Barcelona Science Park, a strategic hub for public R&D&I of excellence

- **The advances in funding, generating scientific knowledge, technology transfer and innovation management achieved in 2021 by research groups, institutes and centres in the Barcelona Science Park, once again reaffirm its place as a strategic hub for public R&D&I of excellence for another year.**

- **These organisations raised a joint total of nearly €66 million in public (€56.4 million) and private (€9.5 million) funds, which will allow them to work proactively to drive valorisation and exploitation of their research results to bring innovation to the market and contribute to the country's economic growth. The 17 applications for new patents and extensions, 6 technology transfer deals, over a thousand collaboration agreements with public and private organisations, and 2 spin-offs are all indicators of this successful dynamic.**

- **In 2021, they also remained at the cutting-edge of frontier research, thanks to their ability to attract and retain innovative talent, develop powerful technology tools and use disruptive approaches to advance scientific knowledge -reflected in the over 600 papers published in scientific international journals- which they aim to use to address the great challenges of global health and science.**

Barcelona, 14 December 2022. 2021 was a year full of challenges and milestones achieved for public research centres, groups and institutes working at the Barcelona Science Park. They are all part of a highly dynamic, cutting-edge scientific community that is constantly growing and includes two Severo Ochoa Centres of Excellence: the Institute for Bioengineering of Catalonia (IBEC) and the Institute for Research in Biomedicine (IRB Barcelona); the Molecular Biology Institute of Barcelona (IBMB-CSIC), with a María de Maeztu Unit of Excellence; and the National Centre for Genomic Analysis (CNAG-CRG), which is on the Spanish map of Unique Science and Technology Infrastructures (ICTS).

The Institute of Cosmos Sciences technology unit (ICCUB-Tech), the VHIR Rheumatology Research Group (GRR) and five cutting-edge laboratories and groups from the University of Barcelona are also part of this public R&D&I ecosystem, joined recently by the IDIBAPS-Hospital Clinic Barcelona Aids and HIV Infection group, which moved into the Park in 2022.

All the activity generated by these centers consolidates the PCB as one of the most powerful spaces in the country in the field of health research and places it as a strategic hub for public R&D&I of excellence.

According to Barcelona Science Park CEO **Maria Terrades**, "*In the highly stimulating environment for research, technology transfer and innovation in the life sciences we offer at the Park, in 2021 these leading public research groups and centres once again pushed the boundaries of knowledge in science and technology to help improve people's health and quality of life*."

Raising funds to grow

2021 was a big year for the public research groups, centres and institutes at the Park in terms of attracting funding, mobilising nearly €66 million in public (€56.4 million) and private (€9.5 million) capital.

IRB Barcelona, which occupied 5,365 m^2 at the Park in 2021 with 28 research groups, 8 science platforms and more than 410 people working in research, executed a total of €28.7 million (€23.5 million in public funding and €5.2 million in private capital).

IBEC, which occupied 3,551 m^2 with 23 research groups and 320 researchers, raised a total of €14.1 million (€11.2 million in public funding and €2.9 million in private capital).

CNAG-CRG, which occupied 1,401 m^2 with 16 research groups and a scientific team of 90 professionals, raised €10 million (€8.7 million public and €1.3 million private).

IBMB-CSIC, which occupied 2,020 m^2 with 30 research groups and 146 researchers, raised a total of €3.6 million (€3.5 million public and €0.1 million private).

Of the University of Barcelona (UB) research units, laboratories and groups at the Park, it is worth noting the BioNMR Group recognised by the Government of Catalonia, which received an €8.9-million grant from the Spanish Ministry of Science and Innovation to install the first ultra-high field magnetic resonance imaging device in the country at the Barcelona Science Park. The device, which will join the ICTS Network of NMR Biomolecule Laboratories, will be managed by the UB Group Scientific and Technological Centres (CCiTUB). In total, the BioNMR Group attracted €9.1 million in public funding in 2021.

The UB Laboratory of Metabolic Dynamics in Cancer raised €0.2 million and the Institute of Cosmos Sciences of the University of Barcelona (**ICCUB-Tech**) also raised €0.2 million through competitive public calls.

Bringing health innovation to society

Regarding innovation management, in 2021, public groups and centres in the PCB Community continued their firm commitment to protecting research results valorising knowledge and technology transfer as a driving force for economic growth and quality of life in society.

Their R&D&I activity focused mainly on managing projects from a market perspective, through technology licensing deals, creating spin-offs, conducting contract research and establishing collaborations with institutions and companies all over the world to make their research profitable through new products or processes. This can be seen clearly in their indicators.

In terms of intellectual property, the public groups and centres at the Park submitted a total of 17 priority patent applications and requests for extensions: IBEC (10), IRB Barcelona (3), IBMB-CSIC (3) and ICCUB-Tech (1). Managing information arising from patents is a key part of the innovation process. In 2021, IRB Barcelona signed a total of five licensing deals for its patented technology and IBEC, one.

In terms of entrepreneurship, IBEC created a new spin-off, Vitala, which combines innovative bioengineering technology, such as organs-on-chips and advanced imaging techniques, to bring unprecedented value to research into therapeutic compounds in the preclinical phase, and to select the best drugs to use in clinical practice.

The discoveries with market potential at IRB Barcelona also led to another company, the spin-off Nuage Therapeutics, which focuses on discovering new drugs for therapeutic targets that, given their structural properties, have been hard to tackle previously.

Cooperation with national and international public institutions and private companies was also a key chapter for the public groups and centres at the Park in the process of valorising knowledge and technology transfer to resolve current and future healthcare challenges from a global standpoint. In 2021, they kicked off a joint total of 1,124 collaborative projects with various public and private entities around the world: CNAG (691), IRB Barcelona (215), IBEC (140), IBMB-CSIC (57), ICCUB-Tech (15) UB Metabolic Dynamics in Cancer Group (1) and UB BioNMR Group (5).

A commitment to attracting talent and latest-generation equipment

The public groups and centres at the Park also maintained their commitment to attracting talented young scientists with international projection.

Three of these talents joined IRB Barcelona in 2021 to head up three new research groups: Cristina Mayor-Ruiz, Protein Degradation and Drug Discovery; Alejo Rodríguez-Fraticelli, Quantitative Stem Cell Dynamics; and Direna Alonso-Curbelo, Inflammation, Tissue Plasticity and Cancer. IBEC also created the research group Molecular Imaging for Precision Medicine, lead by Irene Marco-Rius. And Marc Liesa joined IBMB-CSIC to lead the new group Mitochondria, Redox and Metabolic Diseases.

To drive excellence and stay at the cutting edge of innovation, the public R&D&I community at the Park also invested in latest-generation equipment in 2021, developing powerful tools and techniques to accelerate and boost new lines of research and attract talent.

The UB **BioNMR Group** got the first 1-GHz NMR device in Spain and a new helium liquefaction system; **IRB Barcelona** created the Drug Screening Platform; **CNAG-CRG** acquired two new sequencers, a third Illumina NovaSeq 6000 and an Oxford Nanopore Technologies PromethION 24; **IBMB-CSIC** added a Glacios Cryo Transmission Electron Microscope to its new Cryo-Electron Microscopy Platform at the ALBA Synchrotron, a vibratome to its Histology Service and a cryopreservation system; and IBEC launched a high-performance analytics platform for characterisation of nanoparticles and macromolecules.

Leading frontier research

In terms of scientific production, the indicators for the public groups, centres and institutes at the Park clearly show, once again, their commitment to frontier research -ground-breaking with high global impact- with a total of 625 articles in scientific international journals: IBEC (230), IRB Barcelona (188), CNAG (107), IBMB-CSIC (51), ICCUB-Tech (44), UB BioNMR Group (3) and UB Metabolic Dynamics in Cancer Group (2).

In 2021, this frontier research was reflected in the huge number of disruptive projects working to address the great challenges of global health and science. For further information [+]

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