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COSTA RICA

facts & figures

Costa Rica brings together scientific capacities, infrastructure, equipment, and a world-class business network for establishing partnerships and investments. A leading destination for life sciences offering the best quality of scientific research in Latin America[1].

1. World Economic Forum, 2014-2015.

Costa Rica ranks **#1 in Availability of Engineers and Scientists** in Latin America, **#2 medical devices exporter** in Latin America since 2010[2].

We are a nation that values excellence and embraces opportunities. We are a world-class location, open for business, offering preferential access of the world's global markets through several Free Trade Agreements.

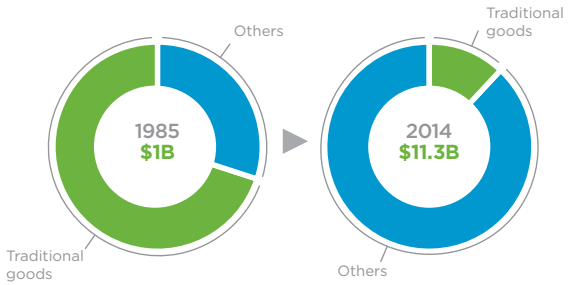
During the last decade Costa Rica has witnessed a steady growth in foreign direct investment (FDI), growing at an annual rate of 13% since 2013, thus representing 4.4% of its Gross Domestic Product (GDP). Even more, FDI reached US$456 per capita, making Costa Rica rank among the top countries in Latin America in both indexes.

With an ongoing effort to broaden the scope of its supply of goods and services, Costa Rica has also focused on introducing technology solutions in its productive scheme for higher value-added industries. As a matter of fact, biotechnology and nanotechnology sectors promise a great potential for achieving this goal. We have 5% of the world's biodiversity and +3.6 million geo-referenced species in the country, along with a dynamic schooling sector, and its highly qualified human resources.

As for foreign trade, exports of goods and services have also experienced a steady growth, with an average annual rate of 7.8% since 2002.

Costa Rica exports 4360 products to 157 countries. Exports of Medical Devices and Pharmaceuticals represented 18% of Costa Rica's total exports of goods (US$ 11,3 billion) in 2014. Exports of life sciences products have grown 231% in the last decade.

COMPOSITION OF EXPORTS



Source: PROCOMER, 2015.
Traditional goods include: Coffee, bananas, meats, sugar.

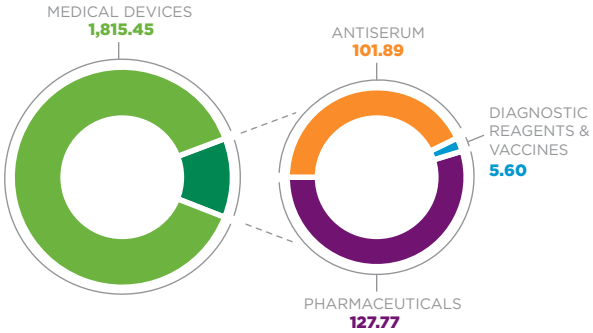
Costa Rica is a cradle of **human talent** for those who seek excellence. We are a proud, educated people, who embrace challenges, learn quick and welcome new opportunities. A nation with a solid government; and a rather strong support for health, education and the pursuit of self-development: that is Costa Rica.

We offer a convenient interinstitutional collaboration with a multidisciplinary team of experts in electronics, biomedicine, biotechnology, materials and agriculture or environmental applications.

2. World Economic Forum, 2014-2015.

A long **standing-democracy**, a free and mandatory educational system since 1870, and no army since 1949, allow us to invest 7.1% of our GDP on education and 10.9% on health. We continue to build on our vision by fostering the **#1 educational system** and #1 industry-academic collaboration in Latin America to boost our people's success.

MEDICAL DEVICES AND PHARMACEUTICAL EXPORTS 2014
US$ MILLION



Source: CINDE based on data from PROCOMER.

Why Costa Rica?

- **A strong scientific network for business** - partnership, manufacturing and services opportunities.
- Currently, more than 250 high tech multinational companies are operating in Costa Rica.
- Exceptionally talented and bilingual young workforce. Almost 100% of the employees in multinational companies are local.
- Preferential access platform to 1/3 of the world's population, and 2/3 of the worldwide GDP. Most of the exports of goods are covered by free trade agreements (86%).
- Excellent business climate, rooted on a consolidated democratic tradition, economic and political stability.
- Solid infrastructure. More than 90% of energy is renewable.

LIFE SCIENCES

highlights

Costa Rica has over 50 years of life sciences track record, both in research and in business experience. The existence of quality infrastructure and a strong knowledge base of scientists makes Costa Rica an interesting partner. There is a skilled workforce compliant with GMP, ISO standards as well as FDA and CE-mark regulations.

A broad scope of Life Science suppliers is available. Laws, infrastructure and institutional initiatives have accompanied the development of most of the biotechnology niches in the world. Costa Rica has a suite of laws supporting life sciences sectors and intellectual property in compliance with international treaties. The same time zone and proximity to the USA, where the world's most amount of biotech companies are concentrated, makes Costa Rica an ideal platform for foreign companies to partner with local institutions and companies to network worldwide.

LIFE SCIENCES HIGHLIGHTS

Our science & technology pillars

INTELLECTUAL PROPERTY

Costa Rica ranks **#3 in Latin America for protection of intellectual property**, according to the IPRI (Intellectual Property Right Index); As a national priority, Costa Rica complies with core components as follows:

- It is guaranteed by the National Constitution.
- Modern protection mechanisms meet international standards.
- Protected areas include: Copyrights, Trademarks, Encrypted Program-Carrying Satellite Signals, Industrial Designs, Utility models, Patents, plant varieties and geographical indications
- Legal and political environment, Physical Property Rights, Intellectual Property Rights.

As a member of the WTO, the nation harmonizes its intellectual property rights with the provision of "TRIPS" (Trade Related Intellectual Property Rights).

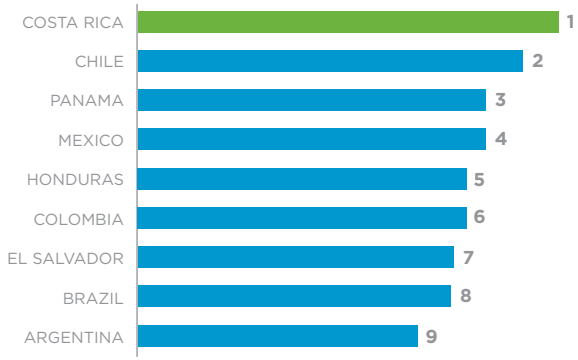
This matter has been formally incorporated in our legislation since 1994 and reinforced with the CAFTA Agreement.

INNOVATION

We have the greatest potential for innovation in Latin America, ranking **#1 in Latin America innovation**[3]. Costa Rica leads in parameters such as capacity for innovation, quality of scientific research institutions, university-industry collaboration in R&D, government procurement of advanced technology products.

Costa Rica is a source of innovation supported by the establishment of a sound supplier base comprised of +100 local and multinational companies that improve logistics, reduce lead times, costs and inventory, and improve quality related issues.

UNIVERSITY-INDUSTRY COLLABORATION IN R&D
LATIN AMERICAN RANK



Source: World Economic Forum. The Global Competitiveness Report 2014 -2015.

3. World Economic Forum, 2014-2015.

LIFE SCIENCES
HIGHLIGHTS

RESEARCH INSTITUTIONS / CENTERS

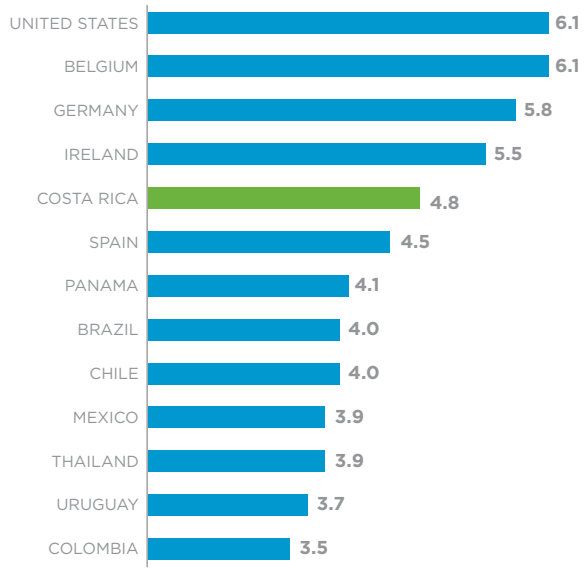
Research centers are an important actor within the high tech industries. Those which are part of public universities in Costa Rica, not only fulfill an educational goal, but they also provide significant services to companies in the private sector, and they act as support for the development of new products and services for different industries.

There are 35 biotechnology and 6 nanotechnology centers, in Costa Rica. Out of the 41 centers identified, 32 are part of academic institutions (public and private).

Out of the 41 research institutions:

- 16 are within Universidad de Costa Rica (UCR)
- 6 are within Instituto Tecnologico de Costa Rica (TEC)
- 4 are within Universidad Nacional (UNA)
- 15 are within private institutes/organizations.
- 3,300 researchers.
- 80% of the life sciences research is produced by public universities.

QUALITY OF SCIENTIFIC RESEARCH INSTITUTIONS
SCORE



Source: World Economic Forum. The Global Competitiveness Report 2014 -2015.

Strengths of the life sciences sector in Costa Rica

- A good critical mass of diversified life sciences companies compared to other Latin American countries, including biotechnology, medical devices, industry, environmental and agricultural-oriented products & services.
- A selective group of research institutions with excellent infrastructure for research and development collaborating with the private sector.
- There is flexibility and collaboration from the government and public-private academic sectors. Biotechnology is considered an objective in many governmental organizations by adopting development schemes to enhance and strengthen diverse industries.
- A solid knowledge base of its biodiversity, characterized and geographically identified. Regulations allow a sustainable use of the biodiversity, not presenting constraints.
- A valuable academic sector with a long track record in biotechnology research.
- A broad scope of suppliers for the life sciences sectors.
- There is a strong knowledge base and germplasm bank of identified microorganisms and plants of Costa Rica's biodiversity (INBIO).
- State of the art infrastructure in bioprocessing, nanotechnology, and food technology.
- There is a critical mass of leading medical devices companies (65 multinationals).
- The economy has an intensive high technology industry.

LIFE SCIENCES SECTOR

in Costa Rica

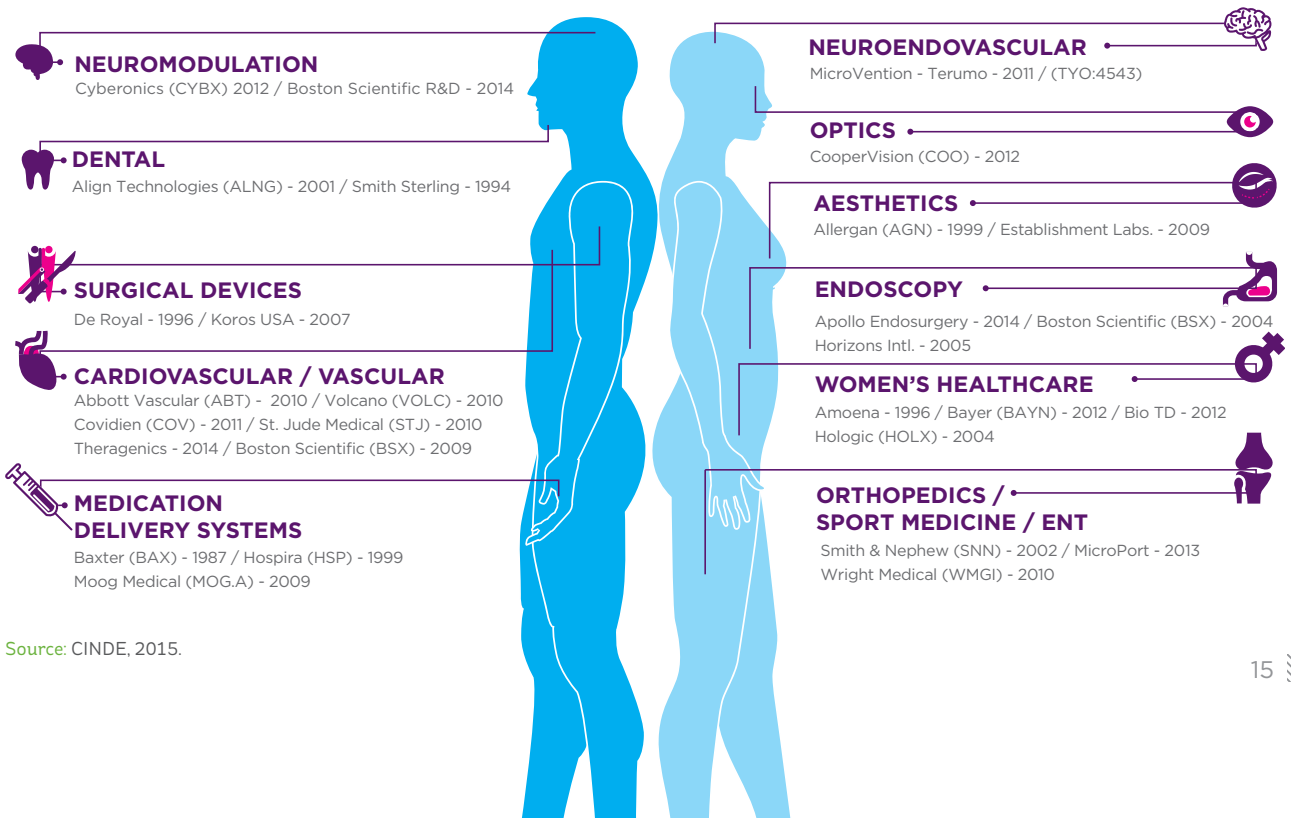
Medical devices

The country has evolved over the years from producing Class I to Class III medical devices including aesthetics, cardiovascular, dental, endoscopy, medication delivery systems, neuro-endovascular, neuro-modulation, optics, orthopedics/sport medicine/ENT & surgical/ diagnostics components; which now serve markets in America, Europe, Asia and Oceania. Costa Rica is now the second largest exporter of Medical Devices in Latin America and among the top 7 suppliers to the US market.

"Costa Rica has emerged as a leading location globally, outside of Europe, for MedTech investment, attracting 47 MedTech projects over a five-year period including 18 in 2012, and ranking 7th globally in terms of the number of manufacturing projects ahead of the Netherlands, Brazil and Mexico, between 2008 and 2012." (MEDTECH REPORT 2014 – Oxford Intelligence)

INTERNATIONAL MEDICAL DEVICES COMPANIES ESTABLISHED IN COSTA RICA

Home to 6 of the top 20 largest medical device firms and 5 of the top 10 cardiovascular companies in the world



Source: CINDE, 2015.

LIFE SCIENCES SECTOR

Costa Rica has strong capabilities when it comes to pharmaceutical products manufacturing; from drug testing & trials, to manufacturing and packaging.

Local CMOs have vast experience producing drugs in diverse presentations, these include ophthalmic (cervix cancer screening tests), anti-allergic, antibiotic, anti-inflammatory, anti-histaminic, cosmetics, personal care, natural and desinfecting products, as well as prescription drugs.

PHARMACEUTICAL INDUSTRY COMPANIES

HUMAN HEALTH		VETERINARY PRODUCTS	REGIONAL BRANCHES AND SHARED SERVICES
Alcames	Laboratorio Gutis	Alcames	Pfizer
BioTD	Laboratorio Lisan	Calox veterinaria	Roche
Calox	Laboratorio Raven	DSM Nutritional	Astrazeneca
Chemo	Total Natural	Faryvet	Bayer
DSM Nutritional	Medipharma	Laboratorio Lisan	GlaxoSmithKline
GlaxoSmithKline	Apotex	Laquinsa	
Grupo Ancla	Farmanova	Farmanova	
Laboratorios Barly	Technofarma		
Lacofa	Laboratorios Zepol		

Biotechnology

Costa Rica's history in Biotechnology dates from 1950 when the first cellular biology labs where opened in the country, and since then it has grown to be intrinsic in agriculture, forestry, and industrial productive processes, as well as research and development activities that have experienced significant growth in recent years.

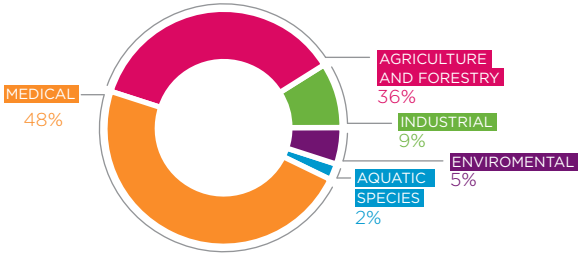
The Costa Rican government supports the life sciences sector and the biotechnology and nanotechnology industries are now included as fundamental pillars of the strategic development plan for the country. Evidence of that is the **public interest declaration of the medical device and biotechnological industries** through the Executive Decree N°36952-MICITT-COMEX-MEIC, and for nanotechnology and its applications by Executive Decree N°36567-MICITT from 2001.

A Biomedical Research Law, in place since April 2014, allows the country to participate in type 3 clinical trials, including provisions that aim to respect the rights of participants, among others, their health, security, informed consent, use of biological samples, withdrawal as participant, privacy, data use and information.

The biotechnology and nanotechnology industries in Costa Rica are formed by four main actors: state, academia, research centers, and the private sector. There has also been a proliferation of business incubators to promote and accelerate the creation of new companies and innovation within these industries.

The Costa Rican Ministry of Science and Technology & Telecommunications (MICITT) presented in April 2014 a report called "Route 2021: Knowledge and Innovation for competitiveness, prosperity, and wellbeing." In it, the relevance of biotechnology and nanotechnology is pointed out as relevant players for the continuos success in the fields of energy, food, education, health and environment.

INDUSTRY REPRESENTATION BY SECTOR



Source: Mapping of biotechnology and nanotechnology industry in Costa Rica, Procomer 2014.

In 1997 the National Technical Biosecurity Commission (CTNBio) was created, as part of the Phytosanitary Service (SFE) of the Agriculture and Livestock Ministry, and its main goal is to control that biotechnological processes have an appropriate application according to regulations (IICA, 2013).

Above you will find a graphic presenting the distribution of national companies that are identified as developing research in these fields, according to their products and services.

Food technology

Home to 9 of the top 40 food processing companies in the world and growing[4], Costa Rica focuses on top quality and uniqueness.

Currently, more than 350 different agricultural and food-processed goods are exported to more than 130 destinations around the world.

Servicing demanding and dynamic markets as Germany, Italy, France, the Netherlands, the United States, China, and Japan have become longstanding consumers of our exportable products.

Food companies established in Costa Rica such as Kraft, Cargill, Mondelez, Unilever, Bimbo, Chiquita and Dole, benefit from easy access to high quality, more naturally produced raw materials and agile logistics with transportation from the Pacific and the Caribbean coasts. But in addition, research and development services, technical expertise and support for certification processes; allow companies in Costa Rica to perform under the strictest norms including HACCP, ISO 22000, FSSC 22000, ISO 9001, ISO 14001, Kosher, M Halal, Rain Forest Alliance, USDA Organic, Fair Trade, among others.

4. Food Processing's Top 100, 2014.

Biotechnology in Agriculture

The country has been recognized as one of the biggest suppliers worldwide of high quality agricultural products; from traditional goods such as coffee, pineapple and cocoa, to cantaloupe, tubers, and baby-vegetables to the more exotic and trendy crops like aloe vera, soursop, mangosteen and rambutan.

We also take this production further up the value chain and export jelly, toppings and candied fruits, tuber flour (gluten free), sauces, condiments, fruit concentrates and juices, purees, frozen or dried fruits, and delicious dairy products, among others.

An integral view on sustainable development drives Costa Rica to act under the moto that "we preserve to produce and we produce to preserve". The country has developed further in the value chain with organic agriculture, production under controlled environments, "green" products, fair trade and biotechnology applied to agriculture (plant tissue culture and micropropagation, molecular biology, biological control, cryopreservation, genetic improvement).

Research and findings in the biotechnology field, done by private and government laboratories, have allowed us to explore food engineering and create crops that are resistant to plagues or tropical diseases, creating new seeds (oil palms and cocoa varieties), new fruits (Pococí papaya), and new live organisms (Mediterranean fly) as bio-controllers for plagues.

BIOTECHNOLOGY COMPANIES

& business organizations

CR BIOMED

Costa Rican Biotechnology and Medical Device Business Association (CRBioMed)

CR Biomed has been established as an initiative of the private sector inviting the participation of entrepreneurs, scientists, independent professionals, the academia and the public sector, focused on these main objectives:

- To provide international exposure to businesses and technological innovations from Costa Rica
- Undertake activities to promote local industry development
- Provide advocacy to facilitate the support of local policies in biotechnology

NETWORKING MEDIA:
www.linkedin.com/company/crbiomed

MATCHMAKING MEDIA:
www.linkedin.com/company/biotech-projects-looking-for-latam-partners

CONTACT:
Inforcrbiomed@gmail.com

BIOTD

Based in Costa Rica, BioTD develops biotechnology and medical device solutions in the field of in vitro diagnostics and skin care. With a multidisciplinary/multicultural team and a FDA-approved manufacturing facility, BioTD seeks to have a worldwide projection of its products. The company is actively looking for distribution contracts for its proprietary and WIPO award winning liquid-based cytology kit - CITOFEM, used as PAP substitute. Most recently, BioTD has received FDA 510k approval for both skin products ROSS RU and SPB, a hydrogel wound skin dressing and a topical skin care emulsion for relieving various types of dermatoses, respectively.

bioTD
biotechnology developers

Contact: Gabriela Couto
Email: info@bio-td.com
Web: www.bio-td.com

LAQUINSA

The Company manufactures and commercializes products for crop protection, as well as human and veterinary healthcare products as injections, cremes, emulsions, powders, B-lactamates, disinfectants, and other, for Central America, the Carribean and South America. Laquinsa works under rigourous quality standards, is environmentally friendly, and seeks continuous improvement to satisfy its clients. At Laquinsa facilities there is also a Laboratory for Research and Development, registered by the Scientific & Technological Registry of the Ministry of Science & Technology /CONICIT and the program Bandera Azul Ecológica (Ecological Blue Flag).

LAQUINSA

Contact: Hermis Quesada
Email: hquesada@grupotrisan.com
Telephone: +506 2247-1001
Web: www.laquinsa.com

URËK BIOTECHNOLOGY

Contact: Alvaro E. Peralta
Email: info@urekbio.com
Telephone: +506 2283 2595
Web: www.urekbio.com

Urëk Biotechnology is a Costa Rica-based company which provides analytical services and research support for the biotechnology industry. Our team is composed of highly qualified scientists from diverse fields with a proven track record in R&D.

Urëk Biotechnology also has a commercial division which represents innovative pharmaceutical, medical device, and healthcare products for the Costa Rican and Central American markets. Its goal is to provide healthcare institutions with the latest technology to treat their patients and it is actively looking for new options to introduce into these markets.

SPERATUM

Contact: Dr. Christian Marin-Mueller
Telephone: +506 7026 8202
Email: christian@speratum.co
Web: www.speratum.co

Speratum is a Costa Rican biotechnology company dedicated to research and development of patented therapeutics and diagnostics based on miRNA for combatting pancreas cancer. miRNA has been discovered to regulate and deregulate components of functional protein networks that can cause multifactorial diseases leading to cancer. Speratum's promising researche uses this knowledge in creating therapies that bring back the natural balance to the body and stop cancer development.

BIO ENGINEERING

The Company performs research and development in the áreas of residual wáter treatment, animal health (bovines, porcines, aviary, and aquaculture), as well as crop protection using biotechnology developments.

The Company is certified for ISO 9001, ISO 14001, Bandera Azul Ecologica.

Contact: Dr. Luis Viquez
Telephone: +506 2290 0050
Email: lviquez@grupotrisan.com
Web: www.trisanagua.com

CARAO VENTURES

Carao Ventures invests in high potential startups of Central America. Based in San Jose, the company helps accelerate ventures by giving the necessary support structure to projects in early stages; it also contributes to the development of a healthy entrepreneur ecosystem in the region. The company and its associates invest in innovative projects of diverse fields of science, technology and business solutions, including biotechnology. Given the increased relevance of biotechnology in Costa Rica, and the highly qualified human resources, this field of development has presented very promising investment opportunities.

Contact: Adrian Garcia
Telephone: +506 6040 4052
Email: adrian@caraov.com
Web: www.caraov.com

MARKETPLAZA

Marketplaza (InnovaMarketplaza S.A.) is a consulting company serving Latin American biotechnology companies through the internationalization process as an alliance manager and innovation management consulting service. With a combined academic background in MBA and life science, Marketplaza carries out business development activities through its worldwide network of contacts in pharma, biotech industries.

Contact: Business Development Director
Email: innovamarketplaza@gmail.com
Web: www.innovamarketplaza.com

CIB / COSTA RICA INSTITUTE OF TECHNOLOGY

The Center for Biotechnology Research (CIB) belongs to the Costa Rica Institute of Technology. It is a biotechnological complex which directs its research and development efforts on three strategic lines: Plant Biotechnology, Environmental Biotechnology and Biomedical Applications. The new facilities include 14 specialized laboratories, a field for agronomic experimentation, a multipurpose irradiation institutional laboratory, greenhouses and a microalgae cultivation area. Since its establishment more than 20 years ago, the CIB has had a strategic relationship with the national and international academic, industry and government sectors, becoming a cornerstone for biotechnology development in Costa Rica.

Contact: Ph.D. Miguel Rojas Chaves
Email: mirojas@itcr.ac.cr
Telephone: +506 2550 9411
Web: http://www.tec.ac.cr/sitios/Docencia/biologia/cib/Paginas/default.aspx

BIOTECHNOLOGY COMPANIES & BUSINESS ORGANIZATIONS

SUPPORT INSTITUTIONS

CRBiomed works closely with the following national governmental and academic organizations for contributing to the development of national biotechnology and industries in medical devices:

PROCOMER
(COSTA RICA EXPORTS PROMOTION AGENCY)

Institution responsable for promoting Costa Rican exports of goods and services to the world. We facilitate and promote commerce abroad and investment.

COMERCIAL PROMOTION DIVISION

Telephone: + 506 2505 4700
Email: industrias@procomer.com
Web: www.procomer.com

CINDE
(COSTA RICA INVESTMENT PROMOTION AGENCY)

Active promotion of foreign investment, local support, and post-establishment services.

LIFE SCIENCES DIVISION

Email: invest@cinde.org
Telephone: +506 2201 2800
Web: www.cinde.org

MICITT
(SCIENCE, TECHNOLOGY AND TELECOMMUNICATIONS MINISTRY OF COSTA RICA)

Dictate public policy for science, technology and telecommunications, allowing the country to promote the use of knowledge and innovation, to prioritize and lead industry initiatives on competitiveness, welfare and prosperity.

RESEARCH & DEVELOPMENT DIVISION

Santiago Nunez
Email: santiago.nunez@micit.go.cr
Telephone: +506 2539 2200
Web: www.micit.go.cr

Potential opportunities for life sciences industries in Costa Rica

DIAGNOSTICS

This sector is closely related to the medical devices industry as it shares similar suppliers and regulatory terms. The country enjoys qualified labor force in any of these areas due to the almost 20 years existence of the biotechnology engineer career and other related careers. Therefore, Costa Rica can become an interesting target for a diagnostics company which is able to outsource production in an overseas location where it enjoys manufacturing advantages. Diagnostics is the highest growing healthcare sector ready to deliver strong double-digit annual growth over the next several years and Costa Rica is well suited to participate in this trend.

POTENCIAL OPPORTUNITIES FOR LIFE SCIENCES INDUSTRIES IN COSTA RICA

BIOPHARMA

The biotechnology knowledge background of the country is gaining interest of foreign companies sourcing biodiversity based opportunities for the biopharma industry worldwide. Partnerships with European and US-based companies with Costa Rican institutions have been increasing in the last 15 years. Costa Rican CMO's (contract manufacturing organizations) are hired by biopharmaceuticals for carrying out their developments to the production phase. Working with CMOs in CR can result as a precursor for future biopharmaceutical development within the country.

CLINICAL TRIALS

This sector has been has recently been opened as an opportunity given the excellent healthcare facilities and the passing of a new law regulating clinical trials.

BIOINFORMATICS

New initiatives from the academia such as a master's degree program, the biotechnology engineer program, a multilateral commission, participation in an international cluster, has given way to the production of more than 600 students over the past 5 years. Demand for bioinformatics services has been increasing mainly from local research. A pioneer company established has allowed new advantages and incentives encouraging more companies to find out more about the local human resource capacity.

NUTRACEUTICALS AND FUNCTIONAL FOODS

As a country exporting high quality processed foods all over the world (especially to the most regulated markets such as US and Europe), these high value added sectors are a natural evolution to the multinational

industries. Moreover, Costa Rica's biodiversity provides a rich source of resources and raw materials for these sectors. The track record in food technology R&D is very prestigious in the country with numerous ready-to-market products developed in collaboration with local industries.

PHYTOMEDICINES

Clearly this niche is a winner for Costa Rica due to its rich biodiversity and an internationally renowned reputation. Regulations are clear, both for access of biodiversity and its commercial exploitation. INBIO is the country's asset due to its 25 years of knowledge base, herbarium and strain library, has been partnering with multinational companies for researching chemical compounds.

OTHER BIODIVERSITY-DERIVED PRODUCTS

Fungus biodiversity have varied applications (antibiotics, natural fertilizers, biocontrollers, secondary metabolites, among others) that are highly valued by biotechnology companies throughout the world. This niche is extremely attractive to R&D companies.

SCIENTIFIC & TECHNOLOGICAL

capacities in research & development

SCIENTIFIC & TECHNOLOGICAL CAPACITIES IN RESEARCH & DEVELOPMENT

Costa Rica has a high potential in educational programs that includes the educational development in biotechnology and nanotechnology majors. On the academic area in the field of biotechnology it should be noted that both Universidad de Costa Rica (UCR), Universidad Nacional (UNA) and Tecnológico de Costa Rica (TEC) have specialized programs and high-level in this branch.

In nanotechnology academic offering, we have universities with concentrated programs (UCR, TEC and UNA) that are taught with greater affinity to nanotechnology and development of new materials. It should be noted that the TEC has one of the most advanced laboratories of nanotechnology and microscopy of the country, and since 2010, it also offers the possibility to graduate as a technician in nanotechnology, a unique program in Central America.

FOOD TECHNOLOGY

CITA

The **Food Technology Research Center (CITA)** has over 35 years experience in researching commercial applications of Costa Rica's fruits, dairy products and other foods. Collaborates with the national chamber of food industries (CACIA), national and international companies such as Bonlac, Nestlé, Kern's, Walmart.

Services offered in an ISO 17025 credited lab with privacy protocol include:

- Nutritional analysis services
- Research & Development
- Technology transfer
- Training

Web: www.cita.ucr.ac.cr

SCIENTIFIC & TECHNOLOGICAL CAPACITIES IN RESEARCH & DEVELOPMENT

BIOLOGICALS

Instituto Clodomiro Picado

A 40 year-old public institution offering R&D services and products, associated with the UCR and Minster of Health of Costa Rica.

The Clodomiro Picado Institute vision is to be a leading international institution in the study , prevention and development of therapeutics against poisoning by venomous animals , while maintaining a high quality, innovating and diversifying the research , teaching, social work and production. One of the world's reknown antivenom snake serum banks. WHO 2011 Public Health Award. Some facts about this institute:

- Produces an average of US$3MM of antiophidic serum and antitoxins sold worldwide.
- Performs protein analysis. Services provided for veterinary, human and other projects in development.
- The laboratory also collaborates with groups of researchers who work in hospitals and other universities in order to carry out clinical trials and field studies.

Web: www.icp.ucr.ac.cr

BIOSURVEILLANCE

INCIENSA

The Costa Rican Institute of Investigation and Education in Nutrition and Health (INCIENSA), since 1977 it associated to the Ministry of Health. Institution responsible for epidemiologic surveillance and research on public health priorities as well as diagnostic technologies, health assurance and education.

Centers of reference in:

- Bacteriology (belongs to WHO Global Foodborn Disease Surveillance Network).
- Virology.
- Parasitology (chagas, dengue, malaria, leptospira).

Web: www.inciensa.sa.cr

BIOPROCESSING

Cenibiot

The National Center of Biotechnology Innovations was created in 2007. It is an international collaboration project between the Government of Costa Rica and the European Union. A pilot plant for scaling-up of pre-industrial fermentation technology with multidisciplinary accessory labs (microscopy, chromatography, microbiology, molecular biology, analytical chemistry).

Contributes to the competitiveness of agro industrial companies by scaling-up added-value biotechnology innovations.

Web: www.cenibiot.ac.cr

BIO SCIENCE

CIB

The Center for Biotechnology Research (CIB) belongs to the Costa Rica Institute of Technology. Provides R&D services in the fields of molecular biology, cell culture, and bioprocessing. With the cooperation from the International Atomic Energy Agency (IAEA), established a human tissue culture laboratory for the development of therapies for burns and healing of wounds.

CIB is known for its successful research in agriculture tissue culture, achieving innovative approaches in collaboration with nanotechnology, electronic microscopy and radiation technologies.

CIB has international collaborations with institutions in USA, Argentina, Brasil, Colombia, Ecuador, Mexico Spain, Germany, Singapore and China.

Web: www.tec.ac.cr/sitios/Docencia/biologia/cib/Paginas/default.aspx

SCIENTIFIC & TECHNOLOGICAL CAPACITIES IN RESEARCH & DEVELOPMENT

BIO INTELLIGENCE

INBIO

Private research and biodiversity bioprospection management centre, with over 20 years experience in applied R&D collaborations promoting the sustainable use of Costa Rica's biodiversity:

- 3.6 million georeferenced and databased specimens of plants, funghi, bacteria, arthropods.
- 28,443 identified species.
- Library strain of 13,000 isolated and characterized microorganisms.
- 1 new species described every two days.

INBIO has a history of chemical and genetic prospecting with Merck, Lilly, Pfizer, and many others. Strategic alliances with research institutions and academic centers such as Harvard Medical School, Cornell, National Cancer Institute, NASA, KRIBB, among others.

Exploring plant biodiversity

Develop commercial uses originated from Costa Rica's biodiversity[5]:

- Active ingredients & excipients
- Herbal medicine
- Nutraceuticals
- Cosmetics

Web: www.inbio.ac.cr

EXPLORING MARINE BIODIVERSITY

National University

Costa Rica has one of the richest world's marine biodiversity with state-of-knowledge of most taxonomical groups.

Projects may be conducted with local research organizations for diving in deep water with submersible equipment to log species

The National University (UNA) has 4 Biological Centers, of which ECMAC, the Marine Costal Station, is involved in pharmacological studies (i.e. ocean microorganism identification and extractions to determine antitumoral properties).

Web: http://www.una.ac.cr/index.php/areas/investigacion

5. Costa Rica laws allow access to biodiversity for sustainable uses through specific requirements enforced by the National Commission for Biodiversity Management: www.conagebio.go.cr

NANOTECHNOLOGY RESEARCH CENTRE

Costa Rica Institute Of Technology

The Nanotechnology Research Program promotes research with private and public organizations through its multidisciplinary team of experts in electronics, biomedicine, biotechnology, materials and agriculture or environmental applications. It also provides contract research services for industries. It's infrastructure includes equipment such as AFM, STM, Flex, SEM Hitachi TM 1000, SMU Keithley, Quant 50-TM.

Web: www.tec.ac.cr

LANOTEC

The National Nanotechnology Laboratory was inaugurated on August 31, 2004 and specializes in the research, design and implementation of technologies associated with nanotechnology , nanoscience / computational nanotechnology and materials science. Lanotec is a space for interdisciplinary research whose mission is the scientific and technological development through the application of nanoscience and nanotechnology to problem solving as well as the transfer of knowledge from academia area to the industry.

Web: www.cenat.ac.cr/gestion-ambiental/lanotec/resena

+20 RESEARCH CENTERS AND LABORATORIES

University of Costa Rica

The **Institute of Investigations in Health (INISA),** performs research on the origin of factors that determine health problems in the community and serves as advisory services to public health stakeholders on topics such as gastric cancer, hereditary mental degeneration, among others.

The **Centre of Investigation in Cellular and Molecular Biology (CIBCM)**, investigates topics related to pathogens in plants, viruses that affect animals, bio pesticides, and environmental microbiology.

The **Biological Tests Laboratory (LEBI)**, promotes research through biological testing of possible mechanisms of action of chemical substances, biological, biotechnological of human and animal consumption.

Web: http://www.ucr.ac.cr/investigacion/

OUR FIVE VALUES OF COMPETITIVENESS

excellence

Companies that offer value added, quality, specialization due to their human talent.

sustainability

Companies that achieve success in harmony with the environment and the social conditions.

innovation

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social progress

Companies that strive for the wellbeing of their associates by providing opportunities to achieve professional and personal goals.

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