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BOSCH I GIMPERA FOUNDATION

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Report 2013



Fundació
Bosch i Gimpera
Universitat de Barcelona



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Fundació Bosch i Gimpera

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30 Years Transforming Knowledge into Economic and Social Value

Knowledge has become the key asset for competitiveness. But knowledge has to be managed, transformed —that is what we call valorisation— and transferred to the productive sector in the most suitable manner. I am convinced that universities have an important role to play in this process. We must transform the knowledge we have generated into economic and social value; in short, into well-being for society. The FBG is a major player in the development of this third mission, which the University of Barcelona has fully assumed.

The original goals of the Foundation, a pioneer in promoting collaboration between universities and society, have a renewed relevance today. Over the years, the Foundation has been taking on new responsibilities; thus, new tasks have joined the management and administration of research projects, which were its primary duties. First, the FBG undertook an important role in the active promotion of projects to foster university-industry collaboration, and later took charge of the valorisation, patent licensing and creation of knowledge-based companies. We have gone from managing ten projects for a total of 480,000 euros, in 1984, to administering 740 projects for a total revenue of €39.22 million in 2013, € 24.03 million of which are related to European projects. During the last eight years we have submitted over two hundred priority patent applications, and we have signed over sixty license agreements. We have provided advice for the creation of more than seventy-five technology-based companies, and over thirty spin-offs, and we are shareholders in eleven of these companies.

During these past 30 years, the Foundation has incubated many projects, some of which —ESCAC, the

PCB or the IL3-UB Foundation, to name but a few —are now tangible realities that make us very proud. Today we keep proactively developing new projects —such as the programme for the enhancement of innovation in companies, the UB-Centre for Innovation and Advanced Technologies, and the Barcelona Institute for Entrepreneurship— to facilitate the connection with the social and economic context.

Since its creation, the FBG has made a commitment to teamwork and collaboration with other institutions and actors of the science, technology and innovation system, and it plays a very active role in various knowledge transfer networks and associations, in the Catalan area, but also at both the national and international level.

One of the goals of the Foundation is to promote the importance of knowledge transfer and innovation within the UB. But not only do we preach innovation, we also apply it to ourselves. Ours is a changing environment where the things that worked yesterday are already obsolete today. We must question everything we do and reinvent ourselves every day. We have to plan ahead and carry on pioneering and engaging in open innovation on a global scale, promoting international collaborations, fostering the creation of opportunities, and encouraging co-creation as well as co-development, with the participation of researchers and companies. I am convinced that there is no innovation without risk, but the main risk is not innovating.

I want to thank, once again, all those who have participated in the activities and results presented here —trustees, UB researchers, companies and institutions,

and the team of the FBG— for your support, your commitment, and your enthusiasm.

I cannot conclude this presentation without giving a special recognition to Francesc Santacana, who was the director of the FBG for 14 years, and sadly passed away on 14 April 2014. He was looked up to as a director, and a great person, a pioneer in the relationship between university and industry, and a promoter and defender of innovation. As he wrote in his personal account, his time in the FBG (1986-2001)

was “one of the most interesting of my life, for all the scientists and technologists I had the opportunity to meet, who allowed me to imagine multiple connections with the world of industry.” If we have got this far and can now celebrate —as we do with this report— the 30-year history of the Foundation, it is thanks to him, his creativity and the energy he transmitted to those around him.

M. Carme Verdaguer
General Manager



Collaboration between the University and the Socio-Economic Actors



The Fundació Bosch i Gimpera (FBG) is the centre of the University of Barcelona (UB) devoted to the transfer of knowledge, technology and innovation. The FBG promotes the research of the UB and the entities within the UB Group, and works to ensure that the results of this research reach society through the creation of knowledge-driven businesses, patent licensing, and contracts with companies and institutions for the realization of R&D projects, the development of advisory and consultancy tasks, the production of studies, reports or opinions, and technical support and analysis services. The FBG is the technological springboard of the UB and is supported by ACCIÓ, the agency of the Government of Catalonia that promotes the competitiveness of Catalan companies.

Contracts signed with **191** companies and **115** public institutions and administrations

287 people hired for work related to research projects

92.3% EU nationals

7.7% Non-EU nationals (Algeria, Chile, Colombia, Croatia, Iran, Lebanon, Mexico, Morocco, South-Africa, Turkey and the United States).

Patent protection, valorisation and licensing

45
Invention notifications
(55 in 2012)

17
Priority patent applications
(22 in 2012)

8
International patent applications (PCT)
(15 in 2012)

10
Licensing contracts signed
(12 in 2012)

Business creation and support for the entrepreneur

31
Business creation ideas received
(26 in 2012)

27
Entrepreneurial projects advised on
(40 in 2012)

3
Technology-based companies created:
- Braingaze, SL
- Dapcom-Data Services, SL
- Endoasic Technologies, SL
(7 in 2012)

3
Spin-off shareholdings through CIC-UB:
- Braingaze, SL
- Dapcom-Data Services, SL
- Endoasic Technologies, SL
(2 in 2012)

Services and Research Projects

The projects jointly developed by research groups, departments and research institutes at the University of Barcelona and public and private entities —such as collaborative or commissioned R&D, advisory and consultancy work for third parties, the production of studies, reports or opinions and technical support and analysis services, among others— were 609, which generated revenues of € 9.64 million. 414 of them, generating total revenues of € 8.16 million, were scientific, technical and artistic activities in which companies or public administrations hired different research groups of the University of Barcelona in accordance with specific costs and timetables, obtaining contractually agreed deliverables. The other 195 were technical service deliveries —minor tasks, usually analysis services, laboratory services, opinions, etc., whose commission does not require a contract— that generated total revenues of € 1.48 million.

THE FIGURES



Delegation of the Criminal Investigation Police of Chile during their visit to the FBG to develop a programme to update management charts and a bridge course to train experts in security analysis, with the Department of Sociology and Organizational Analysis of the Faculty of Business and Economics.

Research Projects with Competitive Funding

In 2013 the FBG was awarded 11 grants, funded by public and private institutions, which amounted to € 1.15 million.

As for research projects funded by the European Commission, more than two hundred proposals were presented in 2013, and 42 contracts were finally signed, their revenues amounting to € 24.03 million; of these projects, 31 have been funded by the Framework Programme, with a revenue of € 22.42 million, and 11 fall outside the Framework Programme, with a revenue of € 1.61 million.

We highlight:

The coordination of three projects, totalling € 6.4 million, by the UB:

- **Hydrobond:** Development of an innovative process for applying superhydrophobic coatings to blades over 90 metres for wind turbines located over the sea. This coating significantly reduces manufacturing time and costs, while having a reduced environmental impact.
- **SiforAGE:** A new vision of aging to improve the performance of the competitiveness and growth of the European Union, through research and innovative products for a more active and healthy life.
- **Genius:** Collaboration in the publication of a catalogue and the scientific exploitation of GAIA data to foster public interest in science in general and astronomy in particular.

The awarding of four European Research Council (ERC) grants, one Advanced Grant (Adv), and three Starting grants (St), for the amount of € 6.9 million:

THE FIGURES

Research projects with public and private funding



Research projects funded by the European Commission



- **Greco (Adv):** Analysis of the social and cultural environment where citizens make decisions focused on earning their living, and away from situations where major decisions in economic policy are taken. The aim is to develop a new theoretical model to explain economic processes.
- **TuningLang (St):** Study on selective attention to certain speech sounds during learning, and filtering of this information to extract the words and grammar of language.
- **PD-Hummodel (St):** Deepening the fundamental knowledge on the neurodegenerative Parkinson's disease.
- **Chemagem (St):** Development of data analysis tools for extracting, summarizing and interpreting the large amount of information obtained by analysing the effects of climatic and environmental changes.

Valorisation



THE FIGURES

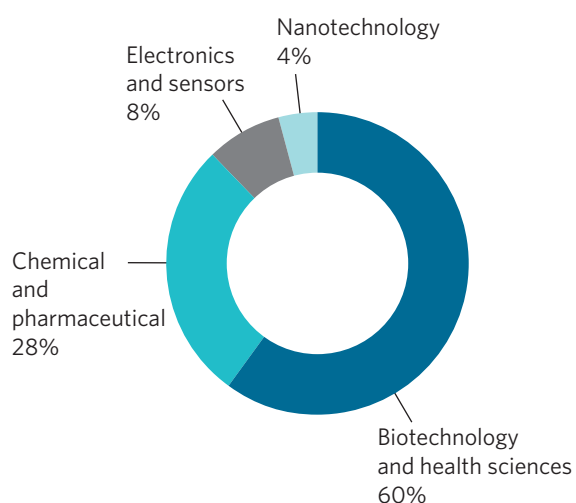
- 45 inventions notified
- 31 business creation ideas received
- 27 entrepreneurial projects advised
- 17 priority patent applications
- 8 international patent applications (PCT)
- 10 licensing contracts signed
- 3 technology-based companies created

We commercialize the industrial and intellectual property of the UB through patent protection, valorisation and licensing, and the creation of knowledge-driven spin-offs. In 2013, our portfolio contained over 95 patents to transfer, and 31 spin-offs.

As for patent **protection, valorisation and licensing**, 10 licensing agreements were signed in 2013. The revenues generated by some of these licences, and some others signed in previous years, amounted to € 211,531. The technologies licensed in 2013 were: a system for collecting and storing data for clinical studies; a data compression method and software; an endoscopic capsule; two hybridomas producing monoclonal antibodies directed against leucocyte membrane molecules (clone 14.27 and clone CD84.2.151); computer programs for controlling the quality of wheat, flours, and their derivatives; a method and a kit for the prognosis of lymphoma in mantle cells; a method to predict extrapyramidal symptoms (EPS) induced by antipsychotic-based treatments; a method of measuring attention and a customized platform for diagnosing chronic lymphocytic leukaemia.

15 patents entered the national phases in Europe, the United States, Japan and Brazil. 3 software technologies were registered in the Intellectual Property Register and 3 trade secrets, related to a new coating procedure, were filed before a notary. 18 co-ownership contracts were negotiated and signed with other institutions.

UB patent applications by sector



The **technology-based companies** created in 2013 were:

- **Braingaze, SL:** research, development, marketing and consulting applications in the field of neurocognitive perception.
- **Dapcom-Data Services, SL:** development of hardware and software solutions for data management.
- **Endoasic Technologies, SL:** design and marketing of new devices and semiconductor chips to power the capsule endoscopy sector.

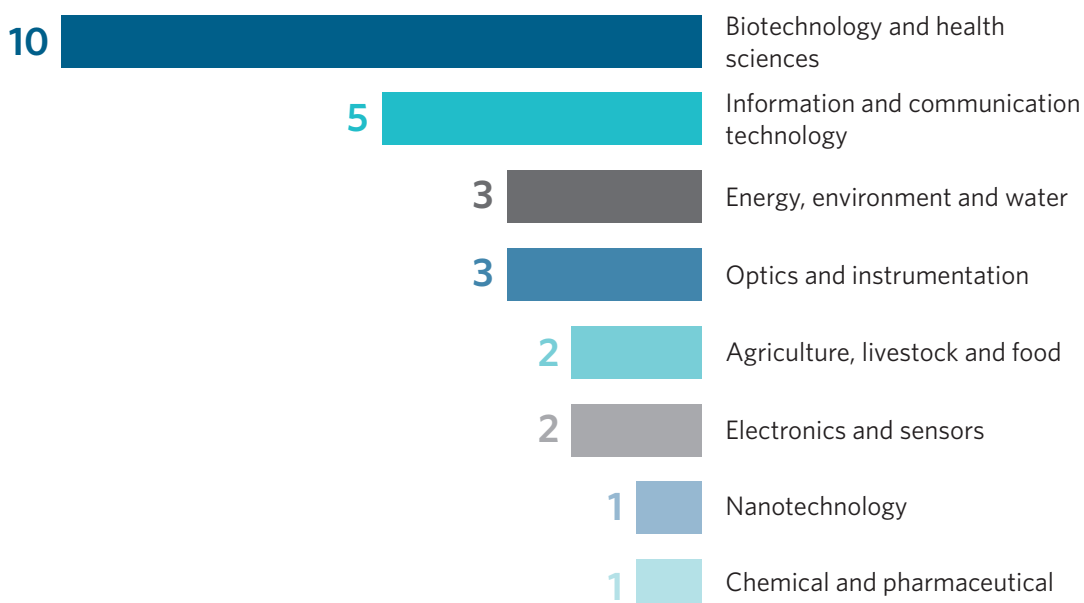
Futhermore, 27 projects were advised on, including new entrepreneurial and business plan projects, and companies in which the UB has a shareholding. The companies Smalle Technologies, Impetux Optics, Omicron Lighting, Minoryx Therapeutics, Immunovative Developments and Argon Pharma, advised by the FBG, have obtained public and private funding and several awards.

The FBG is responsible for monitoring UB-affiliated spin-offs through the **Cultura Innovadora i Científica**

UB (CIC-UB) company. In 2013, CIC-UB became a shareholder in the companies Endoasic Technologies, SL, Dapcom-Data Services, SL and Braingaze, SL as initial compensation for, respectively, providing the know-how of the University of Barcelona, a patent family shared with the UPC, and the know-how and patent family shared with the ICREA. In 2013 there were eleven companies in which the UB had a shareholding through the CIC-UB: Enantia, SL; Genmedica Therapeutics, SL; Biocontrol Technologies, SL; Neurotec Pharma, SL; Immunovative Developments, SL; Iproteos, SL; Advanced Nanotechnologies, SL; Smalle Technologies, SL; Endoasic Technologies, SL; Dapcom-Data Services, SL and Braingaze, SL.

In 2013, the FBG and the UB jointly founded the **Barcelona UB Entrepreneurship Institute (BIE)**. Its goal is to coordinate the promotion, projection and dissemination of all kinds of entrepreneurship, both technology-based and social, within the University of Barcelona.

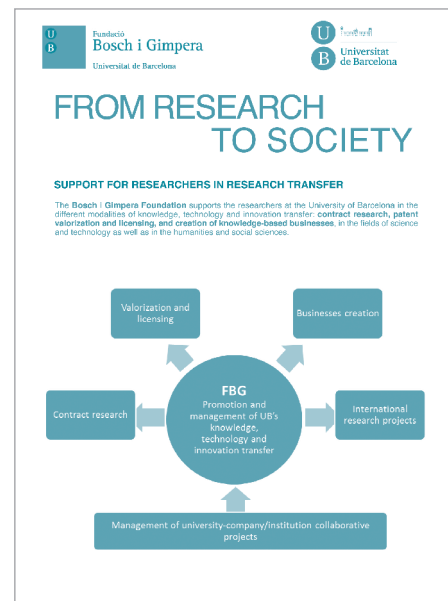
Business creation advised on projects by sector



Research and Transfer Project Management

The FBG manages 59 UB programmes and services, which amount to € 4.32 million. In 2013, the FBG employed 287 people on work related to research projects: 172 in national projects and 115 in European projects.

As for the Occupational Safety and Health Service, its personnel visited 56 entities and assessed 20 work centres. The workplaces of 67% of the 482 workers and grant holders were also assessed.



Promotion of Knowledge and Innovation Transfer

Commercialization

We promote the research of the UB, and look for companies that need the know-how and the expertise of UB research groups to develop their R&D projects and bring to market the resulting technologies, or wish to develop a joint research project with the UB.

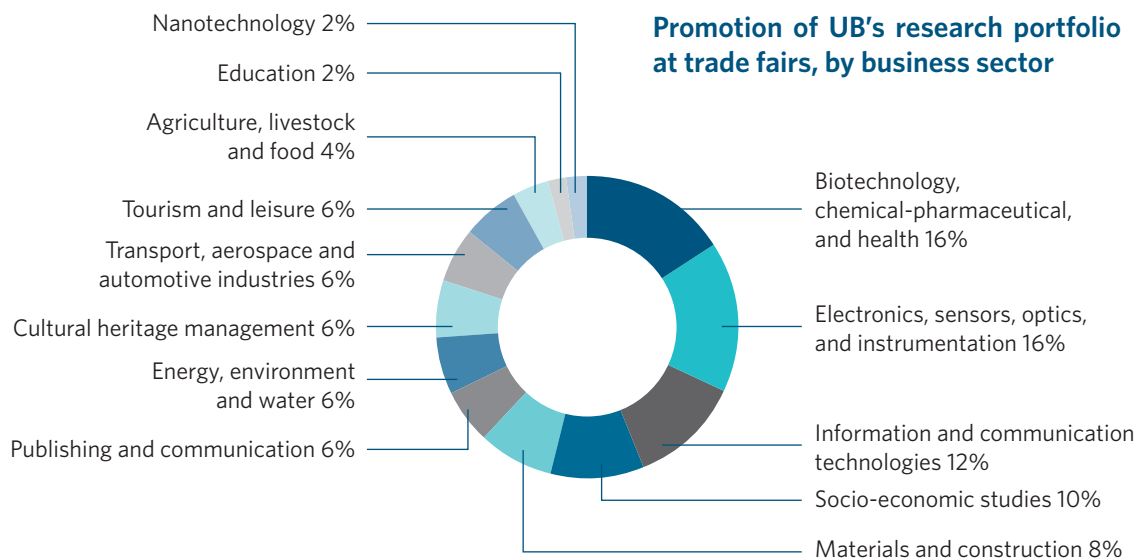
In order to promote the science and technology portfolio of the UB, grouped by business sectors, and to commercialize its technology portfolio, we have attended about a dozen fairs and conventions related to innovation and technology transfer, both in Spain and abroad.

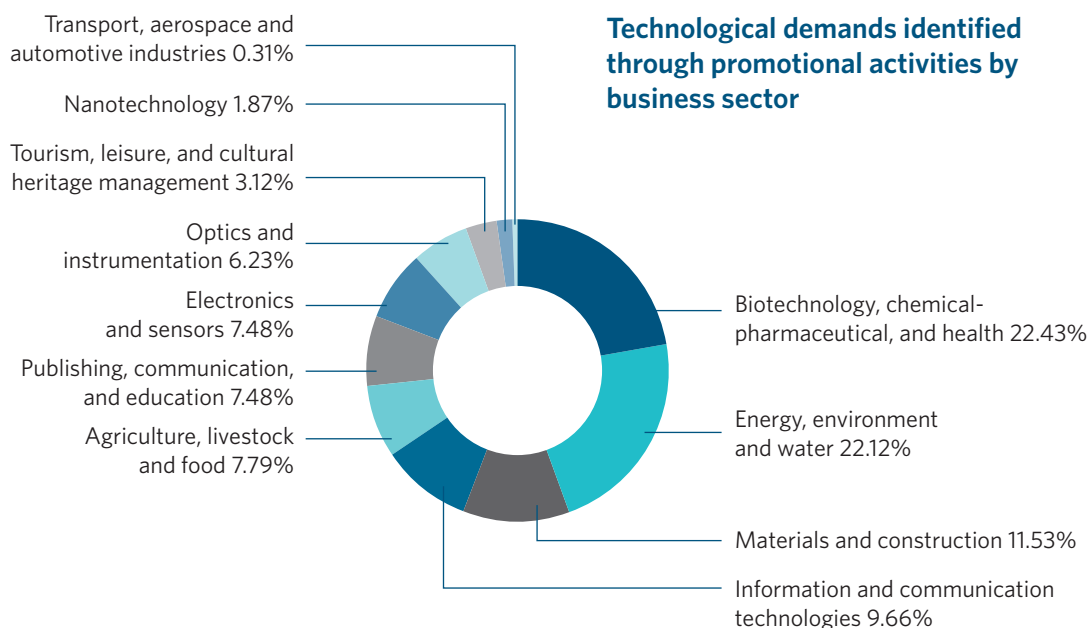


Promotional activities

Fairs attended in 2013:

Cosmobelleza and Wellness, GENERA, Infarma, Bio Europe Spring, Saló Internacional del Turisme, Saló Internacional de l'Automòbil, Fòrum Turis TIC, Construmat, BizBarcelona and BCN Rail/Smart City Expo/EVS27.





The promotion activities carried out by the FBG have resulted in more than 150 contacts with companies, 73% of them international. These contacts have allowed us to identify 264 specific contract research demands.

We contacted more than 153 different companies (73% international) in order to offer them protected UB technologies. These contacts have resulted in 15 confidentiality agreements with some of these companies in order to grant them access to the confidential information necessary to assess the technology.

Government of Catalonia Reference Networks

In 2013, the FBG managed six of the eight Reference Networks of the Government of Catalonia:



A total number of 170 companies and institutions were approached and 80 demands were identified.

25 national and European projects were proposed to UB research groups, while 33 projects were proposed to other universities; the national and European contracts signed by UB groups were 13 and amounted to €1.322 million, whereas the groups of other universities signed 3 contracts that amounted to €16,150.

Catalonia Clusters Programme

During 2013 we stayed in contact with 11 of the 22 clusters identified by ACCIÓ —which involve a thousand companies, their revenues amounting to 30% of the Catalan GDP— with a view to the inclusion in their structure of research groups of the UB and the reference networks, and to be able to actively participate in the various business sectors in order to define new collaborative projects at both national and European level.

The clusters with which we stayed in contact during 2013 were:

Beauty Cluster - Medical Technologies Cluster - Motorbike Cluster - Railway Cluster - Printed Electronics Cluster - Water Cluster - Advanced Materials Cluster - Functional Food Cluster - Gourmet Food Cluster - Aquaculture Cluster - Sport Cluster

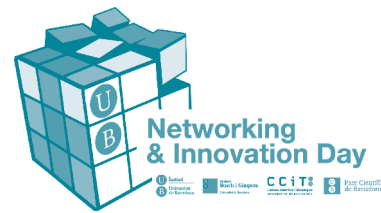
Examples of actions



Rare and orphan diseases within the UB and related research centres.

The objective of this research project is to position UB research groups in the field of rare and orphan diseases and provide them with visibility. Currently, within the University and its related research centres, 74 research groups are investigating 120 different rare diseases. This project aims to create synergies between the different groups and share knowledge and technological advances with other organizations and associations, in order to raise funds for research on these diseases.

A catalogue has been designed and a specific banner has been added to the website of the FBG. This catalogue was presented at Barcelona's BioEurope Spring event, the EEN Meeting and the Networking & Innovation Day, and about twenty businesses, such as Janssen, Shire Oxeltis or Norgine, have shown interest. Researchers have been assessed on the suitability and the submission of 14 applications for grants awarded by private foundations such as FundAme, Rett Foundation, Leukaemia&Lymphoma Foundation, NiemmanPick Foundation and Angelman S. Foundation.

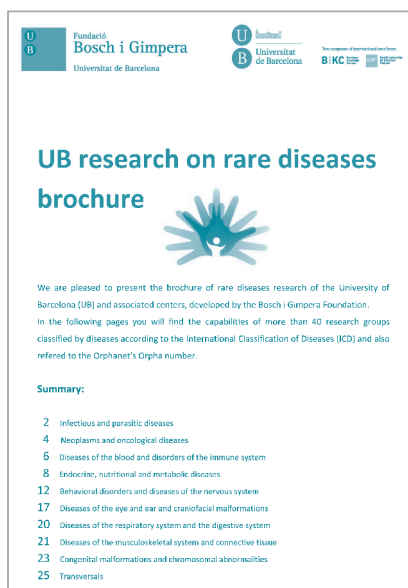


The Networking & Innovation Day, a reference meeting space for the promotion of open innovation within the UB Group, was held on 28 November 2013. The event was jointly organized by the University of Barcelona, Barcelona's Science Park (PCB), the Fundació Bosch i Gimpera and the scientific and technological centres of the UB.

More than 200 representatives of 160 entities of the research and business worlds gathered at the PCB to explore new ways of business-university collaboration, promote collaborative R&D projects, and foster open innovation. This event included two round tables and almost 400 parallel partnering meetings that were attended by researchers, investors, and executives of leading technology sectors.

Centre for Innovation and Advanced Technologies

CITA-UB is a centre created in order to bring together the UB research groups that have been awarded the TECNIO quality hallmark, promoted by ACCIÓ. Its goal is to become a meeting point for these excellent groups and those companies interested in developing R&D&I projects.



Centre for Innovation and Advanced Technologies of the University of Barcelona

THE FIGURES

Total turnover:
€ **11.4** million

Average IT-UB Centre turnover:
€ **1.1** million

Funding source:
61% public - **39%** private

3 new patents/PCT

2 patents transferred to companies

Seven new companies joined the External Advisory Committee during 2013(*):

- **Food:** Danone, Panrico*, Casademont*
- **Sustainable Development:** Sirusa, Aceversu*, Ros Roca*
- **Industrial Processes:** Ficosa, RailGrup*
- **Electronic Technologies of Information, Communication and Knowledge:** FAE, Idom*
- **Health and Life Quality:** Esteve, Janus (Spherium since mid-2014)*

CITA-UB joined three business clusters:

- **Catalan Water Partnership** (Water Cluster), in which CITA-UB has actively participated in the Innovation Committee.
- **RailGrup** (Railway Cluster), where CITA-UB has played a leading role in the innovation workshops and has promoted several public-private R&D&I projects, together with Secpho (photonics).
- **Advanced Materials Cluster**, in which CITA-UB has made itself known with a presentation of the expertise of the Centre before the companies that form the cluster at ACCIÓ's main venue, in Barcelona.



Public Engagement

The award ceremony of the prizes of the Social Council of the UB and the Fundació Bosch i Gimpera took place on 12 December 2013. The act coincided with the celebration of the 30th anniversary of the FBG, which was commemorated with a lecture by Antón Costas, professor of Economic Policy at the UB and president of the Circle of Economy. The rector of the UB, Dídac Ramírez, the president of the Social Council, Salvador Alemany, and the general manager of the Fundació Bosch i Gimpera, M. Carme Verdaguer, also took part in the event.

The winners of the sixth edition of the awards of the Social Council of the UB and the Fundació Bosch i Gimpera were:

- **“Methods of artificial vision for the treatment of atherosclerotic plaque”**, awarded the Antoni Caparrós prize for the best knowledge transfer project, for a collaboration between the group BCN Perceptual Computing Lab of the Faculty of Mathematics of the UB, led by the lecturer Petia Ivanova Radeva, the clinical team of the Germans Trias i Pujol Hospital, led by Dr Josepa Mauri, and the North-American company Boston Scientific, world leader in coronary intervention devices.
- **Infinitec Activos, SL**, a business with an unusual business plan, devoted to the development of products for important cosmetic companies, was awarded the Senén Vilaró prize for the best innovative business.

Sabies que ...?: We disseminate the expertise of UB researchers

In October 2013, we launched a project called “Sabies que...?” (“Did you know that...?”), with the aim of promoting the capabilities of the research groups of the University of Barcelona through posts published at the website of the FBG, and linked to a brochure specifically designed by the research group highlighting their expertise.

The research of three groups was publicized in 2013: Antiox, Physical Anthropology and Phonetics Laboratory.



M. Carme Verdaguer, Fundació Bosch i Gimpera General Manager and Francesc Santacana, General Manager from 1986 to 2001, who died in April 2014.



Information campaign on the services the FBG offers to researchers

A brochure listing the services and support the FBG offers to researchers has been prepared and published at the FBG website and has been sent out to all UB researchers.

Seminars

In 2013, the FBG organized three seminars to promote the various forms of knowledge transfer available to researchers in order to bring their research to market. 132 people attended these events.

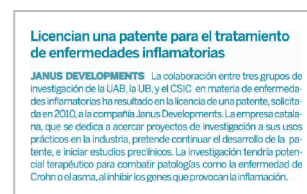
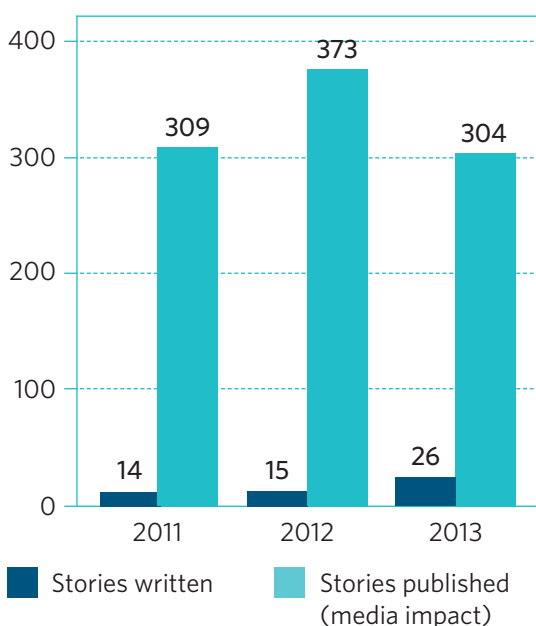


Outreach Activities

Press

The FBG continues to promote the dissemination of the research carried out at the UB, as well as the publication of news that bring knowledge transfer to society. In 2013, we wrote 26 stories, and our impact in the media resulted in 304 publications.

Written and published news stories



Website and social networks

In 2013, 47,167 users visited the website of the FBG, 49.74% of them for the first time. 807 hits came via social networks.

Institutional

BOARD OF TRUSTEES

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Mr Salvador Alemany, first deputy chair
Mr Josep A. Plana, second deputy chair
Mrs Isabel Miralles, secretary
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Mr Pere Lluís Cabot, board member
Mr Pablo Cigüela, board member
Mr Miquel Perdiguier, board member
Mr Jordi Roig, board member
Mr Fernando Tejerina, board member

WHERE ARE WE?

The Fundació Bosch i Gimpera is represented by its general manager on the **boards of trustees** of the University School of Hospitality and Tourism (**CETT-UB**), Barcelona's Science Park (**PCB**) and the Biomedical Research Institute (**IRB**). In 2013, the FBG and the UB jointly founded the UB's **Barcelona Institute of Entrepreneurship (BIE)**.

We take part in the vice-presidency of ProTon Europe and represent RedOTRI therein as members of the advisory committee for international issues. We represent the UB in the Knowledge Transfer Community of the League of European Research Universities (LERU). We are members of the technical committee of RedEmprendia, and belong to the monitoring committee of the Energy Sustainability Chair of the UB. We were members of the jury of the 2013 Ciutat de Barcelona awards, in the creativity and innovation category, members of the Advisory Council of the fifth "Managing Creativity in the Innovation Society" Summer School, and members of the jury of the BioEmprendedor XXI and EcoEmprendedor XXI programmes.

We participate in national and international forums, thus contributing to the improvement of laws, regulations and public funding concerning the transfer of knowledge.

We participate in the most significant events related to entrepreneurship, technology transfer, patents, R&D and investment funds, among others, in various business sectors such as the automotive sector, pharmaceutical industry, health, environment, energy, construction, tourism and culture.

Thanks to our thirty years of experience in knowledge transfer, every year we welcome to our facilities several institutions, both national and international, that want to learn about our work and the activities we perform.

WHO ARE WE?

Staff of the Fundació Bosch i Gimpera

General Manager: M. Carme Verdaguier, general manager; Berta Serdà, secretary. **Technical Office:** Maria Segú, head. **Communication and Marketing:** Mariona Ferrer, head. Team: Carlota Orellana, Cristina Ugía, and Judith Calabuig. **Management:** M. Teresa Plo, manager. **Administration, Financial Management, and General Services:** Sergi Ros, head of administration; Ana Giménez, head of financial management. Team: Anna Apellániz, Digna Cárcoba, Yvonne Mata, Daniel Pierrá, Sònia Salom, Gemma Sánchez, Cristina Serra, Marta Tort, and Elisabeth Vico. **Human Resources, Health, and Safety:** Mercè Tejedor, head. Team: Pili Morales, Mireia Solsona, Sandra Tello, and Marta Viñals. **Technology:** Àlex Closa, head. Team: Miguel Navarro. **Contracts:** Gemma Casamitjana, head. Team: Raquel Jiménez, Gloria Roselló, and Dolors Vega. **Contract Research:** Lurdes Jordi, director; Joan M. Roca, director of CITA-UB. Team: Salva Mena, Isaac Esparbé, Marc Coromina, and Jordi Vallés. **Valorisation and Licensing:** Lurdes Jordi, director. Team: Isabel Durán, Belén Gámez, Inma Íñiguez, and Eva Martín. **Business Creation:** Esther Rimbau, head. Team: José Conde and Frederic Horta. **Strategic Projects:** Joan Hierro, director. Team: Jordi Blasco, Mónica Fernández, Karsten Kruger, Montse López, Josep Pascual, Raül Porcel, Rosario Scandurra, Núria Moradell, David Verde, Gemma Hernández, and Jordi Verdura. **International Research Projects, UB-FBG mixed office:** FBG - *Financial management:* Xavier Gutiérrez, head. Team: Núria Benítez, Anna Ferrando, Vanessa Llobet, Sheila López, and Sandra Martín.

