catarina System of Innovation and Entrepreneurship. Contributing to the organizational initiatives, CERTI applied its methodology for stimulating, planning and guidance of the Innovation Poles to 6 pole-cities of the 12 defined by the state - Joinville, Itajaí, Chapecó, Lages, Criciúma and Florianópolis

Promotion of Innovative Entrepreneurship

In the context of the Inova@SC Program, a new state operation of the Synapse of Innovation program was inserted which, upon request from the Secretary of SDS, contemplated 100 new innovative companies, stimulated by the FAPESC program and aggregating SEBRAE-SC as a co-sponsor.

Advances at the Reference Development Sapiens Parque

The state policy for innovation adopted the Sapiens Parque development as a reference and gave priority to its implementation. During 2012, substantial investments were attained from the federal and municipal governments and the private sector, stimulating the acceleration of growth. With capital infusions from shareholders, resources were channeled to begin the first infrastructure work.

Expansion of Support for Innovative Companies

Since 1987, with the beginning of the process of support and incubation for innovative companies, the importance of "venture capital" and "seed money" was perceived, which are needed to strengthen the companies placed in operation. In recent years, angels, investment funds and other investors have provided financing for very successful companies in an individual manner. The demands of this strategic investment will be met in a more intense and systemic form with the conquest of the Primus Fund CVentures, which aggregates funds from the federal research finance agency FINEP, the Inter-American Development Bank, IFS and various private investors from Santa Catarina and other states.

OPERATIONAL, FINANCIAL AND ADMINISTRATIVE MANAGEMENT

The rhythm of development achieved by the CERTI Foundation in recent years was even more accentuated in 2012, reaching 37% growth in income and total expenses over 2011. To make this growth viable, the Vice Presidency of Operation and of Finance and Administration gave special attention to the complex questions of administrative management, human resources, physical infrastructure and information systems, key elements for sustainable growth.

Günther Pfeiffer
Opperation and Finances & Administration Vice President

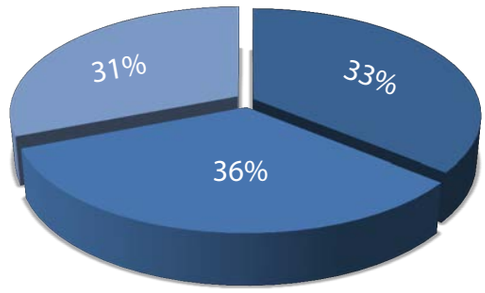
NATURE OF THE ACTIVITIES REALIZED

The range and intensity of revenue from the activities undertaken in 2012, from a universe of 712 clients of different sectors, sizes and regions of the country, was:

Technology Research	5%
Studies/Planning	28%
Development of Products, Processes and Innovative Systems	57%
Technology Services	5%
Training and Accessories	3%
Company Incubation	2%

SIZE OF THE PROJECTS

Activities conducted in the form of projects accounted for 90% of the operating income in 2012, coming from 101 projects, of which 47 began during the year. The variation in the number of projects by size is revealed in the accompanying table.



EMPLOYEES

The total number of employees, who as a group are highly educated, grew 15% over 2011, with 18% growth in the technical and production area and 13% in support areas. The substantial size of the administrative staff is due to the demand for support for CERTI operations at its seven different physical facilities in Greater Florianópolis, and the strategy to have limited subcontracting, which has been successfully maintained by the institution.

CERTI Staff in December /2012			Composition of the Technical Staff			
Technical	Administrative	Total	Graduate Degrees	Bachelor's	Technicians	Interns
247	127	374	60	77	24	86

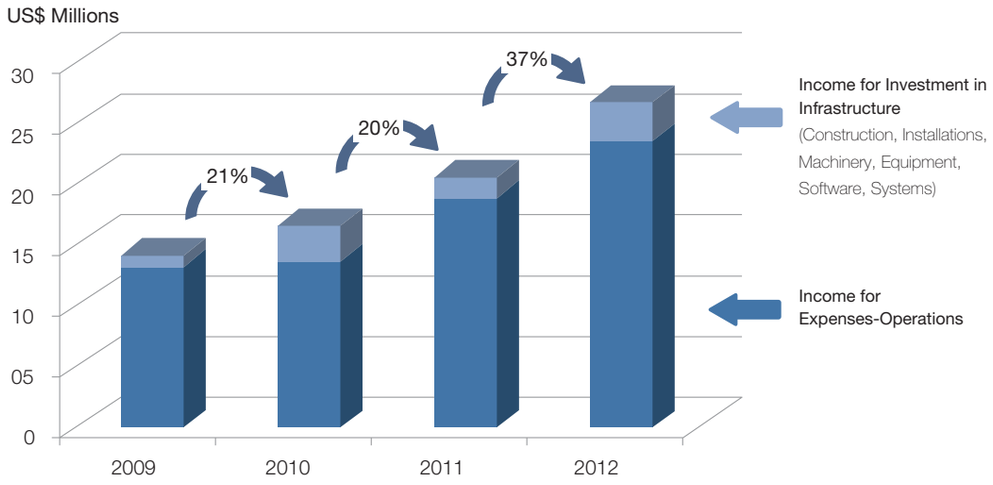
SUPPORT SYSTEMS FOR OPERATIONAL MANAGEMENT

Seeking to broaden management capacity and improve productivity in the institution's operation, efforts and investments were made with a special emphasis on:

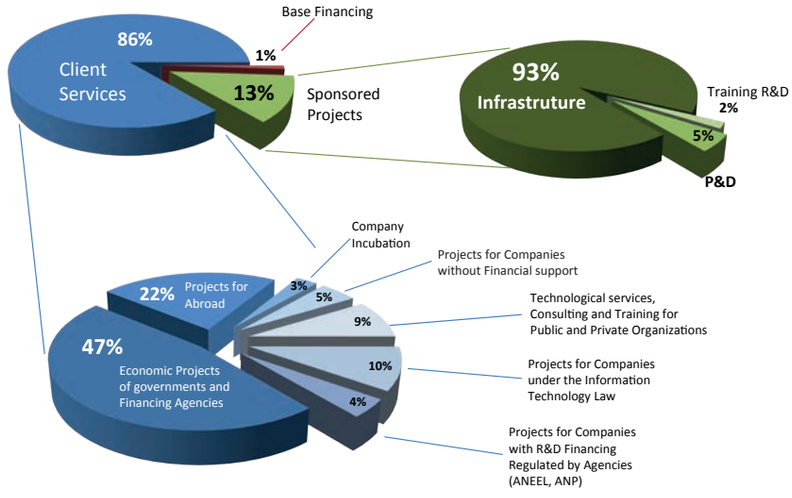
- Expansion and customization of the Management Information System, with an emphasis on the implementation of the ERP TOTVS Protheus system and the collaborative portal;
- Revision of the process for project planning and execution via the Project Office;
- Expansion of the mechanisms for attracting and retaining talents;
- Adaptation-complementing of the organizational structure of the support units.

ECONOMIC SUSTAINABILITY

Special attention was necessary once again in 2012 to assure economic sustainability in a scenary marked by intense institutional growth, by incessantly increasing bureaucracy and by the effects of the limited ability to forecast revenues from contracts for government financing and or those regulated by agencies. In this context, various adaptations were necessary in administrative processes, due to the changes in rules for the concession of government financing and for providing accounting of finance and or monitoring and control agencies. The total income in 2012 was well above total expenses, thus attaining essential economic sustainability in the fiscal year.



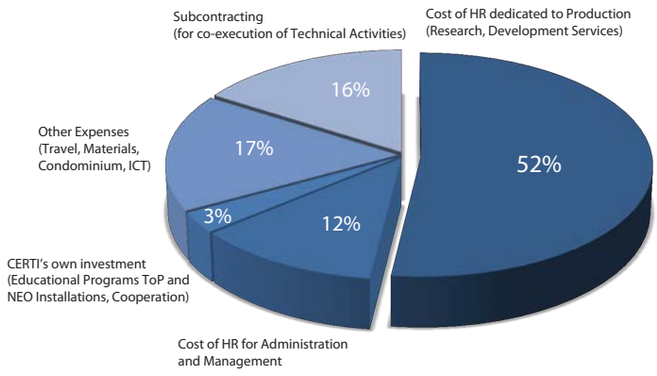
COMPOSITION OF TOTAL REVENUE



Of total revenue, 86% came from the realization of activities of direct interest to the soliciting clients. Meanwhile, the Base Financing, essential for the competitiveness of the institution, remained, as in previous years, at a level completely distant from the 20% targeted by the institutional model. Income from Sponsored Projects, which particularly includes activities to support technical and scientific development at CERTI, represented 13% of total income, which essentially made viable advances in physical and laboratory infrastructure.

COMPOSITION OF THE OPERATING EXPENSES

It is noteworthy that due to the institutional growth, increased bureaucracy and the complexity of management in the Science and Technology sector in Brazil, administrative costs rose to 22% of operating expenses, reflecting the costs of hiring specialized third parties for the co-execution of technical activities, which grew from 10% in 2011, to 16% in 2012.



MANAGEMENT OF BUSINESS AND MARKETING

The Business Vice Presidency organized the integration of CERTI's marketing and technology operations, with good communication with the market, specialization of knowledge, flexibility and adaptability. The development of business in new markets was expanded, in particular energy, the environment, green economy and oil and gas. Key clients were consolidated through greater understanding of their business, value proposal and competitive distinction. The global vision, focused on results, favored the continuity of partnerships and the recommendation that CERTI cooperate in research and development for innovation, with other companies and organizations.

Laercio Aniceto Silva
Business Vice President

CLIENT SERVICE

Improvements were made in the various forms clients can access CERTI to receive it services and innovative solutions:

- Through the Superintendency for Business for projects involving products, processes and systems
- Through the Reference Centers for specific projects
- Through the Business Agent of the Reference Center to offer routine services
- Through the Nucleus for Technological Innovation at CERTI, for orientations about financing and support

In objects of larger scope and complexity, the implementation of the project results from a process of learning and working, in conjunction with the client, following the typical steps characterized here:

CERTI operates in strategic fields, combining its competencies for technical-scientific knowledge in multidisciplinary projects. Working with methodologies and modern tools, it develops innovative solutions to improve competitiveness (innovation, productivity and quality assurance) of client organizations.

CERTI has an operational model focused on intercenter, interinstitutional, business and international cooperation, which allows supporting the client from the conception of the idea and business analysis to the development of the product and the manufacturing and integration processes, as well as in production itself in a pilot series.

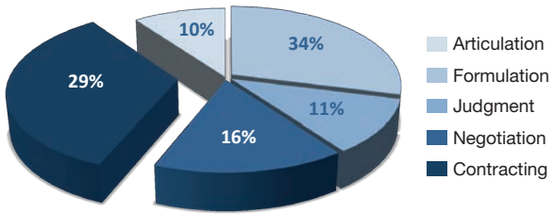
IN 2012, CERTI ADVANCED IN THE ORGANIZATION OF ITS BUSINESS GENERATION PROCESS, ON FOUR FRONTS:

Management

The Business Framework evolved into a system of management for the flow of business, the articulation of proposals and control of goals. The macro-steps for project proposals were organized, encompassing prospection, articulation, formulation, judgment, negotiation and contracting. The support for the Reference Centers was expanded in the development of business, negotiation of commitments and management of client satisfaction.

Flow of Proposals

CERTI has presented average annual growth of 20-25% in its volume of business over the past seven years. The flow of proposals has remained vigorous and at the end of 2012 demonstrated a well balanced distribution in terms of the level of growth of new business, indicating the sustainable growth of the organization.



Business Performance

Commercial actions were intensified with new prospections of clients and the positioning of CERTI in new segments. The periodic "Business Meeting," involving the managers of the Reference Centers, was consolidated as the instrument for sharing information about business opportunities and the identification of possibilities for inter-center cooperation. The international partnerships were expanded as well as the portfolio of business with global companies.

Marketing

Restructuring of the marketing department allowed more focused operation in the development and implementation of CERTI's marketing plan, market research in strategic areas and coordination of the participation of CERTI at events in Brazil and abroad, highlighted by the organization of the event "Challenge of Innovation 2012 - Thinking out of the box with MIT."

Nucleus for Technology Innovation (NIT)

CERTI's Nucleus for Technology Innovation expanded its capacity in tax benefit and financial incentives for innovation and intellectual property, allowing it to offer better quality support to the CERTI Reference Centers and their clients, opening new opportunities and expanding access to financial incentives. The monitoring of public calls for proposals for innovation was intensified and the strategy for participation was articulated with the Reference Centers, with support focused on the formulation of proposals and articulation of partners. The implementation of Santa Catarina's arrangement of NITs was concluded with CERTI's participation, by means of the PRONIT project.

Fiscal Incentives and Concessions
CERTI strives for the efficient and productive use of fiscal incentives and concessions, creating a relationship of trust and security in the use of government instruments for tax deductions and support for technological development, mainly concerning the Law for Information Technology, the Law of the Good and concessions from the national electrical and petroleum agencies ANEEL and ANP.

Financing and Support for Science, Technology and Innovation (S&T&I)
Command of the main instruments and sources of public and private resources for innovation, encompassing non reimbursable financing such as FINEP (Financial support and Cooperation for ICTIs - Companies), BNDES/FUNTEC, SESI/SENAI-Inovation, SEBRAETEC and others, as well as reimbursable financing from FINEP and BNDES programs.

Intellectual Property
CERTI has dynamic action in the market, with flexible, agile and attractive conditions in the negotiation of its Intellectual Property, creating value and competitiveness for its clients in the technology innovation process.

CONTACTS

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NIT – Nucleus for Technological Innovation
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HIGHLIGHTS 2012

In 2012, two initiatives of the CERTI Foundation completed 10 years of work and became national references in innovative action: Sapiens Park and the LABelectron. Despite slow advances due to financial restrictions from support agencies, the impacts and results of these initiatives have been significant.

The CERTI Foundation, closely observed by state deputy Dr. Jailson Lima da Silva, received a special homage, approved by the Santa Catarina state legislature and realized in a special session of the state assembly on November 26, 2012, recognizing CERTI's permanent social contribution to the Santa Catarina population.

Special Formal Session of the Santa Catarina State Legislature in homage of CERTI

Deputy Jailson Lima presents plaque to Prof. Schneider


ASSEMBLEIA LEGISLATIVA DO ESTADO DE SANTA CATARINA

O Poder Legislativo Catarinense em Sessão Especial presta homenagem à

Fundação Centros de Referência em Tecnologias Inovadoras
CERTI

Pelo brilhante trabalho como instituição de ciência, tecnologia e inovação, direcionada para a pesquisa tecnológica aplicada, com foco em reconhecidas competências geradoras de soluções tecnológicas inovadoras para a sociedade, elevando o nome de Santa Catarina no cenário nacional e internacional.

Deputado Gelson Merisio
Presidente

Deputado Jailson Lima
Proponente

Florianópolis, 26 de novembro de 2012

Plaque in homage of the CERTI Foundation

TWO INITIATIVES COMPLETE 10 YEARS OF OPERATION

Sapiens Park

In 2002, the company Sapiens Park S.A., created by the CERTI Foundation and by the Sapientia Institute, and which is responsible for the project to develop an extraordinary innovation park, conducted an opening to capital and received a valuable investment from the Santa Catarina state government in the form of a land site of 4.5 million m², thus making viable a distinctive entreprise that will stimulate development, located in the northern portion of Santa Catarina Island. On December 13, 2012, the development completed 10 years of intense work and conquests, which have assured the irreversibility and recognition of Sapiens Park. Due to the slow pace of investment and the typical difficulties related to the implantation of an innovative development, a decade was needed to conduct legalizations, authorizations, licensings, registrations, understandings and agreements. While these were being worked out, other initiatives, believing and investing have achieved the completion of 17 thousand m² in occupied space, involving 15 installed companies and six operating science, technology and innovation institutions, with more than 250 people working daily at Sapiens Park. In addition, there are another 118 thousand m² of buildings in the construction or design phase, which should take in more than 6,000 people by late 2015. All of this has already shaped investments in public projects, of S&T&I and those by private companies that have reached more than US$120 million, which added to the US$11 million invested in infrastructure and to the more than US$121 million contributed in the form of land, form a development of more than US$252 million. This amount will be vastly exceeded in coming years, in the form of revenue at the companies, the generation of jobs and taxes, attracting investments, promoting innovation and sustainable development, based on S&T&I.

LABelectron

In 2002, CERTI received from the Brazilian Ministry of Science, Technology and Industry (MCTI), and the Secretariat for Computer Policy (SEPIN) the offer of an assembly line for circuit boards, provided by ALCATEL. Based on this equipment, LABelectron was conceived, a factory-laboratory that provides infrastructure for R&D in production processes, and also provides innovative companies with prototyping and production in small series of electronic circuit boards, a key element of intelligent products. This factory-laboratory, which was agilely mounted, soon demonstrated its importance for poles of innovation such as the TECNÓPOLIS, and to an intensive strategy for the development of Brazilian competence in electronic products. Together with ABINEE and SBMICRO, CERTI proposed to CATI/SEPIN/MCTI the HardwareBR Priority Program and the mobilizing project LABelectron Nucleador was approved, as a national action for training and support for innovative companies, which was later expanded with the creation of the Network of Innovation at SIBRATEC "Eletronics for Products." This project, in its infrastructure line, with special support from FNDCT/FINEP, had an upgrade to the world's most advanced equipment for the manufacturing of electronic circuit boards. However, the technology development was interrupted two years ago by SEPIN due to questioning by the federal budget court (TCU) about priority programs. With enormous institutional effort, the project is being maintained by CERTI and today already serves more than 70 companies at the TECNÓPOLIS and in other Brazilian regions. Upon completing 10 years, the project is recognized for its influence on the promotion of innovation, and continues awaiting the release of funds provided for companies that believe in this priority project of the Law for Information Technology.

SOCIAL CONTRIBUTION OF THE CERTI FOUNDATION

With its mission to support companies by means of innovative solutions in products and processes, CERTI has contributed intensely to competitiveness, development and even the survival of companies and thus, significantly collaborates to the generation and maintenance of employment and income for Brazilian society. It is important to highlight the strong direct action that is conducted by its staff, and by projects of a social character contracted by CERTI's clients. Here are the highlights:

Development of Innovative Solutions with Social Impacts

In 2012, CERTI stimulated and undertook important projects and actions for social and environmental sustainability for the community, with the projects: Braile, Vehicular Simulator, Water in the Semi-arid Region, Establishing Order for Tourism and Sustainability at Ilha Grande, Boticário Flora Nativa, and others. Because of their results, these projects have had significant repercussions on society, among actors involved in development and, in particular, on the territories in which they have been implemented. It also undertook actions in support of education, like the development for SDS of multimedia games about environmental sustainability, presented at events in Santa Cataraina state, such as the Volvo Ocean Race, in Itajaí. Some of the projects are mentioned in the following pages.

Generation of Employment and Income with Support for Innovative Companies

CERTI has performed an important role in the generation of employment and income in Greater Florianópolis, involving approximately 1,000 people who are engaged in actions and projects that support entrepreneurship and conducted through CERTI's units. It has stimulated nearly 5,000 youth from the state to submit innovative ideas to the Synapse Program for Innovation – Operation SC III, promoted by SDS/FAPESC, training them and raising their awareness of innovative entrepreneurship. In addition, by means of the CELTA Incubator, CERTI has stimulated the creation and consolidation of the incubated companies, in a pioneer activity that for 26 years has been promoting development and changing the economic profiles of the city of Florianópolis and Santa Catarina State.

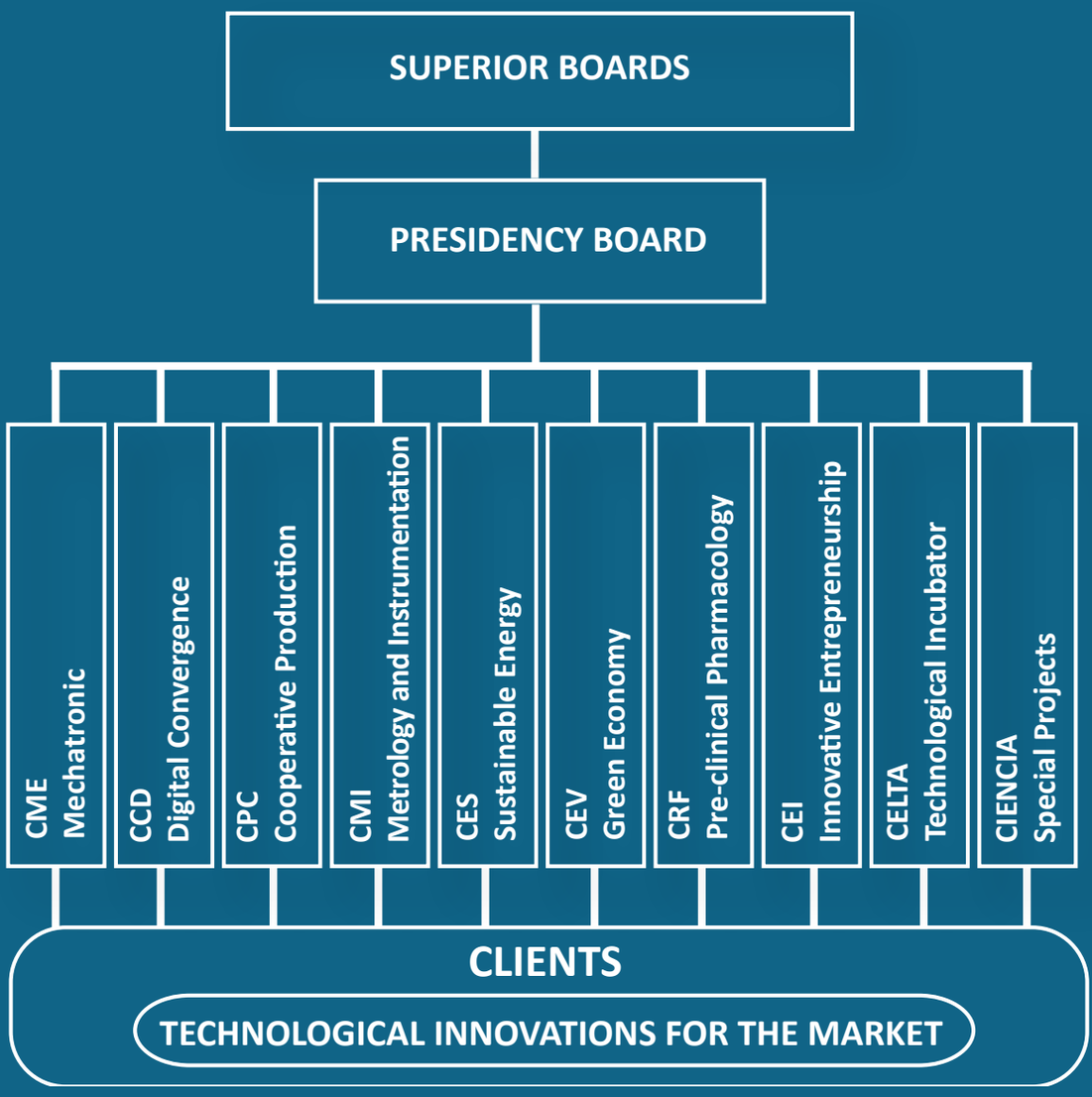
Social Promotion, within and around the CERTI Foundation

In 2012, the SustainAction Program, instituted by CERTI to make staff aware of environmental sustainability practices and engage them in social actions, had significant results. Campaigns were conducted to raise awareness about the preservation of natural resources, such as the rational use of energy, water and paper, adopting as a theme: Reduce, Reuse and Recycle. The Solid Waste Management Plan for the CERTI headquarters was concluded, establishing best practices for the handling and management of residue, meeting environmental, economic and legal principles.

SustainAction Program promoted activities that reinforce the social relations, quality of life and care for the health of staff, such as labor gymnastics, walking, hiking excursions and encouragement for healthy eating. As Social Volunteers, it organized events in commemoration of Children's Day, mobilized staff to make donations that totaled 30 boxes of clothing delivered to charitable institutions. In Social Action for Christmas, the program provided 25 children living in a situation of risk a day of great joy at the Beto Carrero World amusement park thanks to the spontaneous contributions of staff.

REFERENCE CENTERS

Each Reference Center (RC) of the CERTI Foundation operates as a business unit of the organization, which, with its staff of specialists and operational infrastructure, serves its clients exclusively or in conjunction with other RCs and or partners in Brazil or abroad. Each one of the Reference Centers is presented, highlighting its achievements, advances in technical-scientific competency and three to five important projects and actions conducted by each center in 2012.



MECHATRONIC CENTER


CME Staff 2012

In 2012, the Mechatronics Center had a considerable increase in the volume of projects, an internationalization of its activities and entered new fields of applications, highlighted by the sectors of Organic Electronics and Electro-medical products. The BNDES/FUNTEC program provided investments in laboratory infrastructure and new resources for modeling, simulation, prototyping and product testing. The equipment for these laboratories, in conjunction with the expansion of the staff with talents who came from the programs for education of human resources at CERTI, NEO, TOP, technological internships and graduate studies, made 2012 an important step in the development of competence in Mechatronics and Microsystems at the service of clients.

Manuel Steidle
CME Executive Director

Competencies and Innovative Solutions

- **Development of Mechatronic Products:**
  Complete development of products, concept and design for embedded electronics, mechanical design, prototyping, integration and testing, as well as an interface with industrial engineering for the production of pre-series of the solutions developed.
- **Development of Special Systems:**
  Application of technologies of fine-precision mechanics, electronics, embedded software, optics and all the other classic technologies, in particular for the development of simulators, controllers and systems for experimental research.
- **Prototyping and Tests:**
  Prototyping and test services of mecha-optoelectronic devices in the fields of fine mechanics, complex 3-D geometries, electronics and firmware.

Economic sectors served

- Solid State Lighting
- Education and Training
- Automated Banking, Commerce and Voting
- Electromedical Equipment
- Machinery and Equipment

Highlighted Partners:

Universidade Federal de Santa Catarina · INEP · Centro de Tecnologia da Informação Renato Archer · UNICAMP · FIOCRUZ · GRANTE Grupo de Análise e Projeto Mecânico · Fraunhofer ENAS · LaPMAT · FEPESE · Tractebel Energia GDF SUEZ · PHILIPS

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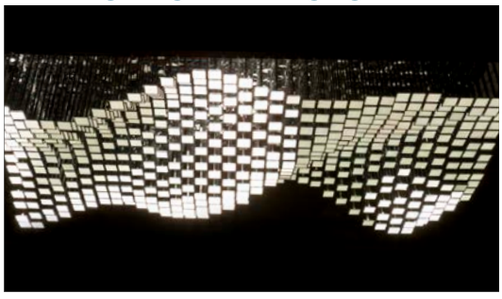
The projects in 2012 were dedicated to the theme of product development for the sectors of solid state lighting based on OLED, medical equipment and environmental monitoring systems. The four fields of competence of the CME – Electronics, Mechanics, Design and Embedded Systems – work in synergy, directly and competitively with clients and partners in the product innovation process. Below are some examples of the projects from the year:

OLED lighting for emerging markets



With financing from BNDES/FUNTEC and Philips Brazil, the Living Sculpture lighting was developed. Working with international designers, with the Philips OLED laboratory from Aachen, Germany, and with more than five Brazilian companies that supply electronics, technical plastics, metallization, flexible printed circuits and other critical components, the international launching of the product in London was made viable in June 2012. The modular panels allow designers to create distinctive lighting systems that are truly three-dimensional sculptures of light. New lighting models for special applications are being worked with.

Mecha-optoeletronic system for diagnosis of tropical disease in the field — PodiTrodi

Under the auspices of the Brazil-European Union Scientific and Technological Cooperation Agreement, CERTI is part of a technology consortium with five Brazilian and eight European partners that are developing portable equipment for diagnosis in the field of Chagas disease, with joint financing from CNPq and the European Commission. In 2012, the multidisciplinary team of specialists in electronics, embedded software, fine mechanics and design developed a prototype and presented the first version the equipment.

Dental & medical equipment for the Brazilian market

In 2012, various solutions were developed for embedded electronics in medical equipment. Highlight can be given to the intelligent electronics for autoclaves by the KAVO company. An integrated development process, in partnership with CERTI's Metrology and Instrumentation Center and the Cooperative Production Center, made viable the development of complete solutions for instrumentation, product and associated productive processes.

Float probe for environmental monitoring

In the field of environmental monitoring, a float equipped with probes is being developed for water reservoirs. The float is equipped with a multiparameter probe that has sensors for ten water quality and six atmospheric parameters. The measurements are transmitted to an environmental data base via cellular network or satellite channel. The system allows automated measuring in real time of water quality parameters more efficiently than traditional processes of manual collection of water samples for analysis in laboratory. It incorporates metrology resources that guarantee the traceability of the measurements. The project was contracted by the R&D program of Tractebel Energia S.A., regulated by the National Electrical Energy Agency (ANEEL)

DIGITAL CONVERGENCE CENTER


CCD Staff 2012

In 2012, the Digital Convergence Center expanded its staff and its activities in the development of solutions for the digital convergence market. One of the highlights was the consolidation of competencies in the development of embedded systems and intelligent applications for consumer electronics, which led to the development of the Smart Platform. In the field of software, portals, applications and interfaces were developed with a focus on ease of use. In education, a concept was created that integrates different technologies for rural schools There was also an increase in the number of projects conducted for the energy sector.

Marcelo Otte
CCD Executive Director

Competences and Innovative Solutions

- **Software Development**
  Web and portal development
  Collaborative environments
  Applications for mobile devices
- **Digital convergence products**
  Embedded systems
  Electronic hardware project
  Interactive applications for TV and Smart solutions
- **Educational solutions**
  Introduction of new pedagogical concepts
  Application of design thinking in products for education
  Integration of educational technologies in the classroom
- **Business analysis and strategy**
  Support for decisions involving new technologies and markets
  Development of strategies for products and companies

Economic sectors served

- Telecommunications
- Electronics
- Computers
- Digital Television
- Mobility
- Education
- Energy
- Smart cities
- Information and Communication Technology

Highlighted Partners:

UFSC, FÓRUM SBTVD, FEPESE, e3c, wyplay, Schneider Electric, Stanford University, MIT ILP Industrial Liaison Program, one laptop per child

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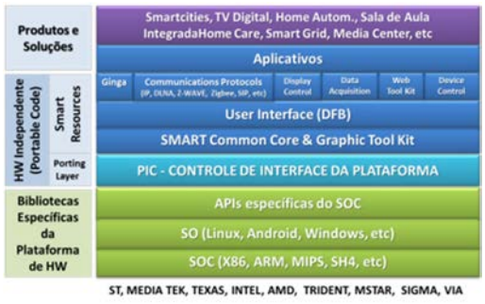
For the CCD, 2012 was marked by a significant expansion in the number of projects undertaken. There was also a greater diversification of clients and partners, which was mainly the result of participation in important international events, such as CES, IFA / IBC and SET Broadcast & Cable. Examples of important actions include:

Smart Platform for digital automation solutions



In 2012, CCD's Digital TV department undertook a set of projects located at the frontier of knowledge in systems aimed at intelligent applications and of connectivity for consumer electronics. This evolution was consolidated in the new Smart Platform, constructed in a quite flexible form, based on selected hardware and integrated software layers, which allow the generation of products and solutions in the fields of Digital TV, entertainment, residential automation, educational technologies, home care, smart grid, smart-cities etc.

Solutions for Digital TV in the SBTVD standard

The government of Venezuela, through its National Center for Telecommunications Development and Research (CENDIT), sought the CERTI Foundation as a partner in a technology cooperation project for the development of a digital TV receiver, a key component for launching a digital TV system in that country. The project involved technology cooperation, technology transfer, research, field tests, software and hardware development and the production of components. CERTI is one of the few organizations that has a complete Middleware Ginga solution, which was integrated to the decoder, incorporated to the system and validated for the Brazilian standard. CERTI has developed solutions for various manufacturers of digital TV, which are suppliers to the Brazilian and international markets.

ICTs for the energy sector

In 2012, the CCD expanded its operation in the application of Information and Communication Technologies (ICTs) for the energy sector. With its knowledge base in web solutions, agile development methodologies and user-centered approach, the staff prepared a design of a simulator and evaluator of energy efficiency in buildings in partnership with UFSC. For the energy sector, the CCD is developing a solution for the application of Radio Frequency Identification (RFID) technology in the supervision and traceability of assets of an energy distribution and measuring system.

Accessibility for the Visually Impaired to Education

In the field of education, in 2012 the CCD delivered to the Ministry of Education and the National Educational Development Fund (FNDE) the final prototype of a Braille device, which was developed in partnership with UFSC and FEPESE. The starting point was the demand from MEC for the development of equipment that would facilitate literacy and access for blind students to educational content. To achieve this objective, a development methodology was used that is focused on the user. It initiates the process by conducting a survey of needs to generate conceptual prototypes. Successive cycles of R&D and validation of new prototypes with users resulted in a portable device that converts printed texts into audio and allows reading through a Braille line.

COOPERATIVE PRODUCTION CENTER

CPC Staff 2012

2012 was a year of many conquests for the Cooperated Production Center and its staff. With support from the federal finance agency FINEP, operation of the EPP Network began to promote innovation in products and processes in the electronics sector. The international activity was intensified with the detailed plans for a factory laboratory, contracted by the Ministry of Science and Technology of Venezuela. For Brazilian companies, the CPC operated in various projects seeking to improve competitiveness. The intensification of Brazilian and international partnerships for capturing new technologies characterized the period. In 2012, the development of new areas was begun, focused on post-consumption manufacturing systems and intelligent factory systems.

Carlos Alberto Fadul Corrêa Alves
CPC Executive Director

Innovative Competencies and Solutions

- Structuring of Factory Units
- Planning and Guarantee of Industrial Quality
- Development of Processes for Manufacturing and Integration of Products
- Development of Systems for the Management of Information on the factory floor
- Complete Design of Circuit Boards and Electronic Products
- Production Technologies in Small Series
- Studies of the Post-consumption Chain for Industrial Residues

Setores econômicos atendidos

- Machinery and equipment
- Healthcare
- Education
- Energy
- Oil &Gas
- Industrial manufacturing
- Municipal, state and federal governments
- Innovative information and communication technology companies

Highlighted Partners:

Binghamton University, State University of New York; Centro de Tecnologia da Informação Renato Archer; ERSA; Fraunhofer; Gobierno Bolivariano de Venezuela; certi amazônia; instituto sapientia; Ministério da Ciência, Tecnologia e Inovação – Brasil; Mentor Graphics; universal; facti; PRODUZA; MIT ILP; Technische Universität Dresden; UFSC; corpivensa

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In 2012, CPC's income grew more than 40% over the previous year. This was largely due to the maintenance of active clients and to the capturing of new clients, which required large scale organizational projects. A total of 15 different projects were executed, and some of them are listed below:

Implementation of the two Equipment Factories for CORPINVENSA

During 2012, the staffs of CERTI and CORPIVENSA conducted intensive work to begin operations at two factories designed by CPC, contemplating activities for the elaboration of documentation of processes and quality, accompanying construction in the city of Villa de Cura, preparation and setup of equipment, aimed at inaugurating factories for food processing equipment and for industrial refrigeration. An intense training program was conducted with the Venezuelan staff, involving themes such as hygiene, occupational safety, metrology, process management, quality management, leadership and motivation among others.

Factory-Laboratory of Electronic Circuit Boards for TELECOM

Based on the LABelectron model, the staff of CPC developed the detailed design for a factory-laboratory for TELECOM, a government owned group linked to Venezuela's Ministry of Science and Technology. Based on a study of demand and product typology, the basic production processes were defined, the factory infrastructure characterized, the layout designed, and calculations made of the investments needed to build and place in operation the factory-laboratory. In addition to these activities, the project also developed a concept for the implementation of a center for collection in Venezuela, separation and recycling of electronic products.

Planning of the NPA Process for Electronic Circuit Boards for POSITIVO Informática

In a project of direct innovation in Productive Processes for Electronic Products, the CPC staff in partnership with the CERTI Amazônia Institute conducted the complete development of productive processes for a new circuit board for the POSITIVO Informática company. For the different lots and products developed, activities were conducted ranging from analyses of suitablity of the design to analyses of manufacturing (DFx and DFm), development of documents to provide guidance for the processes of assembly, definition and manufacturing of devices, development of assembly programs, inspection and testing, generation of reports and transfer of parameters of the LABelectron line to POSITIVO.

Structure for the Network of Innovation "Electronics for Products" of SIBRATEC

In 2012, the Project for Implementation and Management of the Electronics for Products Network of SIBRATEC – Innovation was initiated. Formed by ten Innovation Centers spread throughout Brazil, the EPP Network is dedicated to the joint development of innovative products for companies that have as a challenge embedded electronics. Administered by CERTI, with the support of FACTI, the network management project undertook various actions aimed at initiating operation of the EPP Network, of which stand out the development of the site www.redeepp.org.br, the definition of operating guidelines and the selection of the first projects.

METROLOGY AND INSTRUMENTATION CENTER

CMI Staff 2012

In 2012, CMI invested in strengthening its position as a reference center in dimensional and geometric metrology, implementing modern optical technologies and consolidating the operation in computerized tomography, which began in 2011. The instrumentation line worked together with companies in the automotive and medical-dental equipment sectors, providing automated solutions for measuring and testing with distinctive metrological characteristics. In the theme BIT, intense activity was undertaken to organize technological services networks, in the SIBRATEC context, as well as R&D networks for the Petrobras System.

Gustavo Daniel Donatelli
CMI Executive Director

Competencies and Innovative Solutions

- **Laboratorial and Industrial Metrology**
  Measuring and calibration services with low uncertainty and high reliability, accredited by RBC, in the fields of dimensional-geometry, strength, mass, pressure, temperature and humidity. Training people in metrology and quality assurance.
  Assistance in the installation of calibration and trial laboratories
- **Quality and Innovation Systems**
  Market research and analyses of businesses involving metrology or evaluation of conformity.
  Implementation of laboratory management systems in conformity with the norm NBR ISO/IEC 17025.
  Energy efficiency labeling for commercial, service, government and residential buildings.
- **Instrumentation and Tests**
  Solutions for measuring and trials in the manufacturing process
  Monitoring of structural integrity
  Environmental monitoring
  Planning and execution of special tests

Economic sectors served

- Oil, Gas and Biofuels
- Electrical, Renewable and Sustainable Energy
- Machinery
- Automotive
- Aeronautics
- Civil Construction
- Ionizing Radiation
- Calibration and Test Laboratories

Highlighted Partners:

INMETRO · PETROBRAS · UFSC · Fraunhofer · LabEEE · RWTH AACHEN · LAB UFSC METRO FLORIANÓPOLIS · ZEISS · Eletrobras Eletrosul

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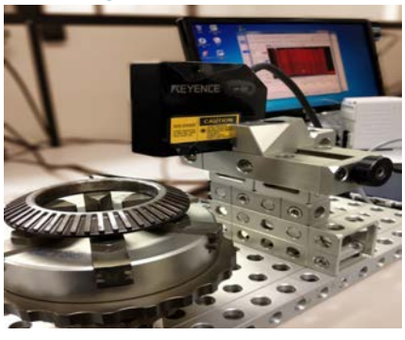
In 2012, the staff of CMI attended the needs for metrological services, training and consulting at 576 companies throughout Brazil. The metrology laboratories issued 6,779 calibration certificates and 1,072 people were trained in the educational programs in metrology and quality assurance. In the realm of implementation of quality management systems, 21 laboratories were assisted, of which ten belong to the METRORADI network of the SIBRATEC system (Metrology of Ionizing Radiation). The projects realized were highlighted by the following:

Optical digitalization of the geometry of complex surfaces

In the realm of Laboratory and Industrial Metrology, in 2012, the activities in optical measurements intensified. They are especially applicable to reverse engineering and analysis of dimensional deviations in parts with complex surfaces and free-form shapes, complementing the ability for high precision measurement by coordinates in computerized industrial tomography. With resources from the SIBRATEC – Health Network project, a three-dimensional digitizer was added, capable of capturing surfaces by means of stereoscopy and promoting the comparison of digitalized pieces with its mathematical model.

Planning and execution of trials for support to product and process development



In the year 2012, CMI participated in various projects in partnership with other CERTI Foundation centers. The activities conducted included the testing of OLED lighting technologies, which open another line of activity within the Center, that allow the future provision of lighting technology services. It was also highlighted by electrical and security testing in drivers for OLED lighting and distance and accelerated lifetime tests in RFID labelling. In addition, the department worked in the development of supervisory systems, both in the ScadaBR platform and in the LabVIEW platform.

Structuring of the metrology R&D network at Petrobras

The METRONET project, developed for Petrobras/Cenpes, sought to systematize the collection of demands and propose methods and procedures aimed at management and decision making for investments in Research, Development and Innovation (R&D&I). The visualization of the R&D&I network formed by staff and suppliers throughout Brazil allowed the definition of strategic relationship actions. In a pilot-action, 100 Petrobras employees listed 130 demands for metrological solutions. Of these, 20 proposals were generated, which were guided by strategic and operating criteria.

Labeling of energy efficiency in buildings

Since October 2011, the Energy Efficiency in Buildings Inspection Agency of the CERTI Foundation (OI3E) is accredited by the General Coordination of Accreditation of Inmetro for concession of a National Energy Conservation Label for commercial, service and government buildings. The OI3E also operates in accreditation of residential buildings under designation of INMETRO, having been evaluated for concession of accreditation in September 2012 and the process is in the final phase of approval by CGCRE. In 2012, the OI3E issued 20 labels for commercial buildings and 895 for residential units. The entire scientific-technological development of the procedures was conducted in partnership with LabEEE/UFSC.

SUSTAINABLE ENERGY CENTER


CES Staff 2012

The year of 2012 was marked by conquests of projects of great relevance, supported by important companies in the energy sector. This justifies the institutionalization of the CES as a new business unit of the CERTI Foundation. In a 3-year incubation process at CIENCIA, CES worked on the definition of its competencies, the organization of its development staff, on the modeling of cooperation with other CERTI units and on the establishment of strategic partnerships in the Sustainable Energy sector. In 2013, according to a deliberation of the Board of Advisors, CES began operating as a CERTI Reference Center, undertaking its mission to develop innovative solutions in the fields of renewable energy and intelligent electrical networks.

Cesare Quinteiro Pica
CES Executive Director

Competencies and Innovative Solutions

- **Distributed generation of renewable energy:**
  Dimensioning and implementation of distributed generating systems connected to the grid
  Development of engineering and control solutions for integration of distributed generating units in micro-grid schemes
- **Intelligent electrical grids:**
  Energy management for optimization of technical and economic benefits in the operation of systems involving energy generation and demand
- **Energy Efficiency, quality and market:**
  Analysis and recommendation of innovative solutions for improvement of energy efficiency and the quality of energy in corporate and industrial installations
  Technical-economic planning and modeling of projects

Economic sectors served

- Generation, distribution and consumption of electrical energy
- Smart Grids and Smart Cities
- Renewable Energies
- Energy Efficiency

Highlighted Partners:

UFSC, Tractebel Energia GDF SUEZ, WIRSOL SOLAR ENERGY, LabPlan, INEP, ANEEL, Celesc Distribuição S.A., Eletrobras Eletrosul

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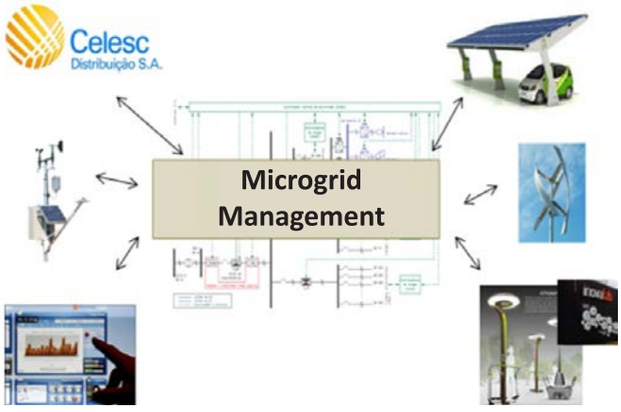
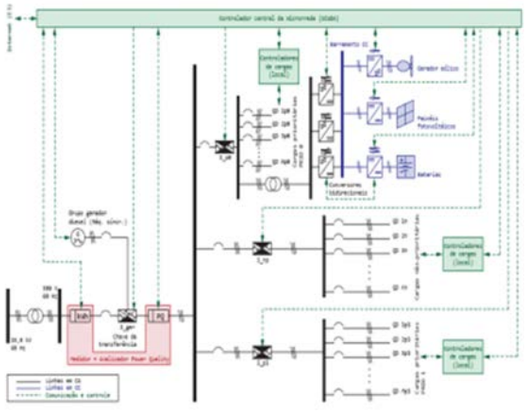
The projects being developed by CES, most of which have support from the National Electrical Energy Agency (ANEEL), generate an excellent opportunity for the consolidation of CERTI in the sustainable energy sector. The execution of the projects involves strong transversal action with the CERTI Reference Centers, at the same time in which it establishes a relationship with partner science and technology companies and institutions that are currently involved in the projects, as exemplified below:

Planning and Implementation of District Grids for Distributed Generation



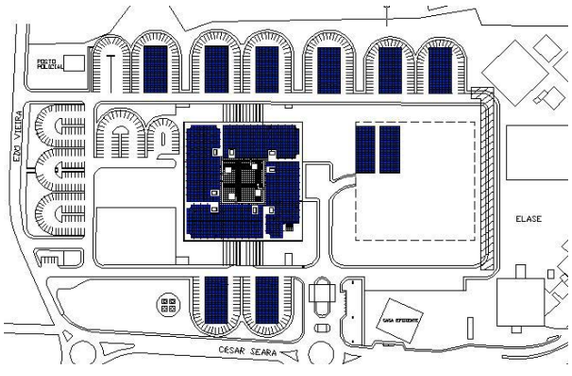
The project developed in the context of R&D ANEEL at CELESC generated, in its first phase, a rapid planning methodology for integration of distributed generation and technologies from intelligent networks in a sustainable energy grid, suitable for application in urban districts. The methodology was applied in a pilot-case, with Sapiens Park as a model of a sustainable urban district. The results of this first step generated support for realizing the second phase of the project, in which is being implemented a part of the planned energy network, including solar, wind and biomass generation solutions. The new focus is on the energy management of a district energy network, seeking technical and economic benefits for local consumers and for the energy distributor.

Development and Implementation of Intelligent Microgrids



The scope of the Microgrid project is the development of engineering and control strategies for energy integration and management of distributed generating units and special loads in an intelligent microgrid. The project includes the implementation of a pilot system of 60KW of installed power, integrating solar, wind and gas-micro-turbine generators and stationary batteries. This project is conducted in the realm of an ANEEL R&D project at Tractebel, to understand the technical and economic viability of solutions that can constitute a new product to be offered by the company in the free energy market.

Connection of IMW Solar Photovoltaic Plant to the distribution grid



The purpose of this project being conducted with resources from ANEEL R&D at Eletrosul is to study and propose technical and commercial improvements for the photovoltaic complex to be implemented by the company, composed of the SOL Megawatt Solar generator and experimental photovoltaic systems made viable by the project, totaling 1.026 MWp. The project is designed to develop solutions for the insertion of photovoltaic technology into the Brazilian energy matrix, in a sustainable form. CES is involved in the analysis and proposal of solutions for the entire complex and specifically will project and construct an experimental plant composed of nine different technologies of photovoltaic energy generation, including: crystalline silicon, amorphous silicon, microcrystals, CIGS, Cadmium Tellurite, translucents and HIT, allowing a complete analysis of the different solutions in a single location.

GREEN ECONOMY CENTER

Equipe CEV 2012

2012 was a landmark year in the organization of CEV. The initiatives, projects and strategic planning begun in 2010 at the then recently formed Nucleus for Innovation in Sustainability, incubated internally at CERTI by CIENCIA, by 2012 led CERTI to be identified by various partners of great importance as a provider of innovative solutions for the New Economy or the Green Economy. The planet is at a moment when political and business decisions are crucial to the very quality of existence, in the context of the natural and social environment. The transition of paradigms underway has created an urgency for innovation in processes, products and green business models (multi-dimensionally sustainable), to which CERTI is aligned with the creation of this new RC.

Marcos Aurélio Da-Ré
CEV Executive Director

Competencies and Innovative Solutions

- **Solutions in Transition to the Green Economy**
  Sustainable Design of Projects
  Green Transition Incubators
  Sustainable Business Platform
- **Model of Valorization and Management of Biodiversity**
  Innovative Models and Tools of Green Management and Business
  Transfer of specific and integrated competencies for territorial sustainability initiatives
- **Balance, Management and Communication of Impacts**
  SISMO-BIO – Intelligent Biodiversity Monitoring System
  Ecological Footprint Inventory
  Strategy 3+1=2 (Plan to reduce ecological footprint of projects)
  Sustainable Geographic Intelligence

Economic Sectors Served

- Green Economy and Sustainability (trans-sectorial)
- Public (public policies and mechanism for induction or control)
- Private (environmental protection solutions)

Highlighted Partners:

AVINA
socioambiental CONSULTORES ASSOCIADOS
FATMA FUNDAÇÃO DO MEIO AMBIENTE
SEMEAR ambiental
FUNDAÇÃO GRUPO BOTICÁRIO
GOVERNO DE SANTA CATARINA Secretaria do Desenvolvimento Econômico Sustentável

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The projects developed in 2012 had a strong impact on the consolidation of CEV as a Reference Center at CERTI, resulting in strategic partnerships with important institutions. The CEV product portfolio has been tested in different projects since 2010, resulting in innovative solutions and consolidation of methodologies. The leading accomplishments of 2012 include:

Valorization of the Araucária Pine Forest by means of sustainable production chains

The project financed by the Boticário Group Foundation for the Protection of Nature had as its objective the conception of a strategy for sustainable valorization of the remnants of the Araucária Pine Forest. An integrated analysis was conducted of the productive chains of native species with a focus on the pine nut and on the yerva-maté, and their impacts on this ecosystem, for which were identified 17 mitigatory measures, the initial mark of discussion for a future sustainable production standard, with a focus on biodiversity. The model conceived for valorization of natural areas of the Araucária Forest called for the organization of a Green Innovation Ecosystem.

Green Innovation Ecosystem

This is a platform dedicated to the conservation of biodiversity associated to the strengthening of sociobiodiversity chains, with the inclusion of communities in the benefits generated by innovation and its businesses. The model calls for the organization of an integrated system of sustainable producers, a differentiated market, a S&T&I network, public policies and investors, resulting in benefits for producers and positive externalities for the natural ecosystem.

Systemic Environmental Strategy

Developed for the State Secretariat for Sustainable Economic Development (SDS), the project worked on the conception of a systemic environmental strategy for Santa Catarina state, resulting in a proposal for four large actions: restructuring and integration of the Command and Control System; establishment of a Santa Catarina Sustainability Observatory; organization of a System of Economic Sustainability of Natural Areas; and creation of a Territorial Denomination of Sustainable Origin Certification D.O.S.

System of control and management of the tourist-environmental support capacity at Ilha Grande – RJ

The objective of the project is to create a model for the sustainable organization of tourism on Ilha Grande in Rio de Janeiro, including a system for the control and management of the environmental support capacity of the island and governance and economic sustainability models. The process is participatory, actively involving public and private organizations and local communities.

CENTER OF PRE-CLINICAL PHARMACOLOGY

CRF Staff 2012

The Pre-clinical Pharmacology Center (CRF) has the mission of assisting the country to become independent in the production of medication, working as a facilitator in the process of innovation in the pharmaceutical sector. In 2012, construction of the center and its installations were practically concluded, laboratory equipment was specified, processes for implementation of the Quality Program based on Good Laboratory Practices were begun and the staff was expanded. In addition to serving clients, by conducting studies of the security and efficiency of pharmaceutical products, the CRF attained an important project that will make viable its operation for the three first years of activity.

João Batista Calixto
CRF Executive Director

Competencies and products developed

- **Realization of pre-clinical trials:**
  Security evaluation (toxicology)
  Evaluation of effectiveness (tests of concept and studies of active mechanisms)
  Pharmacocynetic studies
  Pharmacology of safety
- **Specialized consultancies**
  Development of non-clinical studies needed to register medications
- **Support for innovative projects**
  Promotion of innovative companies dedicated to the medication sector
- **R&D**
  Development of its own medication projects to transfer to the productive sector

Economic sectors served

- Pharmaceutical industry
- Cosmetics
- Healthcare
- Functional foods

Highlighted Partners:

LAFEX, PUCRS INCT-TB, LNBIO Laboratório Nacional de Biociências, UFSC, FINEP Financiadora de Estudos e Projetos Ministério da Ciência e Tecnologia, CPDM Unifesp, Ministério da Ciência, Tecnologia e Inovação, Ministério da Saúde, Governo Federal Brasil País rico é país sem pobreza, FAPESC

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In 2012, the Reference Center in Pre-clinical pharmacology worked with clients, offering its services with the quality required by the sector, in addition to participating in various government bids, including the RENAMA bid (for the development of alternative methods) and the biotechnology bid (in partnership with PUC-RS). The realization of pre-clinical trials in the period took place at the LAFEX / UFSC facilities, under the partnership established.

Conclusion of construction and installations of the Pharmacology Reference Center

During 2012, the construction of the building for the Pre-clinical Pharmacology Center in Sapiens Park advanced in a positive manner, with funds provided by FINEP and FAPESC. The 5,300 m² building for the CRF houses the pre-clinical trial laboratories and the rodent laboratory, designed in compliance with the most advanced international standards. It also has space for administration, R&D and incubation of pharmacology companies.

Planning and conquest of support for sustainable implementation of the CRF

With the presentation of a strategic development plan, a business plan aimed at economic sustainability and a staff formation plan, the CRF conquered an important project, financed by the Ministry of Health and the Ministry of Science, Technology and Innovation, by intermediation of FINEP, entitled: "Support for the complete operation of the Pre-clinical Pharmacology Reference Center – Phase II: Completion of Infrastructure and initiation of pre-operational activities." This project will give leverage to the activities of the Pharmacology Center in the first three years of operation. In addition to this important conquest, the CRF began the process for implementation of its quality system based on Good Laboratory Practices (GLP), indispensable to its compliance with international standards.

Alternative methods to the use of animals in pre-clinical trials

With attention and respect for the animals used in scientific research, the Pharmacology Center has been seeking the suitable development of methods that can substitute the use of animals. In 2012, the Center received approval for a project financed by the National Council for Scientific and Technological Development (CNPq) to develop and undertake at least four new methods that will substitute the use of live animals in pre-clinical research.

Pre-clinical trials related to the development of biomedications

Seeking to expand its scope of action and focusing on the future of therapeutic medications, the Pharmacology Center began, in conjunction with PUC-RS, a project aimed at the development of medications developed with biotechnology, in which CRF is responsible for the realization of pre-clinical trials to evaluate their security and effectiveness.

INNOVATIVE ENTREPRENEURSHIP CENTER

CEI Staff 2012

This year, new solutions were developed to promote and support innovation at companies and regions and in this way expand business opportunities. In addition to the expansion of the portfolio of solutions, the methodologies were improved and productivity of the staff expanded. Finally, strategic partnerships were developed and reinforced to stimulate the economic, social, environmental and technological impact in various Brazilian regions, creating and or strengthening the ecosystems of innovation, to assist the country to become more competitive and innovative.

Leandro Carioni
CEI Executive Director

Competencies and Innovative Solutions

- **Innovation Environments and Mechanisms:**
  Conception, implementation and operation of environments and mechanisms that promote innovation
  Technology parks and innovation
  Technology based company incubators
  Nucleus for Innovative Technology (NIT) and regional offices for the promotion of innovation
  Technology and Innovation Centers
- **Ecosystem of Innovation:**
  Development of high added value projects for the organization of the Ecosystem of Innovation
  Clusters and Innovation Poles
  Regional technological development
- **Corporate Innovation:**
  Innovation management solutions for systems to promote and support innovation at a company
  Strategic planning of corporate innovation
  Corporate entrepreneurship (culture of innovation, creativity and generation of ideas)
  Corporate innovation (technological mapping, market analysis, open-innovation and management of innovation)
  Corporate venture (incubation of new business, transfer of technology and leveraging investments)

Economic Sectors Served

- Technology-Based Companies
- Municipal state and federal governments
- Industry associations and federations
- Innovative companies
- Financing agencies

Highlighted Partners:

FEPESE · ANPROTEC · Member of IASP · inova@sc · MIT Massachusetts Institute of Technology · Sapiens Parque® · UFSC

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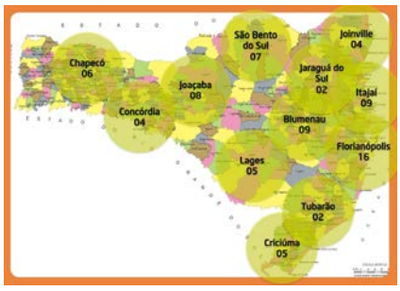
The year 2012 was marked by significant conquests for CEI. With a staff composed of 12 technicians with bachelor's degrees, 15 projects were undertaken, including some of large scope and with high impact for Brazilian society. As a result, the revenues reached nearly a 30% growth over 2011.

Conception and operationalization of the Inova@SC program of SDS/FAPESC



The Inova@SC Program was conceived to develop, organize, implement and generate the Santa Catarina System for Innovation and Entrepreneurship (SIE-SC), seeking to promote the state's sustainable development, based on knowledge and innovation. CEI worked from the beginning of the process in the planning of Inova@SC and its management processes, and participated in the execution of a number of its actions, especially the detailed development of plans for implementation of actions to establish six of the 12 Innovation Poles planned for the State. The main results include a single and integrated strategy for the promotion of innovation in Santa Catarina, discussed and shared by the various sectors of society, as well as concrete actions aimed at attracting new investments for promotion and support to innovation in the State.

Planning of Technology and Innovation Parks

The projects for planning and development of technology parks are among the most important activities for CEI. In 2012, it worked on seven projects in various regions of Brazil, highlighted by the integrated organization of the Technology Parks for promotion of Santa Catarina development, in Lages, the Northern Catarina technology park, in Joinville and the Park for Innovation of the City of Knowledge in Tubarão.

Planning and Implementation of the Innovative Company Incubator

Within the strategy for the creation of new innovative solutions in its field of operation, CEI proposed to the Secretariat of Science, Technology and Innovation (SECTI) of the Bahia state government the planning, implementation and assisted operation of the Company Incubator at the Tecnocenter. The project's distinction is that for 12 months the staff of CEI and CELTA will participate in putting the incubator in operation, in conjunction with the professionals that will work there definitively, strengthening the results in a shorter time and allowing training in practice for the local staff. Among the results of six months of the project can be highlighted a 144% increase in the number of companies incubated, a 300% increase in the pre-incubated projects and the beginning of the personalized consulting for the incubated companies.

Training of Managers of Incubators in the CERNE Model of ANPROTEC

ANPROTEC and SEBRAE, with the objective of building a standard management model for Brazilian incubators, hired CEI to help in the development of the Reference Center for Support to New Companies (CERNE). The CERNE model represents a group of key-processes that allow an incubator to achieve significant improvements in the systematic generation of innovative companies. The CEI staff also worked in the training and accreditation of 400 consultants and managers of incubators (those who will assist the incubators in the implementation of CERNE) and in the support for selection of 144 Brazilian incubators that will receive financial support by means of the SEBRAE - ANPROTEC 02/2012 public bid for the pilot implementation of CERNE.

BUSINESS CENTER FOR ADVANCED TECHNOLOGY LABORATORIES


CELTA Staff 2012

The year of 2012 was special because it marked a new management cycle for CELTA. It was a year with high productivity, reflecting the expansion of the installed base of companies on the organization of new services and on the conquest of new projects that should generate more results in 2013. For this reason, it can be affirmed that CELTA entered its 26th year contributing even more strongly to consolidating the Mission of the CERTI Foundation and the Mission of the Center, to provide support to the development and evolution of technology based projects.

Tony Chierighini
CELTA Executive Director

Projects to be incubated at CELTA

- **New company created by individuals**
  Opportunity for a researcher-professional who has an idea, project, prototype or product and wants to create a technology-based company at CELTA.
- **New company created by a corporation**
  A company or business group that wants to create a new technology-based company to gain greater technical and or managerial support and or integration with other companies.
- **Company transferring to Florianópolis**
  An already existing technology-based company that wants to transfer to CELTA in search of greater technical and or managerial support and or integration with other companies.
- **Development unit for products or processes at companies**
  An already existing company that wants to install at CELTA a technical body for the development of new technology-based products or processes.

Economic sectors served

- Instrumentation
- Telecommunications
- Automation
- Mechatronics
- Microelectronics
- Energy
- Biomedicine
- Biotechnology
- Creative economy
- Life sciences
- Information Technology

Highlighted Partners:

FAPESC, BADESC, BRDE, ACATE, SEBRAE, ACE, SUCESU-SC, FINEP, Inatel, ANPROTEC, CNPq, LOGO, UFSC, AITEC

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In 2012, two more companies graduated, reaching a total of 72 companies. Four other companies (ONEON, WAVETECH, ADAMITEC and PLASMATEC) began the incubation process. It was a productive year from a technical-scientific perspective, resulting in new services implanted and projects conceived and developed. The CELTA staff also participated in the Bahia Incubator Park project, which is led by CERTI's Innovative Entrepreneurship Center (CEI).

Two technology-based companies graduate and transfer to their own facilities

A national standout in the development of managerial simulation systems, BERNARD supplies its systems to more than 200 institutions of higher education and to the corporate market. Its clients include the main commercial banks working in Brazil and large companies such as Petrobras, Carrefour and Volkswagen. Simultech is a company specialized in the development of various types of simulators for training and entertainment. The company now serves various state automotive agencies and in the entertainment sector its clients include theme parks, like Beto Carreiro World.

Model for Acceleration of International Business and Operations of the International Business Office (ENI)

In 2011, CELTA began to operate its International Business Office (ENI) and in 2012 the operation at CELTA generated the first results, by serving the Internationalization of Innovative Business project, contracted by ANPROTEC. This project proposed the formatting of a model of services so that the Innovation Environments can assist their companies to put services into operation and provide consulting to internationalization. The project involved 17 incubators and 20 companies in nine Brazilian states. The companies received training and assistance in the internationalization of their businesses, which involve solutions for the clean technology, biotechnology and oil and gas sectors. The project was presented at the 22nd National Seminar of Parks and Incubators of ANPROTEC, in Foz do Iguaçu, to an audience with more than 300 representatives from Innovation Environments.

Implantation of the CERNE model and development of software for incubator management

The CERTI Foundation was selected under the SEBRAE / ANPROTEC public bid to establish CERNE at the CELTA incubator, and with its experience, to assist three other Santa Catarina incubators in the implementation of the model. In 2012, implementation began of the 36 practices that give potential to the development of the incubated companies and to improve the management of the incubator. In addition, software for management of incubators was developed in partnership with local companies, in the latest generation language that provides all the facilities for the management and control of an Incubator (Complete ERP). The software was developed and improved during the year and has been approved by ANPROTEC as a reference tool for Brazilian incubators to use in their project incubation processes.

Planning and Expansion of CELTA Pedra Branca

Implanted in January 2011, with a project prepared by CERTI, by December 2012 the CELTA Incubator Pedra Branca, dedicated to the development of the municipality of Palhoça, already had 19 companies incubated and two graduates. With this expressive result, in 2013 CELTA Pedra Branca will come to have new facilities with 7,000 square meters, which will house the offices of the Innovation and Technology Support Institute of Palhoça, a manager of the incubator in partnership with CERTI/CELTA, and a company condominium. The building is being constructed and made available by the operator of the Parque Pedra Branca.

INCUBATOR CENTER FOR COMPANIES, NEW KNOWLEDGE AND ADVANCED IDEAS

CIENCIA Staff 2012

As a unit of support for the other Reference Centers (RC) of the CERTI Foundation, the mission of the Incubator Center for Companies, New Knowledge and Advanced Ideas is to develop new talents, establish partnerships with scientific and technological institutions in Brazil and abroad and develop special projects, seeking the incubation of new RC and platforms that are of interest to the CERTI System. In this regard, in late 2012 its actions resulted in the formalization by the board of advisers of two new CERTI reference centers: the Sustainable Energy Center (CES) and the Green Economy Center (CEV).

Arno Bollmann
CIENCIA Executive Director

Competencies and Innovative Solutions

- **Education of Employees and Capturing New Talent**
  Coordinates training programs for CERTI System employees
  Promotes capturing and training new talents
- **Partnerships with Scientific and Technological Institutions**
  Establishes partnerships with ICTIs to meet demands in their different innovative projects
  Prospects opportunities for new projects, programs or developments of strategic interest
- **Incubation of Special Projects**
  Incubation of new Reference Centers
  New Platforms for technology, products and or markets of interest of the CERTI System

Economic Sectors Served

- Institutions of S&T&I
- Large corporations
- Support agents
- Government entities
- CERTI System Reference Centers

Highlighted Partners:

Celesc Distribuição S.A. · Eletrobras · FATMA Fundação do Meio Ambiente · inova@sc · MIT Industrial Liaison Program ILP · BMW · UDESC · Prefeitura Municipal de Florianópolis · Fraunhofer · Tractebel Energia GDF SUEZ · FAPESC · ANEEL · UFSC

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In addition to the projects and conquests that resulted in the creation of the CES and the CEV, the staff of CIENCIA undertook its final operation in the Synapse of Innovation project, transferring this product to the CEI. The realm of the promotion of a new technology platform is highlighted by the securing of funds and the planning of actions, seeking the creation of the API-Nanotechnology. Special attention was dedicated to constant improvement in the quality of the Programs for Education and Training of new talents.

Operation-SC III of the SYNAPSE of INNOVATION program of FAPESC

The Synapse of Innovation Program, realized since 2008 at CIENCIA, became integrated to an organizational action of the Program Inova@SC of SDS/FAPESC, which is dedicated to prospecting and transforming knowledge into innovation. The action focuses on helping to see that knowledge generated by researchers, students, instructors and other professionals who work at science and technology institutions result in the creation of new companies (spin-offs). In 2012, CIENCIA implemented Operation SC-III, which at the end of the interactive process of training-proposal-selection, generated 146 proposals from 1,175 candidacies, and 100 innovative ideas were approved and awarded with US$26,000 each, and continued to participate in the Synapse pre-incubation.

Articulation and planning of the API-Nanotechnology of the TECNÓPOLIS

Considering the growing importance of nanotechnology in the scientific, technological and innovation scenario, CIENCIA increased actions to stimulate its corporate development at Tecnópolis. In conjunction with the Federal University at Santa Catainra, various articulations and mobilizations were realized aimed at the elaboration of projects and the securing of financial resources for the realization of the 2nd Technical Business Seminar on Nanotechnology and the development of the project of the Arrangement for the Promotion of Innovation of the Florianópolis pole.

Operation of the NEO ENTREPRENEURIAL program

NEO Entrepreneurial is a program for training future engineers, located at the CERTI Foundation. It is composed of an average of 12 engineering students and supports the realization of technical-scientific projects, internships during school vacations, personal development and management activities, in partnership with two other large Brazilian companies: Embraco and WEG.

Operation of the TOP Program – Training of Professionals

The ToP group is an internship program aimed at engineering, computing, administration and economics students, which seeks to develop distinguished professionals by providing training in three fields: knowledge of technology, management and personal competencies

COOPERATION

As expressed in its institutional mission, CERTI strives to provide support to its clients in cooperation with other CTIIs and technology-based companies and thus expand and make more agile its capacity for generating solutions. Within the communities of interest standout those organizations and units that participate in many of the realizations presented in this report.

SCIENTIFIC, TECHNOLOGICAL AND BUSINESS COOPERATION

Broader and more complex innovative solutions can be generated with greater agility by following the guidelines for internal technological cooperation among the Reference Centers and the CERTI System, as well as externally with universities, technology centers and specialized companies from Brazil and abroad. The management of cooperation has been recognized as one of CERTI's special abilities. It is highlighted by work conducted in 2012, in the following four communities of partners:

Cooperation with the Federal University at Santa Catarina

The interaction with R&D groups, laboratories, departments and support foundations at UFSC has evolved expressively, as joint projects have been conquered and projects for clients have taken on increasing complexity, striving to interact with Competence Cells at this outstanding federal university. The collection of logos does not include all of the partnerships realized in 2012:

Cooperation with Institutions of Science, Technology and Innovation (STIIs), Companies and Financing Agencies of the TECNOPOLIS

It is known that large international companies undertake their technological innovation processes by increasingly using the competencies of other companies and technology institutions. The CERTI Reference Centers, in their own projects or those for clients, have used the great potential of organizations of the Technology Pole of Greater Florianópolis - TECNÓPOLIS. Below are some partners of 2012:

Cooperation with STIIs, Financing Agencies, Companies and Brazilian Business Associations

CERTI participates in important projects conducted through networks and consortiums, such as international projects, the SIBRATEC networks and especially the large projects for industrial factories in Venezuela. There are countless partnerships, highlighted by those below:

Cooperation with STIIs and Foreign Companies

Substantial advances were made in interactions with foreign STIIs and companies, allowing access to advanced and complex technologies and infrastructure. In 2012, a cooperation agreement was mobilized with the Fraunhofer Society, representing 60 specialized institutions. In addition, the partnership with MIT opened new channels for the realization of the "Challenge of Innovation" program. Technology partnerships with large companies in the IT sector make viable strategic development for Brazilian industry.

COMMUNICATION

In 2012, the staff of CERTI's Communication Office conducted important work for institutional promotion that resulted in 273 spontaneous news reports in the Brazilian press. Through the production of 45 press releases and notes about CERTI projects or events and the accompanying of 68 interviews with directors and those with technical responsibility for projects, five reports were published in national newspapers, 58 in state newspapers and 22 in local newspapers, in addition to 23 articles in magazines of national scope and 165 insertions in Internet bulletins.

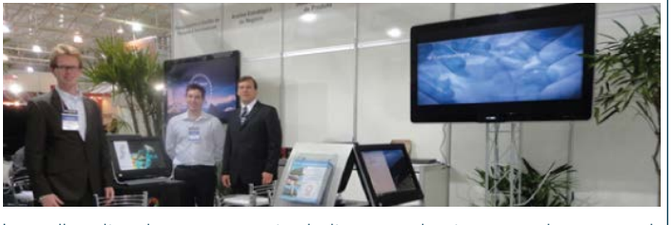
Event Promotion

In partnership with the Industrial Liaison Program of MIT, the event "Challenge of Innovation 2012 – Thinking out of the Box with MIT" was held in March 2012 at the Costão do Santinho resort, 260 representatives of entities and companies focused on technological innovation.

One standout was the launching at Sapiens Parque, of the "Floripa Interactive Program: Projecting the Future," with the presence of the Minister of Science, Technology and Innovation, Marco Antonio Raupp and the then Mayor of Florianópolis, Dario Berger.

Presence at Exhibitions

CERTI was represented institutionally in a systematic manner at international fairs and events such as the Consumer Electronics Show, in Las Vegas - USA.

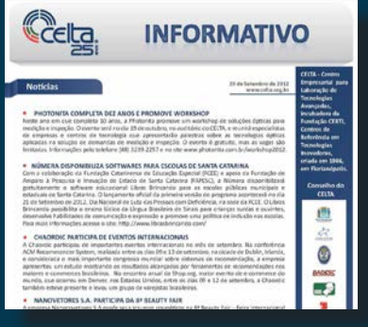


Locally, it also presented its products, services and innovative solutions at exhibitions like the ExpoGestão in Joinville, held during the ANPEI congress, in which it received potential clients at CERTI's own stand.

CERTIFIQUE-SE (weekly)

For CERTI System employees.

INFORMATIVO CELTA (bi-weekly)



For the companies associated to CELTA.

LABELECTRON NEWS (monthly)

For the national electronic hardware community.

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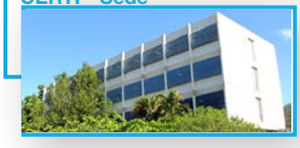
CERTI - CV-FI

CELTA - InovaLAB/CES/CEV

CELTA - ParqTec ALFA

CERTI - Sede



CERTI - LABelectron

CELTA - Pedra Branca

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