

The BioRegion of Catalonia:

What's Behind the European Country with More Pharma Companies per Capita?

Last autumn, Barcelona hosted the CPhI Worldwide pharmaceutical fair for the first time. It was a record-breaking year for the event: more than 42,800 attendants from 150 countries, an 18% increase from the previous edition. The city also hosted BIO-Europe Spring 2017, which returned to the city following the success of the editions held in 2010 and 2013 and brought together more than 2500 delegates from 58 countries. These events – and others that are to come – serve as a powerful showcase for Barcelona and the BioRegion of Catalonia, which is internationally recognised as one of the most dynamic healthcare and life sciences ecosystems in Europe. It has more pharmaceutical companies per million inhabitants than any other country in Europe.

Catalonia, located in the north-east part of Spain, with its capital of Barcelona, has a population of more than 7.5 million inhabitants and a territory comparable to countries like Finland, Belgium, the Netherlands and Israel. It is considered by different business rankings as one of the most dynamic and growing regions of Europe. What makes it so attractive for the life sciences sector?

The BioRegion of Catalonia brings together more than 870 companies¹, from biopharmaceuticals, medical technologies and digital health companies to investing firms. In fact, Catalonia has more pharma companies per million inhabitants than any other country in Europe including Belgium, Switzerland or Sweden. The BioRegion is the origin and headquarters of large corporations in the sector like Almirall, Esteve, Ferrer, Grifols, Bioiberica, Lacer, Reig Jofre and Uriach. Barcelona is also home to the world's top biopharmaceutical companies, including Amgen, Novartis, Sanofi, Roche, Bayer, B.Braun, Boehringer Ingelheim, Chiesi, Hartmann, Lundbeck and Menarini.

On the other hand, Catalonia is ranked third among European countries in terms of biotechnology companies (behind Sweden and Switzerland) and fourth in terms of medical technology companies (behind Sweden, Switzerland and Denmark). It hosts 259 biotech companies and 194 medtech companies, 89 of which research, develop, manufacture and market innovative medical devices and systems. The BioRegion also gathers an increasing number of companies working in digital health (91). More than 300 professional services and suppliers and engineering firms complement the science knowledge with business and technology expertise.

Life sciences companies employ more than 42,000 workers and post yearly turnover of nearly €16 billion. The whole sector contributes 7.1% to the gross domestic product (GDP) of Catalonia.

A Hub of Excellence

Regarding science and research, Catalonia is a hub of excellence. The BioRegion hosts 780 research groups working in 41 research institutes, some of them considered as the best of the world in their field. This is the case for the Centre for Genomic Regulation (CRG, ranked ninth in the top 100 best biomedical centres in the world, according to Scimago Report); the Institute of Photonic Sciences (ICFO) and the Institute of Chemical Research of Catalonia (ICIQ), the first world institution in physics and in chemistry, respectively, according to Max Planck Institute.

With 1.2% of the population of the European Research Area, Catalonia has captured 3.3% of the grants awarded by the European Research Council (ERC), 35% of which were to life sciences. This is possible thanks to a pool of local and international talent. One in five researchers in Spain work in Catalonia. More than 5,600 researchers work in Catalan hospitals and research centres, some of them

very well recognised internationally (such as the cardiologist Valenti Fuster or the oncologist Joan Massagué).

The BioRegion also accounts for 14 science and technology parks, 12 universities offering biosciences degrees (three of them among the top 200 in the world), two of the 10 best business schools in Europe (IESE, Esade); seven technology centres and three large-scale facilities like the ALBA Synchrotron, the Barcelona Supercomputing Center (BSC) and the Spanish National Genome Analysis Center (CNAG). The research can rely on the support of a modern and accessible healthcare system composed by a leading network of 104 hospitals, 18 of which are developing outstanding research through their research institutes. Quality, safety, fast recruitment of patients and competitive costs make the BioRegion the location of choice for clinical trials. More trials are carried out here than in any other region of Spain, mainly in oncology, and in Phase II (17%) and III (44%).

Catalonia has unique capacities in genomics, photonics and supercomputing and stands out in oncology research, covering the whole value chain from basic research through highly specialised companies and hospitals that play an important role in clinical and translational research. Also noteworthy are its capacities in medical chemistry, nanomedicine, omic sciences, bioinformatics and big data. The research areas with most growth are regenerative medicine and microbiome, artificial intelligence and robotics, e-health and m-health, graphene and quantum computing.

The main therapeutic areas in which biotech and pharma companies work are cancer (often focusing on rare diseases) and neoplasms, dermatology, infectious diseases, and diseases of the nervous system and the respiratory system.

Investment Success Stories

The BioRegion of Catalonia has undergone unprecedented capitalisation of life sciences companies during the last three years, growing at more than 80% annually. However, many international investors are not aware of Catalonia and its thriving life sciences cluster.

In this sense, local life sciences investment funds are a crucial spur to attract foreign investors. Catalonia counts on 29 local investment bodies in life sciences, including five specialising in the sector, namely Caixa Capital Risc, Ysios Capital, Inveready, HealthEquity, and the last being created, Alta Life Sciences.

Between 2015 and the first months of 2017, companies in the BioRegion attracted more than €165 million in investment, 55% higher than the investment attracted between 2013 and 2015. This is because not only has the number of Catalan companies increased, but also R&D projects are more mature and in the phase “ready to invest”.

One of the most recent success stories is Anaconda Biomed. This pre-clinical stage medical device company, focused on the development of the next generation of neuro-thrombectomy systems for the treatment of acute ischemic stroke (AIS), last May closed a Series A financing of 15 million Euros. The leading investors included new investors Ysios Capital and Banc Sabadell (Barcelona), Omega Funds (Boston) as well as current investor Innogest Capital (Italy).

The Catalan company STAT-Diagnostica, which specialises in diagnostic systems, closed last year its third round of funding with a total of 25 million Euros. The operation was led by Gilde Healthcare, a Dutch private equity investor, and it was completed by other investors of the company: Ysios Capital Partners, Kurma Partners, Caixa Capital Risc, Boehringer Ingelheim Venture Fund, Axis and Indinvest Partners. The company also secured last summer a €20 million loan from the European Investment Bank (EIB).

Also in 2016, Aelix Therapeutics, a spin-off of the Catalan private-public consortium HIVACAT to develop treatments for the human immunodeficiency virus (HIV), received €11.5 million in funding through a round led by the Catalan investment entity Ysios Capital, with additional involvement from Catalan Caixa Capital Risc and the venture capital division of pharmaceutical company Johnson & Johnson.

In 2015, Minoryx, a company specialising in drug development for rare or minority diseases without treatment, closed a €19.4 capital increase led by Ysios Capital which also included Catalan entities Caixa Capital Risc and Health Equity and international investors Kurma Partners, Roche Venture Fund, Idinvest Partners and Chiesi Ventures.

One of the first success stories of the BioRegion was the \$21 million global collaboration agreement between Oryzon Genomics and Roche to research, develop and market an experimental drug for the treatment





of patients with acute myeloid leukemia (AML) and solid tumours. The contract was signed in 2004 but it was discontinued in 2017 due to a portfolio prioritisation of Roche.

One of Europe's Most Dynamic Startup Ecosystems

Since 2010, an average of 50 life sciences companies have been created in the BioRegion each year. Barcelona is one of Europe's most dynamic startup ecosystems, not only in life sciences but also in new technologies (internet, mobile software & services, e-commerce or big data). Barcelona is the fifth European region in terms of startups according to international rankings such as EU-Startups and Startup Heatmap Europe, among others. EU-Startups places Barcelona behind London, Paris, Berlin and Amsterdam.

Today, the capital of Catalonia has over 1,100 startups which employ +10,000 people. What attracted them to the city? Local infrastructures that both feed and benefit from these projects; public and private support programmes and services for entrepreneurship; successful entrepreneurs who have helped to create networks of incubators; accelerators and investment vehicles that safeguard the new companies; and the presence of internationally renowned trade.

With startups being one of the strongest employment and income creators in Europe, the CITIE 2015

report lists Barcelona as the 4th Best city favouring digital entrepreneurship. Furthermore, the Catalan capital ranks extremely well in terms of cost of living and best location for office space costs. In Barcelona, startups find a competitive environment, local and international talent, access to business angels and venture capital, excellent infrastructures in a strategic location, international incubators and accelerators, leading international trade fairs, a proven success model, first class business schools and great quality of life.

Committed to Europe

Being a small country competing in a global economy, Catalonia has historically had a clear mindset of the necessity to establish partnerships and alliances with organisations and counterparts around the world, specifically in Europe.

This is the reason why Biocat, the organisation that champions and accelerates the life sciences and healthcare ecosystem in the region, has been actively involved in the largest European initiatives in order to positively impact the players of the BioRegion.

A noteworthy example of this kind of commitment is the participation in EIT Health, the most relevant European alliance in innovation and entrepreneurship for healthy living and active ageing, which gained approval from the European Institute of Innovation and Technology (EIT) in

2014. Biocat is an associate member of EIT Health and had been working to promote this initiative since 2008, coordinating and driving the organisations participating in the Catalan/Spanish node to make sure the bid reflected the interests of the Catalan/Spanish ecosystem. As a result, one of the nodes was based in Barcelona, together with others in Paris (France), London (United Kingdom), Rotterdam (Benelux), Stockholm (Sweden/Denmark) and Heidelberg (Germany). The alliance is made up of a total of 144 leading companies, universities and research centres from 14 European countries, committed to innovation in health and to improving quality of life in society in general.

Biocat - Communications Unit

Biocat is a public/private foundation which acts as a strategic agent and catalyst in the construction of the Catalan healthcare and life sciences ecosystem. Its mission is to dynamise all the stakeholders of the BioRegion of Catalonia (companies, research groups and entities, hospitals and innovation support structures) to transform knowledge and technology into economic growth and to create a social impact.

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