



The Biotechnology sector in Barcelona and Catalonia



Generalitat de Catalunya
Catalonia Investment Agency

www.catalonia.com

With headquarters in Barcelona, an office in Madrid and branches in New York and Tokyo, the Catalonia Investment Agency provides advisory services and assistance adapted to the needs of companies interested in setting up or expanding their facilities and investments in Catalonia.

Barcelona City Council
Economic Promotion

www.bcn.cat/barcelonabusiness

Economic Promotion is a department of the City Council that is dedicated to promoting Barcelona as an attractive place for businesses and helping and giving support to companies, professionals and institutions that want to set up or do businesses in the city.

22@Barcelona

www.22barcelona.com

22@Barcelona is one of the strategic projects of the city of Barcelona. In the downtown neighbourhood of Poble Nou, a space has been designed so companies and institutions from the Media, Medical Technologies, ICT and energy sectors can interact with knowledge centres like universities or R&D centres.

Barcelona Chamber of Commerce

www.cambrabcn.es

Barcelona Chamber of Commerce represents companies of the city of Barcelona. Through its personalised company services and its actions it helps promote economic and business activity in the country and for each of its companies.

Presentation

Catalonia and its capital, Barcelona, has always been a welcoming place; throughout history different peoples have passed through and almost all have established themselves here. This has made Catalonia a very welcoming, tolerant, and dynamic place which is open to all that is new.

Today, Catalonia and Barcelona have become one of the main economic hubs in Europe. Engine of the Spanish economy, this Catalonia of the 21st century is an innovative country with a highly qualified workforce, an unbeatable geographical position (at the centre of Europe and connected to the rest of the world thanks to its Mediterranean port and its international airports) and some of the best facilities and infrastructure in the world, which attracts important investments year-after-year.

It is a pleasure for us to present this economic dossier, which reflects the traits of one of the main economic sectors of Catalonia and Barcelona -in terms of its weight in its own economy and its relative weight compared to other European regions, and also because of the importance given to it by its companies, universities, and research centres- namely the biotechnology sector. Fruit of the collaboration between the four leading institutions in the economy of the city, this dossier shows everything that Catalonia can offer your company in terms of its position as an enterprising and cutting-edge country in this economic sector.

We are here to advise you and help you with your investments.




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Barcelona, located in the north-east of Spain and on the shores of the Mediterranean, is one of the main European metropolises, and the centre of an extensive metropolitan region made up of more than 217 towns, with a total population of 4.6 million inhabitants. It is the economic, cultural and administrative capital of Catalonia and a leader of an emerging business area in the south of Europe which is made up of more than 800,000 companies and 17 million inhabitants. Within this Euro-Mediterranean region, which includes the Balearic Islands, Valencia, Aragon and the south-east of France, Barcelona is focusing on new strategic, competitive and international sectors, and it is consolidating its position as one of Europe's principal metropolises.



■ Barcelona
■ Catalonia
■ Euro-Mediterranean region

We can find the basis of economic growth, which has become very relevant in last years, in a metropolis with a polycentric business structure which is both diversified economically and that facilitates its role as an incubator of new ideas, companies and products.

When we consider the distribution of the gross added value according to different branches of activity, Catalonia is, as in the case of industry, the region with most weight in the Spanish market (25%), and with respect to the service industry it occupies the second position in the national gross added value generated (18% of the total). In the region, those companies in industrial sectors with high and medium-high technology content and services based on knowledge make up 28.55% of the State total.

On the other hand, the index of entrepreneurship in Catalonia for the year 2005 is around 6.1%, a figure which is superior to the Spanish and European averages, according to the Global Entrepreneurship Monitor (GEM), 2005.

The city's international economic activity is especially bolstered by the Trade Fair, Port, Airport, Free Trade Zone Consortium, Barcelona's Tourism Board Consortium and the new innovation technology districts. In this last aspect -given the importance of innovation in boosting competitiveness, productivity and the internationalisation of companies-, the biotechnology sector is one of the key sectors for Barcelona and Catalonia.

In Barcelona and its metropolitan area there are important pharmaceutical companies and a network of cutting edge hospitals in terms of clinical trials, research and collaboration with companies. The city has become one of the benchmarks in Spain with examples like the district 22@ - a technology and innovation district par excellence -, and a wide network of quality technology assets and research centres in life sciences, a deep-rooted spirit of enterprise and talent in the biotechnology sector and a long tradition in life sciences education and business.

Regarding the availability of human resources, in the last few years Barcelona has increased its available resources both in education in new technologies and in the availability of facilities for research. The city boasts prestigious universities, highly prepared research centres, R&D laboratories, and intermediary institutions that help the development of projects based on biotechnology.

Barcelona is trying to become one of the main environments for the setting up of technology companies and also to boost the creation of different clusters that will help strengthen its image and its attractiveness. Some of those economic areas with the highest potential have already been identified. This is the case of the design, audio-visual content, ICT, aeronautics and biotechnology sectors.

Barcelona offers a variety of elements that make it attractive for living, working, and business. The city is today an interesting place for new economic activities. Some good reasons to invest here are listed below.

01 Strategic geographical location

Two hours from France and one day from the main European cities by land. Gateway to the South of Europe, it boasts a port, airport, free trade zone, logistics park, international trade fair, and a city centre which is located within a five kilometre radius.

02 Complete transport infrastructure

Network of motorways connected to Europe, Europe's fastest growing airport, the top port in Spain and the biggest port in the Mediterranean in terms of container traffic; dense network of metro, railways, buses, and the arrival of the High Speed Train in 2007 with a connection into the TGV European network in 2009.

03 Centre of a large, dynamic, and varied economic area

Greater Barcelona has 4.6 million inhabitants. The city is the capital of Catalonia, which has 7 million inhabitants, and is at the centre of the Mediterranean Rim, a large economic area with 18 million inhabitants. It accounts for 70% of Catalonia's GDP and had a growth rate of 3.1% GDP in 2004, above the Spanish and European averages. It is the sixth most important European urban agglomeration and the fifth in terms of industrial concentration in Europe.

04 Successful foreign investment

Fourth-best city in Europe for business*, the city accounts for about 20% of the annual foreign investment in Spain. There are 2,700 foreign-owned companies here with a 97% level of investment satisfaction. Barcelona has also consolidated itself as a centre for multinationals' European divisions.

05 Recognised international position

Barcelona is placed highly in different international rankings, which speak highly of its urban environment, its capacity to attract foreign capital, its enterprising character, and its quality of life.

06 Human Resources prepared for the future

Ethically responsible, with high productivity -one of the highest in Europe according to the OECD-, 5 public universities, 2 private universities, 4 business schools: ESADE, IESE, EADA, IESKA; 27 international schools, extensive penetration of new technologies, a character favouring innovation and creativity.

07 Excellent quality of life

Europe's top city in terms of quality of life*. Stable climate, sun, beaches skiing, splendid culture and leisure offer, network of 4,500 educational institutions, modern and accessible health service. Easy to get around with public transport. System of nature parks surrounding the city.

08 Large urban projects for the future

Transformation of 1,000 ha and 7 million m² of build surface area. Llobregat area: stands for logistics and internationalisation, with enlargements to the port and airport; the Besòs area: urban renovation, sustainability, and research centres; Sagrera-Sant Andreu: the arrival of the High Speed Train; Poblenou 22@: the new technology and innovation district.

09 A competitive real estate offer

Extensive offer of office space, commercial premises and industrial units with an excellent price-quality relationship. The construction of housing is in an expansive phase.

10 Unique public-private collaboration

Barcelona city council and the Generalitat (Catalan government) support businesses: the success of the traditional public-private collaboration model has been the key in the transformation of Barcelona.

* According to the European Cities Monitor 2006 Research from Cushman & Wakefield

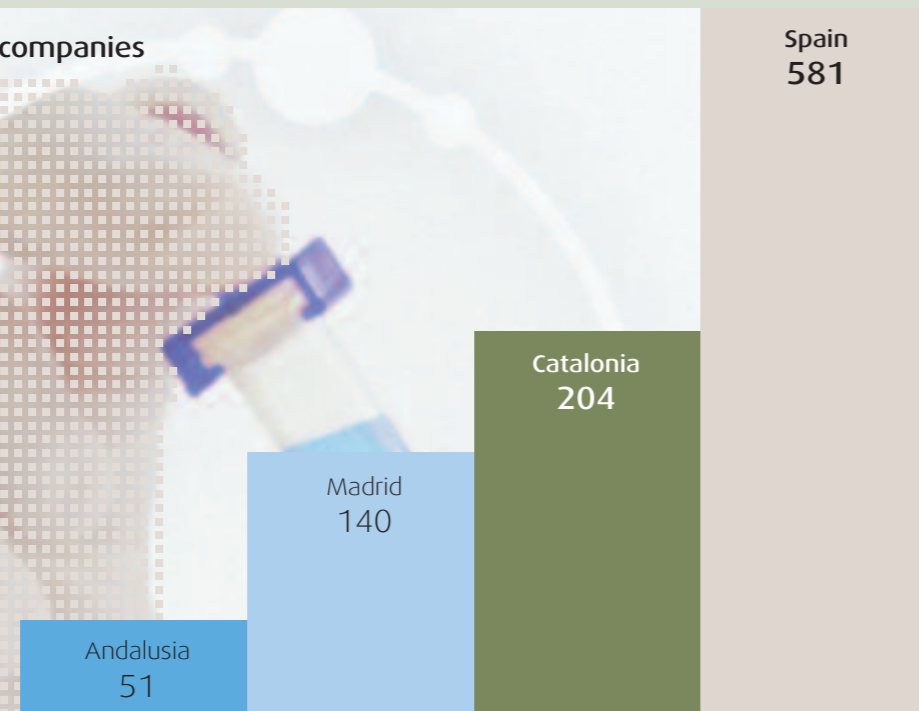
The Biotechnology sector in Barcelona and Catalonia

Biotechnology has experienced an extraordinary development in the last decade and at the moment it forms part of the technology portfolios of the most advanced countries in the world. Advances in this area have brought about qualitative transformations in products, and this will allow sectors like the pharmaceutical, chemical, and agro foods industries to find new competitive advantages.

Although Catalonia finds itself at the beginning of the development of the biotechnology sector, its starting point is compensated by its rate of growth. The 204 companies that currently form the Catalan biotechnology sector have mainly been created over the last five years. In fact, over the last few years the biotechnology sector has seen accumulated rises in terms of the number of companies in the sector of around 30%.

	Andalusia	Madrid	Catalonia	Spain
Companies solely dedicated to biotechnology	19	37	34	131
Companies partly dedicated to biotechnology	7	32	64	162
Companies that use biotechnology	8	35	60	110
Service companies working in the biotechnology industry	17	36	46	178

Total biotechnology companies



Source: Genoma España

Biotechnology has a determining role in the pharmaceuticals sector. Techniques like molecular biology, genomics and proteomics have helped find new medicines, which are more specific, effective, or display fewer side effects. In the agro foods sector, advances range from the development of plants with special capacities to organisms that decontaminate and allow to improve the use of the land. As well, in the medical field, they are developing instruments, materials, diagnosis and therapeutic devices, artificial organs, etc.

So we find ourselves in a sector with a tremendous potential for growth, in which Barcelona and Catalonia combine -in an excellent way- all those elements that make it a magnet for innovation and an unbeatable place for the biotechnology industry. These are relative factors for the industry, for research centres, for promotional activities by public administrations.

- 01 Important presence of national and foreign pharmaceutical companies
- 02 Network of hospitals at the cutting edge of clinical trials, research, and collaboration with companies
- 03 Talent in the biotechnology sector in a favourable environment for entrepreneurship, research, innovation and the creation of companies
- 04 Quality technology assets and research centres in life sciences
- 05 Barcelona Science Park: meeting of research and mature companies, and bio-incubator
- 06 Barcelona Biomedical Research Park: large research groups
- 07 Biocampus of the Autonomous University of Barcelona: research institutes and bio-incubator
- 08 August Pi i Sunyer Biomedical Research Institute: integration of clinical research and basic research
- 09 The BioRegion: the Catalan cluster of the biotechnology sector
- 10 Active support from the administration for the biotechnology world

10 reasons in favour of the Biotechnology sector

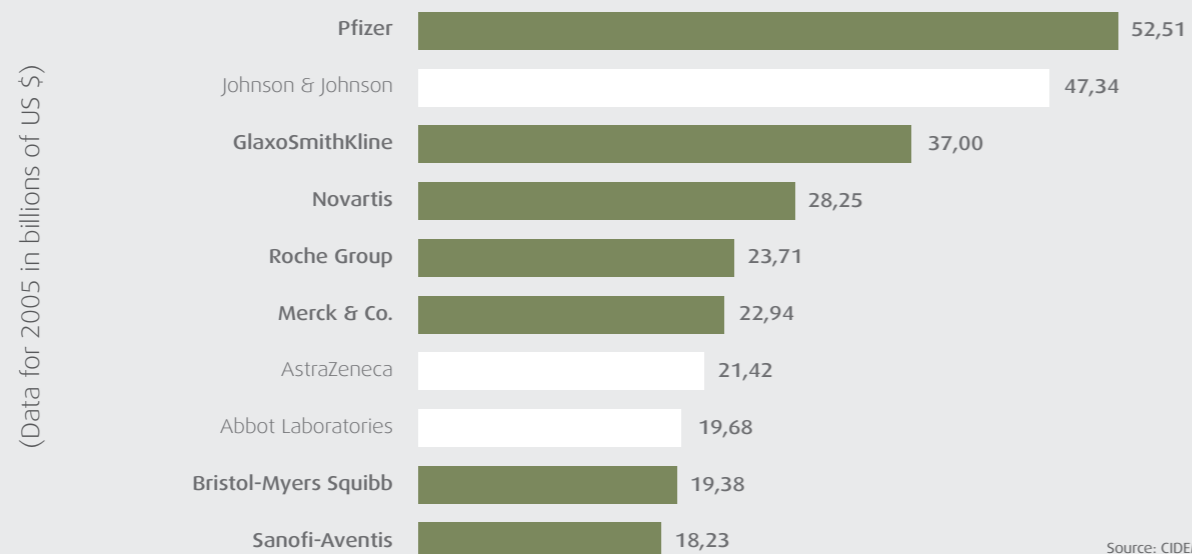
01 Important presence of national and foreign pharmaceutical companies

Biotechnology plays a determining role in the pharmaceutical sector. Techniques like molecular biology, genomics and proteomics help find new medicines, which are more specific, more effective, and with fewer side effects.

The Spanish pharmaceutical sector is mainly concentrated in Catalonia, which accounts for 50% of the pharmaceutical laboratories in Spain, 60% of its production, and 66% of companies working in fine chemicals. In fact, Catalonia is the origin and headquarters of the four main Spanish pharmaceutical companies: Almirall Prodesfarma, Esteve, Ferrer Internacional and Uriach. The R&D spend of all of these in 2005 stood at around 152.5 million Euros. This tradition and dynamism has attracted important international investments: Catalonia plays host to seven of the ten most-important pharmaceutical groups in the world: Pfizer, Bristol-Myers Squibb, Sanofi-Aventis, GlaxoSmithKline, Merck & Co., Novartis and the Roche Group.

The agroindustry, which has strong roots in Catalonia, is also a potential user of biotechnology, with a range of uses from the development of plants with special capacities to organisms that decontaminate and allow to improve the use of the land.

The most important multinational pharmaceutical groups in the world with activities in Catalonia (in green)



02 Network of hospitals at the cutting edge of clinical trials, research and collaboration with companies

Catalonia stands out in the field of clinical research and human health. It boasts a network of 215 hospitals, 50,000 professionals working in the sector, including 31,000 doctors and 6 of Spain's most prolific hospitals in terms of scientific production.



Barcelona is a good location for carrying out clinical trials. It has an extensive network of university hospitals, amongst which the Hospital Clínic Provincial de Barcelona, Hospital de Bellvitge, Hospital de la Vall d'Hebron, Hospital de Sant Pau, Hospital de Sant Joan de Déu, Hospital del Mar and Hospital Germans Trias i Pujol stand out particularly, and all of these are internationally recognised for their clinical research.

These hospitals have a wide range of research activities in the pharmaceutical field, running from basic pharmaceutical research to advanced high-tech diagnosis. Also in the medical field, bio-engineering or biomedical engineering and nano technology is focused on the development of instruments, materials, diagnosis and therapeutic

devices, and artificial organs, etc. 30% of Spanish biomedical research is carried out in Catalonia, mainly in the areas of cancer and degenerative diseases like Parkinson and Alzheimer.

There are diverse collaboration projects with companies. In fact, companies with a wide range of experience across various therapeutic areas have set up or have been grown from Catalonia. As well, there is an emerging CRO (Contract Research Organisation) sector in the local economy, which includes some twenty knowledge companies in specific areas like oncology.



Sant Pau Hospital

03 Talent in the biotechnology sector in a favourable environment for entrepreneurship, research, innovation and the creation of companies

The 204 companies which currently make up the Catalan biotechnology sector (34 completely dedicated to biotechnology) have mainly been created in the last five years. In fact, in the last few years the biotechnology sector has seen accumulated growth rates in terms of company numbers of some 30%. Oryzon Genomics (modifications and genetic studies), Advancell (in vitro cell models), Crystax (drug discovery platform), Cellec (cell bank) and Era Plantech (proteins) are some examples.

Behind the growth of biotechnology, there are talented human resources and close links between the university and business worlds. Catalonia has twelve universities with more than 300,000 students and as well its entrepreneurial activity can find twenty-seven business schools, some internationally recognised like ESADE and IESE.

Catalonia is one of the main regions for the development of research and investigation in the European Union and in recent times the budgets and number of personnel dedicated to R&D has doubled, and it now stands above the Spanish average. According to the National Statistics Institute, it accounts for almost one fourth (24,6%) of all spending on innovation activities of Spanish companies -3,074 million Euros, and 29% of all public subsidies on innovation projects, 31% of the patents for European applications and 38% of the scientific production in Spain.

In the biotechnology sector, Catalonia accounts for 30% of all research in the Spanish biotechnology sector. In fact, a variety of multinationals have chosen Catalonia to carry out research, amongst these Novartis, Pfizer, Sanofi-Aventis, Merck, Pierre Fabré, etc.

“This is a strong lesson to be learned from the Catalanian case: a prerequisite for innovation is to bring up physical conditions where you want innovation to ‘just happen’”.

Innovation Tomorrow,
European Commission

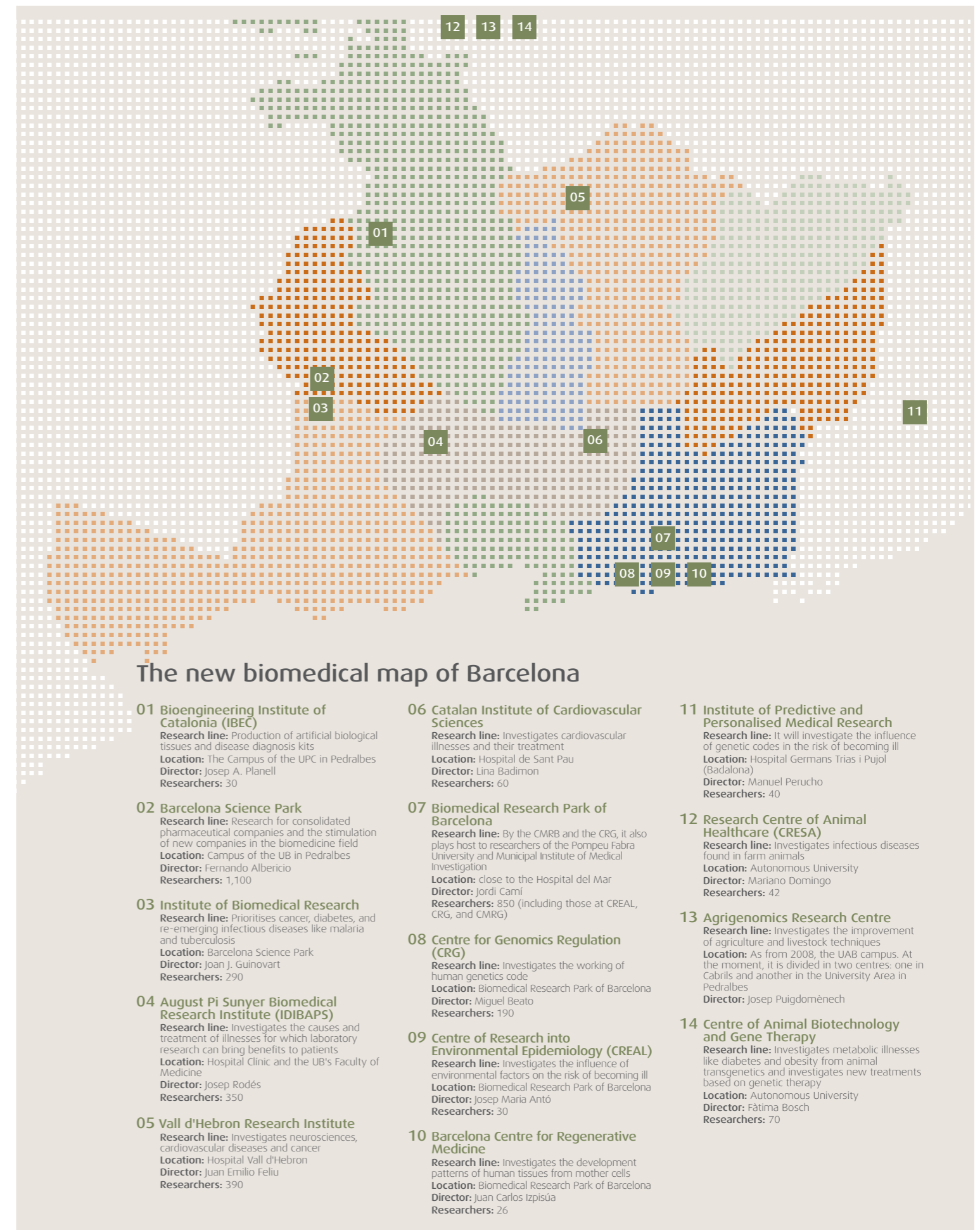


04 Quality technology assets and research centres in life sciences

Catalonia boasts 553 research groups, 137 R&D centres and 308 university departments, amongst which there are more than 150 groups dedicated to biotechnology research. Basic research in biology and life sciences is being carried out at 11 universities, with 4,000 students and 20,000 scientists, of which some 300 are dedicated to the biotechnology field and these generate 38% of the total scientific production in Spain.

- **Catalan Institute for Cardiovascular Sciences (CSIC-ICCC)** has 100 investigators and international collaboration programmes which work in the areas of new therapy discovery for cardiovascular illnesses, diseases, and research into mother cells and pharmacogenomics.
- **The Cancer Research Institute (IRO)** develops research into the fields of molecular human genetics and molecular oncology.
- **ALBA, the Synchrotron Light Source Project** in Barcelona, is the first of its generation in the south of Europe and boasts special international collaboration projects. It is expected to come on-line in 2009.
- **The Mare Nostrum**, the fourth biggest supercomputer in the world, which IBM has brought together with a 40 teraflop capacity.
- **The Council of Higher Scientific Investigations (CSIC)**, a public research organism with 125 centres in the whole of Spain and with 16 in Catalonia, works in diverse areas amongst them the fields of biology and biomedicine.
- **The Municipal Institute of Medical Investigation (IMIM)** is a public organism dedicated to scientific research in the area of biomedicine and life sciences and health sciences, also the training of highly qualified researchers in these areas. To be exact, IMIM's activity is mainly focused on basic, clinical and epidemiological research into cancer, and clinical and epidemiological research into medicines and drugs of abuse, research into health services, research into cardiovascular diseases, research into respiratory medicine and environmental health and research into biomedical computing.

The growth and development of the biotechnology industry in Catalonia is possible thanks to the offer of adequate science parks for the incubation of companies in their early phase of creation. Of the twelve scientific technology parks that Catalonia has, three are specialised in biotechnology, and in the future three more will house companies related to agro nutrition. Apart from providing scientific-technology facilities, offices, and laboratories, parks offer business management services, financial support and access to experts in intellectual property and investors.



05 Barcelona Science Park: meeting of research and mature companies, and bio-incubator

Parc Científic de Barcelona (PCB) incorporates public research groups and companies in one unique high technology space of 22,000 m² in operative terms (80,000 m² in 2008). Constructed in 1997 by Barcelona University, the Foundation Bosch i Gimpera, the site currently has more than 1,000 scientists working there and a total of 20 companies and biotechnological and pharmaceutical spin-offs like Merck, Uriach, etc.

It includes horizontal scientific and technical services with qualified personnel and available infrastructure for private companies in different areas (NMR, flow cytometrics, in situ molecular recognition, genomics units), and biotechnological platforms, structures for offering technological resources of the highest level accompanied by specialised scientific knowledge (genomics and transcriptomics, proteomics, bio computing, combinatorial chemistry, fine chemistry, bio molecules, nanotechnology and the diffraction of X-Rays).

It acts as a reference point in the promotion of knowledge and technology transfer, thus facilitating the establishment of companies based on biotechnology. Its main research fields are biotechnology, nano-bioengineering, theoretical chemistry, genomics, proteomics and bio-computing, amongst others.

It is the first bio-park and bio-incubator in Spain (CIDEM-PCB) with several start-ups (Oryzon Genomics, Crystax Pharmaceuticals, Enantia, ERA Biotech, Oleoyl-Estrone Developments OED...).

It is a Centre of Innovation (technology transfer, intellectual property, and support for the creation of spin-offs) and it is also the Centre for Patents of the University of Barcelona. It runs a variety of international collaboration programmes and it is also the home of the European Observatory of Biotechnology.

Barcelona Science Park (PCB) has research groups from the public and private sectors and a wide range of technology facilities:

- **Institute Research in Biomedicine (IRB)**
- **Barcelona Institute for Molecular Biology (IBMB-CSIC)**
- **Catalan Institute of Bioengineering (IBEC)**
- **Research Centre for Theoretical Chemistry (CeRQT)**
- **Research Group for Cognitive Neuroscience (GRNC)**



06 Barcelona Biomedical Research Park: large research groups

The **Barcelona Biomedical Research Park (PRBB)** occupies 55,000 m² overlooking the seafront of Barcelona, next to the Hospital del Mar. Built in 2002 by the Pompeu Fabra University, the Generalitat de Catalunya and the city of Barcelona, its expansion process was completed at the end of 2005. Expert scientists will carry out research from a range of perspectives running from molecular to population studies. Its objective: to become one of the main science facilities for biomedicine.



The scientific activity of the research groups is brought together under the grand themes of biomedical computing, and systems biology, genes and epigenetic regulation, cell biology and development, pharmacology, the clinical pathophysiology, human genetics and the biology of evolution, epidemiology and public health.

It has business initiatives generated by scientific activity with centres like *Pharmatools* and *Chemotargets*. It has attracted the *Centre of Imaging in Psychiatry of GlaxoSmithKline* and soon it expects to create complementary spaces in the campus for its own bio-incubators and house the R&D centres of companies working in the biotechnology and pharmaceutical sectors.

The Barcelona Biomedical Research Park (PRBB) brings together a variety of institutions and independent research centres, all these focused on different aspects of biomedicine.

- **The Municipal Institute of Medical Investigation (IMIM)** for fields like cancer, cardiovascular illnesses, respiratory diseases and biomedical computing. It is one of the two centres of the ENCODE project located outside the United States.
- **Centre for Genomics Regulation (CRG)**, set up in the year 2000 to bolster basic biomedical research into the fields of genomics, proteomics and genetics regulation.
- **Institute of High Technology (IAT)**, with PET Technologies and cellular imaging, that visualise biochemical processes in vivo for basic and clinical research.
- **The Barcelona Centre of Regenerative Medicine (CMRB)**, in cooperation with the Salk Institute (La Jolla, California) aims to understand the basic mechanisms of the initial development and organogenesis, as well as finding applications for the treatment of degenerative diseases. It is to become the Spanish National Centre of research into mother cells.
- **Centre of Research into Environmental Epidemiology (CREAL)**, that identifies the determinants of environmental health.
- **Department of Experimental Sciences and Health of the Pompeu Fabra University (CEXS-UPF)**
- **Hospital del Mar (IMAS)**

07 Biocampus of the Autonomous University of Barcelona: research institutes and bio-incubator

The **Biocampus of the Autonomous University of Barcelona (UAB)** occupies 8,000 m² in what is one of the most powerful centres for business, industry, and knowledge generation in Catalonia and Spain. This Scientific and Technology Campus brings together the centres and services of the UAB and other companies and public and private institutions that share activities and research in biomedicine and biotechnology.

The centre is a bio-incubator, meaning that it is an incubator for biotechnology and biomedical companies (VE3B). It was opened in May of 2005, and currently has 5 spin-offs from the university and services in cell culture (genetic therapy, etc.), in the production of anti bodies, in endocrinology, in radiography immuneanalysis and integrated services in genomics and proteomics.

The objective of the Biocampus is to group together centres and existing university centres in the biomed and biotec fields with companies and public and private institutions interested in sharing R&D activities.

The institutions and services that make up the Biocampus are the following:

- **The "Vicent Villar i Palasi" Institute of Biotechnology and Biomedicine (IBB):** molecular biology, bacterial molecular genetics, immunology and cell immunology (1800 m²)
- **Institute of Neuroscience:** neuropharmacology of neurodegenerative diseases, and vascular systems, etc.
- **Centre of Animal Biotechnology and Genetic Therapy (CBATEB):** centre of reference in the use of genetic transfer techniques in the field of biomedicine using transgenic animals.
- **Cell Culture Services:** blockers of the proliferation of tumorous cells, cellular ligands by way of genetics therapy, etc.
- **Antibody Production Service:** design of peptide immunogenetics for immunisation, obtaining polyclonal and monoclonal antibodies.
- **Endocrinology and Radioimmuneanalysis Clinical Trials Service:** design and execution of in vivo studies on the effects of medicines on the nervous and endocrine systems, etc.
- **Integrated Genomics and Proteomics Services (SIGIP):** research services in areas like the sequence of nucleic acids and veterinarian molecular genetics and synthesis.
- **Microbiology Analysis and Applications Service**
- **Mutagens Evaluation Services**
- **Animal Research Centre Service**
- **Pilot Plant for Fermentation**
- **BIOBANC ADN Repair Syndromes:** the first bank in Spain with ADN and samples from ill people due to deficiencies in the repair of ADN.

08 August Pi i Sunyer Biomedical Research Institute: integration of clinical research and basic research

The **August Pi i Sunyer Biomedical Research Institute (IDIBAPS)** created in 1993, is a centre for research which is integrated into Generalitat de Catalunya, the Medical Faculty at the University of Barcelona, the Hospital Clínic de Barcelona and the Barcelona Institute for Biomedical Research belonging to the Council for Higher Scientific Research (IIBB-CSIC).

These four entities pool their efforts to reach the highest levels of excellence in biomedical research.

It participates in projects like the Biomedical Alliance of Barcelona (ABB) and the Catalan Association of Research Entities. These initiatives, supported by Generalitat de Catalunya and Spain's Ministry of Science and Technology, convert Catalonia and Barcelona into an important centre for international biomedicine. On the other hand, at the Spanish level, IDIBAPS is very much implicated in the development of national networks of cooperative investigations, financed by the Ministry of Health and Consumption. Its investigators participate in a total of 37 networks of groups and centres, of which IDIBAPS coordinates five.



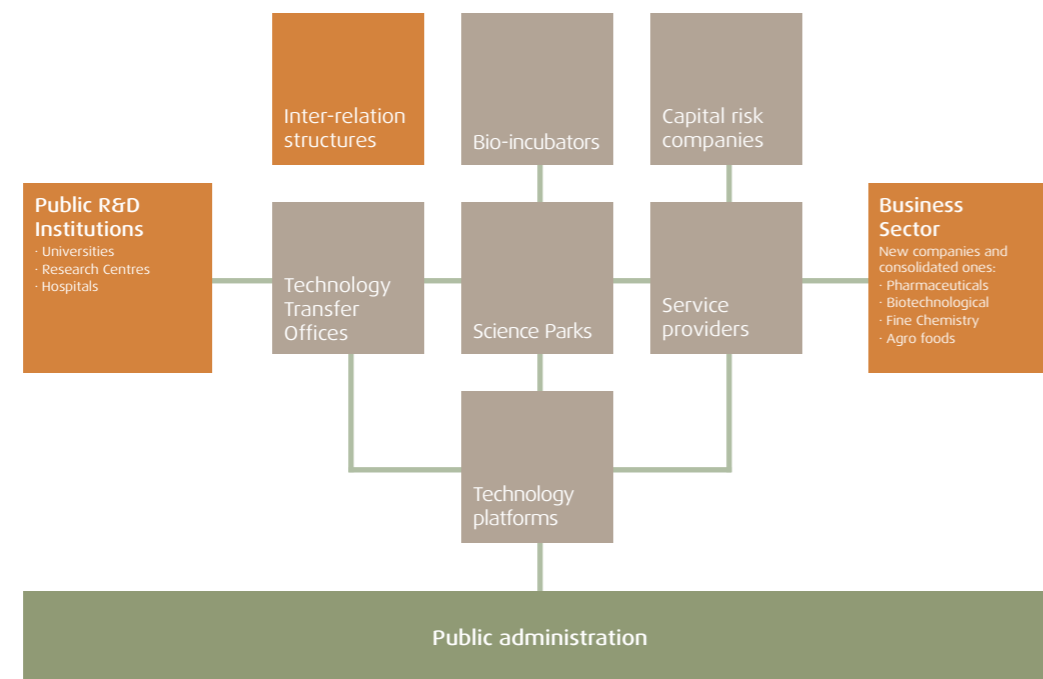
The fundamental objective of IDIBAPS is to integrate contrasted quality clinical research with high level basic research. This helps facilitate translational cooperation between the laboratory and in situ practice and this results in a more efficient transfer of obtained scientific advances in the prevention and treatment of the most prevalent health problems in our country.

09 The BioRegion: the Catalan cluster of the biotechnology sector

The **BioRegion** is a pioneering initiative in Spain that brings together the interests of all the stakeholders in the biotechnology sector (Administration, universities and companies) to make Catalonia an international benchmark in the biomedicine and biotechnology sectors.

The BioRegion of Catalonia has set itself the objective of contributing to economic and social development via the promotion of this strategic sector -biotechnology-, which is considered not just a means to increase knowledge but also as motor for the economy. To reach this objective, the BioRegion is coordinating biomedical and biotechnological research in Catalonia in order to create an adequate environment for the transfer of knowledge and technology, to contribute globally to the development and commercialisation of innovative biotechnological products, and to consolidate a powerful business sector.

The three main axis of the BioRegion are: the Administration, public research institutions, and companies; however, we should also highlight the presence of other stakeholders that facilitate the transfer of knowledge and technology.



Strategic objectives of the BioRegion

- Consolidate excellent biotechnology and biomedicine research, both public and private, at an international level.
- Improve the value and commercialisation of research in life and health sciences.
- Raise the competitiveness of existing companies and consolidate a new business network.
- Bolster quality training in health and life sciences and an enterprising character.
- Create a society which is better informed and with a better public perception of biotechnology.
- Make Catalonia an internationally relevant environment for both biotechnology and biomedicine.

10 Active support from the Administration for the biotechnology world

Public subsidies for biotechnology -whether from the Ministry of Education and Science, the autonomous communities or the European Commission- have increased over the last five years at an average rate of 22.6%.

Amongst these sources of public finance there are incentives for research, training, and contracting. Particularly relevant is the help given for research and contracting, which include the programmes of NEOTEC, PROFIT, TORRES QUEVEDO, CENIT (Plan INGENIO 2010) of the Ministry, participative loans ENISA, financing from GENOMA ESPAÑA, etc.

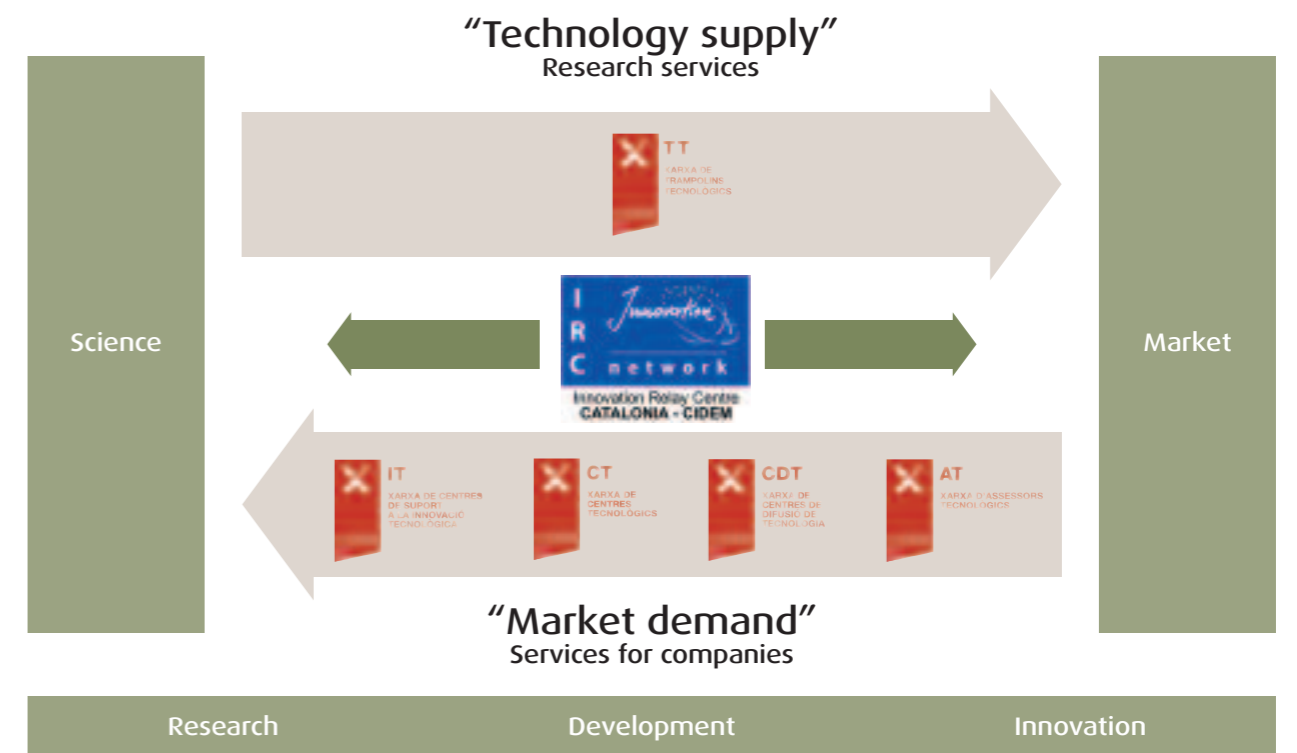
The Department of Innovation, Universities and Enterprise of the Generalitat de Catalunya, via the Centre for Innovation and Business Development (CIDEM), offers companies diverse alternatives for financing themselves: lines of risk capital, credit lines, guarantees, participative loans, subsidies and fiscal incentives for R&D (like deductions on business taxes) or subsidies for helping to look for capital.

As regards the search for new business opportunities in Catalonia, the Catalonia Investment Agency specialises in offering services for companies and investment projects which are solid and stable in Catalonia. These services include help at all levels: from the investment planning stage to the finalisation of a project, or consulting services, the search for local contacts, providers, services to find the best location for each project, advisory services on incentives and financing, or re-investments, increases in share capital, etc.

Very necessary in the biotechnology sector are infrastructures and support tools that help the transfer to technology and knowledge companies generated in public and private research centres. In this sense, in Catalonia we can highlight the Technological Springboards Network (XarxaTT), the Technological Innovation Network (Xarxa IT), the Technology Centres Network (CT) and Technology Dissemination Centres Network (CDT).



Catalan System of Technology Transfer



Centre for Innovation and Business Development (CIDEM)

Finally, the 22@Barcelona project has the objective of transforming Barcelona into a centre of business, scientific, technological and cultural activity at an international level. It is converting 200 hectares of land in the centre of the city into a high quality urban space with excellent infrastructure aimed at bringing together highly intensive knowledge companies and institutions.

The Bio cluster of 22@Barcelona is working towards the transformation of the industrial, scientific, and innovative activity in Catalonia in this sector into business development in order to bolster the creation and growth of related companies in biotechnology and bioengineering. In concrete, 22@Barcelona will develop specific spaces (offices and research laboratories) so that companies in this sector which spring from the ambit of universities or science parks could have environments to set up in and establish links with related entities. These business initiatives will co-exist with research and development activities, technology transfers, training, etc.

22@Barcelona

www.22barcelona.com

ALBA, the Synchrotron Light Source Project

www.cells.es

August Pi i Sunyer Institute of Biomedical Research (IDIBAPS)

www.idibaps.ub.edu

Barcelona Biomedical Research Park (PRBB)

www.prbb.org

Barcelona Centre of Regenerative Medicine (CMRB)

www.cmrbarcelona.org

Barcelona City Council Economic Promotion

www.bcn.cat/barcelonabusiness

Barcelona Institute for Molecular Biology (IBMB-CSIC)

www.ibmb.csic.es

Barcelona Science Park (PCB)

www.pcb.ub.es

Biocampus, UAB

www.uab.es

BioRegion

www.bioregiocat.net

Cancer Research Institute (IRO)

www.iro.es

Catalan Bioengineering Institute (IBEC)

www.nanobiolab.pcb.ub.es

Catalan Institute for Cardiovascular Sciences (CSIC-ICCC)

www.csic-iccc.org/

Catalonia Investment Agency

www.catalonia.com

Centre for Animal Biotechnology and Genetic Therapy (CBATEB)

www.uab.es

Centre for Innovation and Business Development (CIDEM)

www.cidem.com

Centre of Genomics Regulation (CRG)

www.crg.es

Council for Higher Scientific Research (CSIC)

www.csic.es/index.do

ESADE Business School

www.esade.edu

Genoma España

www.gen-es.org

Hospital Clínic i Provincial de Barcelona

www.hospitalclinic.org

Hospital de Bellvitge

www.csub.scs.es

Hospital de la Santa Creu i Sant Pau

www.santpau.es

Hospital de la Vall d'Hebron

www.vhebron.es/vhcat.htm

Hospital del Mar (IMAS)

www.imasbcn.com

Hospital de Sant Joan de Déu

www.hsjdbcn.org/index.jsp

Hospital Germans Trias i Pujol

www.germanstrias.org

IESE Business School

www.iese.edu

Institute for Research in Biomedicine (IRBB-PCB)

www.irbbbarcelona.org

Institute of High Technology (IAT)

www.iat-prbb.com

Mare Nostrum

www.bsc.es

Municipal Institute of Medical Investigation (IMIM)

www.imim.es

Neuroscience Institute

www.uab.es

Research Centre for Environmental Epidemiology (CREAL)

www.creal.info

Research Centre for Theoretical Chemistry (CERQT)

www.pcb.ub.es/cerqt/main

Research Group for Cognitive Neuroscience (GRNC)

www.ub.es/pbasic/sppb

“Vicent Villar i Palasí” Institute of Biotechnology and Biomedicine

<http://luz.uab.es/html2/ibf.html>

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