Annual

1.5 meters

Report

1.5 meters

2020

1.5 meters

Parc Científic de Barcelona
UNIVERSITAT DE BARCELONA


Parc Científic de Barcelona
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ANNUAL REPORT 2020

The challenge of the pandemic

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Parc Científic de Barcelona
UNIVERSITAT DE BARCELONA

Highlights 2020

The Park

22.126 m²
of Laboratories

11.500 m²
of Offices

5.228 m²
of Scientific Services

Occupancy

19.194 m²
of laboratories
occupied

8.618 m²
of offices
occupied

95%
occupancy of furnished spaces

83%
occupancy of available spaces

The Park Community

2.900
professionals

117
organisations

92
companies

12
non-profit organisations

6
research centres

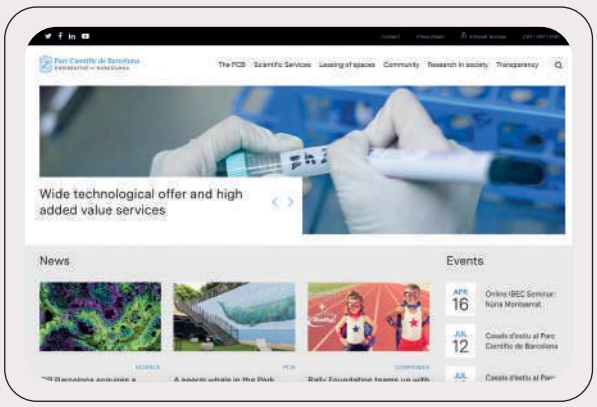
7
University of Barcelona groups, units and services

Financial information

€19,4 million — **INCOME**

€6,5 million — **EBITDA**

€2,4 million — **NET PROFIT**



Barcelona Science Park launches new website

In November, the Park launched its new website www.pcb.ub.edu to give users a better browsing experience with a new design, new contents and better structure.

Inauguration of PCBeach

The Park opened the PCBeach courtyard, a new open space for all PCB community users. PCBeach is intended to be an oasis of calm outside to eat, rest or socialise with other Community members.

Editorial

The year 2020 will inevitably be remembered as the year of the coronavirus that sparked a global pandemic, bringing the whole planet to its knees. It took its toll in human lives numbering in the millions worldwide and in social and economic costs that are unprecedented in the past century. I, therefore, would like to begin this editorial by remembering those who are no longer with us and everyone who has suffered or is suffering due to health or economic reasons.

As we were preparing this report, the pandemic was still raging, although without the treacherous effect of novelty and disinformation we felt in March 2020, and with the feeling that we are at the beginning of the end thanks to the effective vaccines and efforts of the population.

So, 2020 wasn't a conventional year and was a huge challenge for the institution. This report compiles all the indicators of an atypical year, a year that pushed PCB staff to quickly make our spaces a safe place and keep us and the organisations that work here operational, as many are working in the life sciences sector to fight the coronavirus. It has also been a year of sacrifices, as health restrictions forced us to cancel in-person meetings, training and networking events, which are part of the Park's DNA and help strengthen our community.

Throughout this situation, though, we've seen growing demand for spaces, especially labs. To address this demand, we furnished 2,945 m^2 of new spaces in 2020, an 11% increase, and launched outdoor spaces like PCBeach, designed to give members of our Community a place to eat, rest or socialise outside.

However, we haven't neglected work to maintain and improve existing spaces, constantly renovating facilities like our scientific equipment, the Wi-Fi network, audiovisual systems in the rooms and control systems for the lifts. We continued our dedication to quality, expanding the scope of our ISO 9001 quality certification to include the Proteomics and Toxicology platforms, and have reaffirmed our commitment to the Sustainable Development Goals (SDG) by incorporating their values and criteria into our strategic management.

In a year when working with schools was complicated, we continued to encourage scientific vocation through online activities to raise awareness of and share science, with 3,500 participants between 10 and 18 years old.

We continued training PCB employees, with 2,627 hours of training; we began implementing Lean methodology to review and improve our management processes; we drafted and published the PCB Code of Ethics; we developed an internal policy for telecommuting and negotiated the 2nd PCB Collective Bargaining Agreement (2021-2023).

On an economic level, we closed the year with solvent figures (income of €19.4 million, net profits of €2.4 million and paid down debt to €84.1 million).

I would like to finish this editorial by thanking everyone that makes up the Park team for their hard work, dedication and a job well done; and all the members of the PCB Community for being proactive and flexible in handling this complicated year.

I encourage all of you to read this 2020 Report, which explains all of this and more.

Maria Terrades
CEO, Barcelona Science Park

This report compiles all the indicators of an atypical year, a year that pushed PCB staff to quickly make our spaces a safe place and keep us and the organisations that work here operational, as many are working in the life sciences sector to fight the coronavirus

The challenge of the pandemic

The Park, like the rest of the country's institutions, had to manage the tsunami of the pandemic with little information, no instruction manual. We were, however, acutely aware of our responsibility, as a critical science and technology facility that is home, precisely, to many organisations working in the life sciences, on the cutting-edge of the fight against the coronavirus.

From the time the central government declared the State of Emergency on 14 March, the Park has focused all its efforts and resources on ensuring the whole facility and all its services operate properly so that the organisations located here can continue their activity as normally as possible.

We quickly set up a Coronavirus Monitoring Committee to assess the risks the pandemic poses to operations; collected, analysed and applied all the regulations dictated by the authorities; and, finally, communicated any news regarding the pandemic that could affect the centre's operations to the Park staff and the 2,900 people working at the organisations located here.

To prepare for the lockdown of all non-essential activities under the State of Emergency, the Park identified its essential services and reorganised the rest of its departments and services, implementing telecommuting for non-essential positions.

In late March, in line with the regulations put in place under the State of Emergency, we restricted access to all non-essential staff at the Park, while ensuring access for many people and organisations that were considered essential activities.

Although the Park couldn't provide rent forgiveness, we did work with tenants who needed help to be more flexible in terms of payment deadlines.

In parallel to the communication activities, we worked on several measures to prevent the spread of the virus at the facility: improving ventilation, heating and cooling; adding cleaning shifts and disinfecting; implementing compulsory social distancing, limiting the capacity of all spaces and common areas, installing hand sanitiser dispensers and putting up signs in the most high-traffic areas with measures and recommendations to avoid spreading the virus. The Park Prevention Service also anonymously notified users of any cases reported, their location and then disinfected the workspace.

At the most critical point of the pandemic, when products and materials were scarce, the Park also wanted to show its solidarity by donating as much material as possible for Personal Protective Equipment (PPE) to Hospital Clinic: 10,000 hats, 10,000 masks, 45,500

gloves in various sizes, 900 lab coats, 12,000 booties and 80 Tyvek suits.

In April, the Park was chosen by the Government of Catalonia, along with the Barcelona Biomedical Research Park (PRBB), to be one of the centres or nodes of the mass Covid-19 testing, as part of the Orfeu Programme. The project, led by the Institute for Research in Biomedicine (IRB Barcelona), Institute for Bioengineering of Catalonia (IBEC) and Centre for Genomic Regulation (CRG), aimed to take stress off the Catalan public healthcare system in detecting the coronavirus. The programme finished in July.

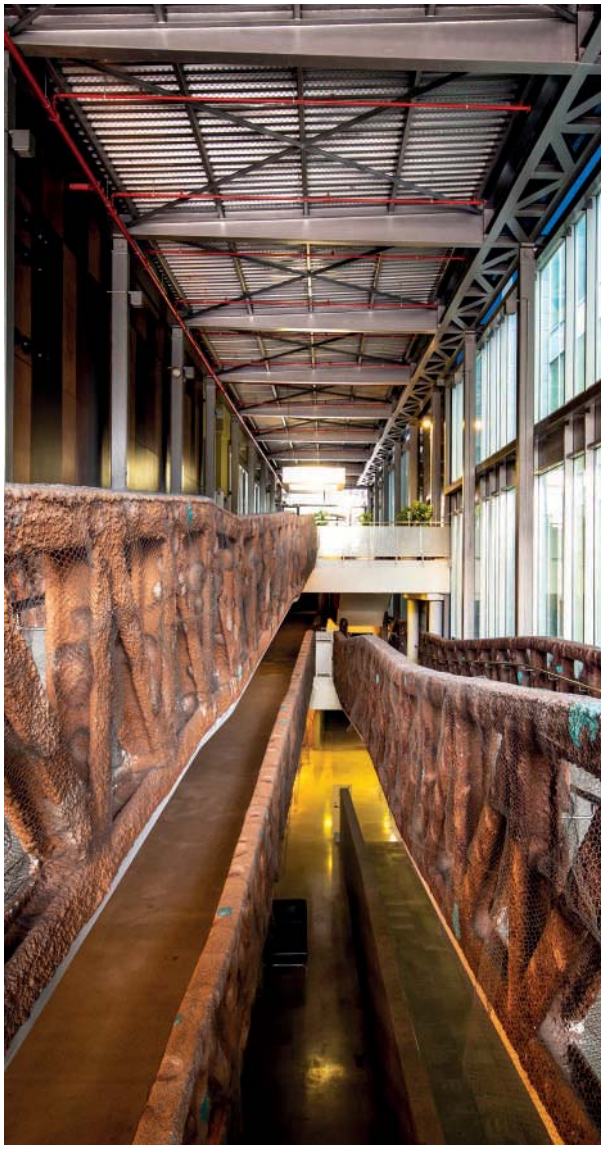
In September, a Coronavirus Monitoring Committee was set up with the largest organisations at the Park to improve coordination and actions between the Park and these organisations.

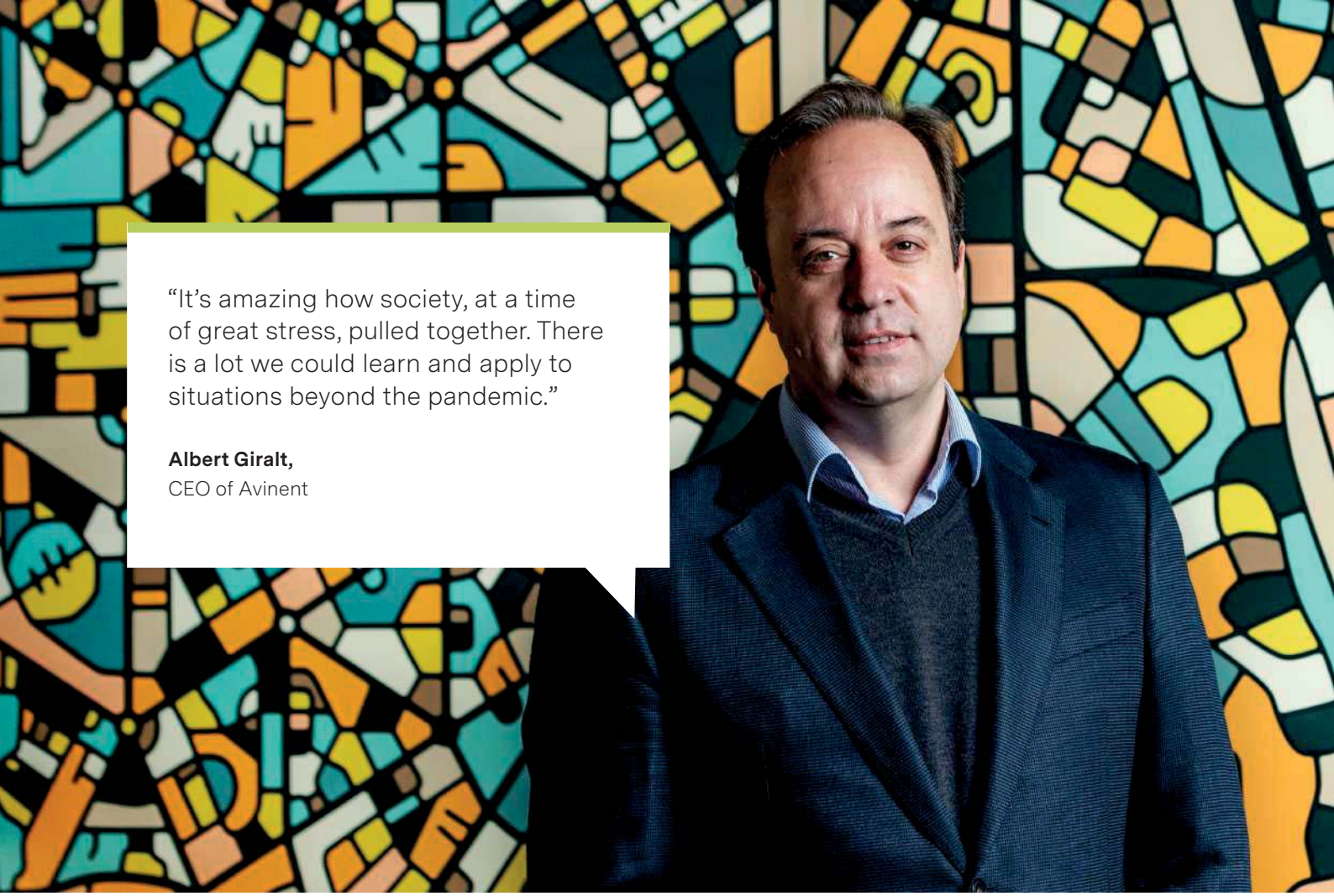
In parallel to all this frantic activity at the Park, each and every one of the organisations working there waged its own individual battle against the pandemic and, some of them, did so directly through research, developing diagnostic kits or drugs, and managing projects targeting SARS-CoV-2.

This report also wants to pay tribute to all this work that, from many different approaches, has helped alleviate the effects of the pandemic.

The following pages contain testimonials from a selection of the companies at the Park, sharing their personal experience of what 2020 was like.

Contents





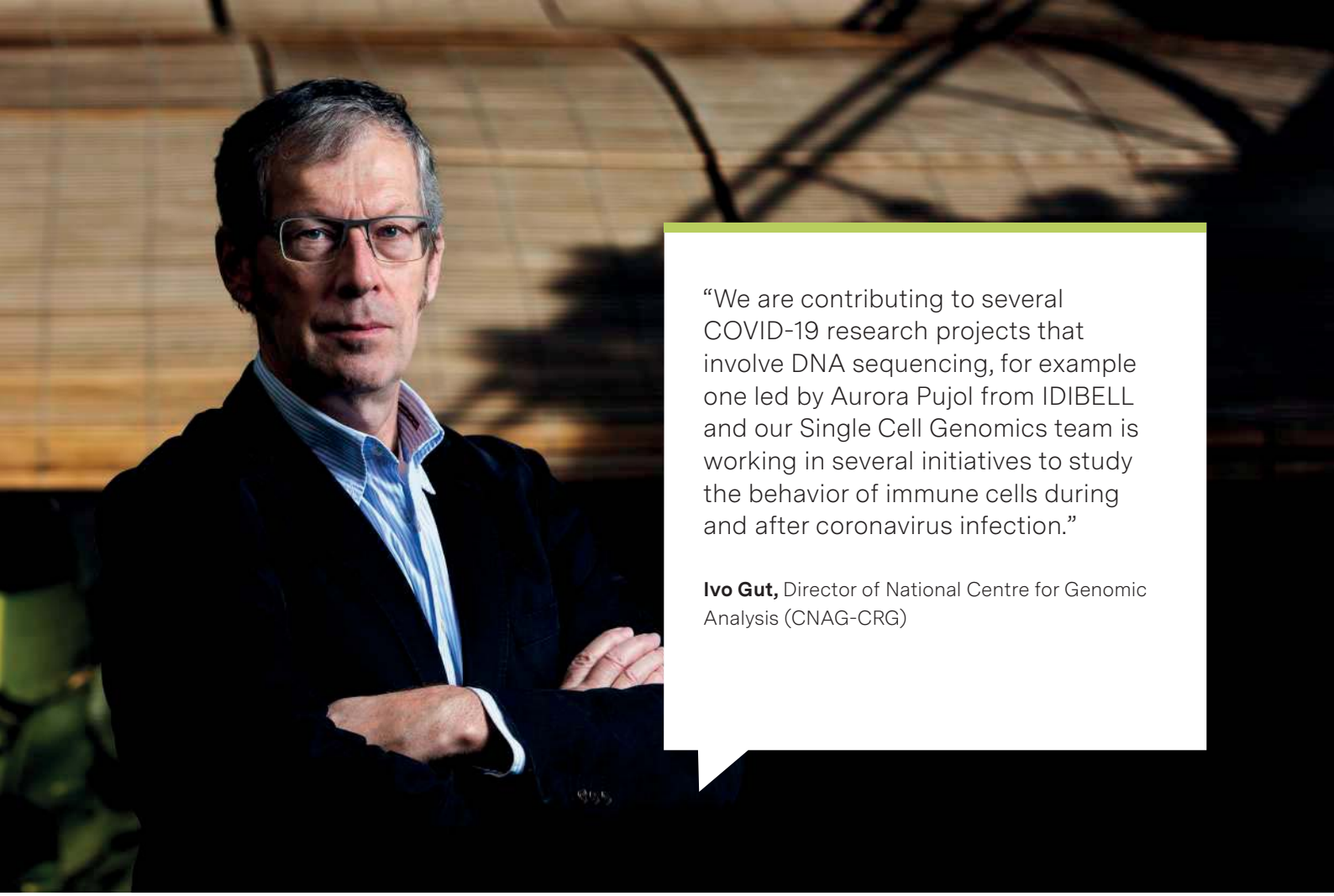
"It's amazing how society, at a time of great stress, pulled together. There is a lot we could learn and apply to situations beyond the pandemic."

Albert Giralt,
CEO of Avinent

Collaborating with other organisations to produce PPEs using 3D technology

In April, Avinent carried out a joint project with Althaia Foundation, Fundació Universitària del Bages (FUB-UManresa), Eurecat, Polytechnic University of Catalonia (UPC) and the Manresa City Council to produce personal protective equipment (PPE) using 3D printing technology.

This alliance allowed them to design a manufacturing circuit for face shields and door handles that can be opened with the forearm as a way to tackle the health emergency caused by SARS-CoV-2.



"We are contributing to several COVID-19 research projects that involve DNA sequencing, for example one led by Aurora Pujol from IDIBELL and our Single Cell Genomics team is working in several initiatives to study the behavior of immune cells during and after coronavirus infection."

Ivo Gut, Director of National Centre for Genomic Analysis (CNAG-CRG)

cnag
centre nacional d'anàlisi genòmica
centro nacional de análisis genómico

CRG
Centre for Genomic Regulation

Collaborating to find the genetic alterations involved in Covid-19 and carry out mass testing

CNAG-CRG analysed the genome of patients with Covid-19 to detect genetic alterations involved in the progress of the disease in young people who developed serious cases despite not having any prior conditions. Understanding the importance of these mutations could be a significant therapeutic and preventive tool, allowing patients to be screened for special treatment, care and priority access to mechanical ventilation or ICU beds.

The centre also took part in the Orfeu Programme, promoted by the Government of Catalonia to control the pandemic in the first peak, adapting their activities to carry out mass PCR testing, expanding the capacity of the healthcare system.


Parc Científic de Barcelona
Clúster II - Torres R+D+I

The Barcelona Science Park Foundation and the University of Barcelona

The Barcelona Science Park Foundation is part of the UB Group and an initiative sponsored by the University of Barcelona which took shape in 1997. The Foundation engages in activities related to research, enhancing the quality of research and, mainly, keeping the University of Barcelona in touch with society's new needs and situations in order to achieve overarching university objectives.

The University of Barcelona enhances its public service role through the Foundation by using its scientific and technical capabilities to benefit society.

The Foundation's aims:

- Promote a venue and the facilities needed to carry out basic and applied research and develop new technologies.
- Foster measures to make the university's innovation and research work more efficient and improve its interactions with other research groups, companies and institutions.
- Create an outstanding environment to drive innovation and technology transfer activities.

Mission:

Promote research, knowledge transfer and innovation in the public and private sectors via smart management of spaces, technology, and relationships and dialogue within the Park Community.

Vision:

Become an international benchmark in public/private research to boost Catalonia's scientific leadership, economic growth and potential to attract talent.

Values:

Comunication

Commitment

Responsibility

Passion

Teamwork

Barcelona Science Park

Board of Trustees

The Barcelona Science Park Foundation was created in 1997 at the initiative of the University of Barcelona

Chair

Joan Elias García
Rector of the University of Barcelona

First Deputy Chair

Joan Corominas Guerin
President of the Social Council of the University of Barcelona

Second Deputy Chair

Francisco Esteban Bara
Vice-Rector of Communication of the University of Barcelona

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General Secretary of the University of Barcelona
(from 15 May 2020)

Secretary

Belén Noguera de la Muela
General Secretary of the University of Barcelona
(through 13 March 2020)

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Miquel Amorós March
Secretary of the Social Council of the University of Barcelona

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General Manager of the University of Barcelona

Màrius Rubiralta Alcañiz
(from 10 November 2020)

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(through 7 October 2020)

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Francesc Boada Pallarés

Members appointed by the Government of Catalonia

Francesc Xavier Grau Vidal
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Joan Gómez Pallarès
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Rosa Menéndez López
President of the CSIC

Co-opted members

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Banco de Santander

Albert Cirera Hernández
Vice-Rector for Entrepreneurship, Transfer and Innovation of the University of Barcelona

Joan Subirats Humet
Barcelona City Council

Team

The Park is run by a team of 93 professionals

36% 64%

33 Men 60 Women

Training and development

Despite the pandemic, the PCB team didn't turn its back on training, switching to online courses.

Creating an annual training plan that includes a series of training initiatives focusing on ICT, specific techniques in science, safety, quality, health and the environment; skills and competences, management skills, financial management, legal issues, infrastructure and foreign languages (English).

2.627
training hours

35
actions

Lean methodology

We began training sessions to implement Lean methodology, geared towards all staff in order to review and improve the Park's management processes, add value and strive for continuous improvement. We are working on five projects and will continue implementing this methodology in 2021.

Code of Ethics

We drafted and published the PCB Code of Ethics, which is a compilation of the Park's ethical commitments regarding people and the planet.

Telecommuting

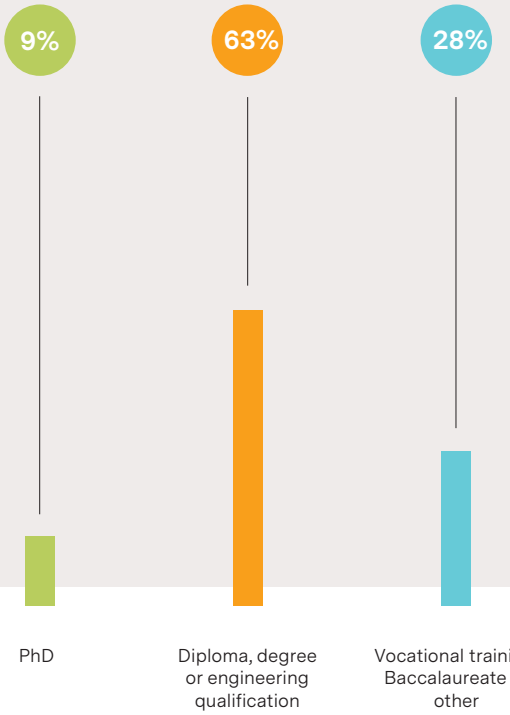
In addition to the forced telecommuting due to the pandemic, probably without proper conditions, the Park is working to develop an internal policy on telecommuting, which kicked off in September with a pilot programme of 9 participants from various departments or services and will be assessed at the end of the year.

Over the course of 2020, there was an average of 94 people on staff, one percent fewer than the previous year, with an average age of 44 and a similar training profile but better training level than in previous years. The gender balance held steady from 2019, with more women than men on staff and with a predominance in positions of responsibility.

Collective bargaining

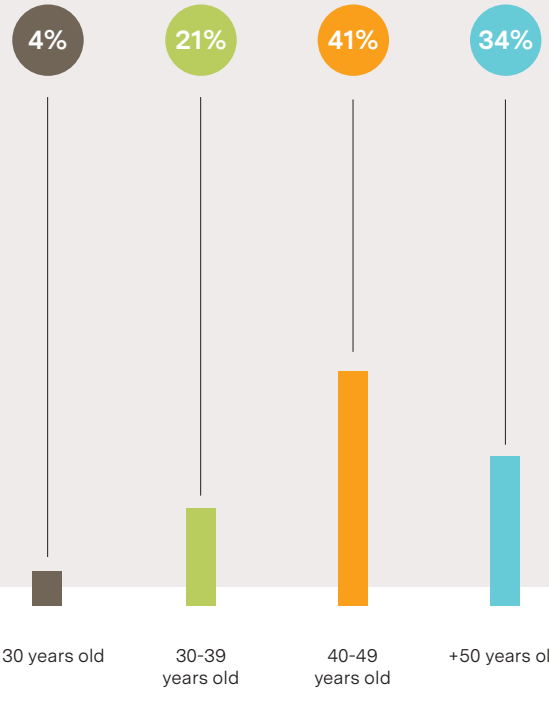
Negotiations kicked off for the 2nd PCB Collective Bargaining Agreement with representatives of the employees, continuing over a total of 16 meetings.

Training



Age

Average age: 44 years old



Barcelona Science Park

Organisation chart

Management Department
Carme Arenillas

Gemma Baladoch

General Management
Maria Terrades

Human Resources
Ana Isabel López

Marketing and Communication Department
Dra. Anna Serra

Communication
Germán Sierra

Scientific Dissemination
Mercè Gómez

Clients
Mireia Rodón

Facilities Management
Fernando Claver

IT and Telecommunications
Miguel Ángel Moruno

Maintenance
Andrés Lara

Works
Anna Mezquita

Quality, Security and Environment
Glòria Pladellorens

Scientific Services Department
Montserrat de Luna

Animal house
Jesús González

Radioactive facility
Dr. Agustí Munté

Proteomics Platform
Dr. Eliandre de Oliveira

Analysis and Chemistry Technology Platform
Unai Elezcano

Toxicology Platform
Dr. Àngel Menargues

Core Scientific Services
Dr. Rosa María Debón

Administration and Finance Department
Moisès Tarté

Administration and Budgets
Elisabet González

Legal Services Department
Mercè Alegre

Barcelona Science Park

Quality, Security and Environment

Quality

In 2011, the Park was granted ISO 9001 certification, demonstrating the quality of the Core Scientific Services offered, and it began to work towards quality certification for all areas and services. Ten years after beginning the project, the Park remains firmly committed to quality and continuous improvement, and the latest areas to be certified are the Proteomics Platform and the Toxicology Unit (Utox).

In 2020, the Toxicology Unit renewed its certification of compliance with the principles of Good Laboratory Practice under Royal Decree 1369/2000, for toxicology and ecotoxicity studies on drugs for human and veterinary use and healthcare and cosmetic products. The Park has created an internal department for Quality Assurance and BLP Documents Archive, which were previously outsourced.

Environment

The Park has had ISO 14001 certification applied to environmental management of its buildings for the past ten years, sharing with society and everyone involved its environmental accomplishments, and has reached the following milestones:

- Incorporating values and criteria from the Sustainable Development Goals (SDG) into its strategic management.
- Power used at the PCB is 100% from renewable sources.
- Consolidating an environmental communication and awareness-raising channel with the community through the Sustainable Development section of the T'interessa newsletter.
- Applying environmental criteria to reduce waste and other impacts of the measures required to curb the spread of Covid-19.

Workplace Health and Safety

Managing the pandemic has been the core focus of the Workplace Health and Safety Department in order to prevent its spread by taking action involving HVAC, maximum occupancy, cleaning, protocols to deal with positive cases, prevention plans and telecommuting support tools. All of these actions have been transversal and focused on the internal team and organisations located at the Park.

Barcelona Science Park in the media

General press, trade press and sector websites

2017	1.129
2018	1.141
2019	1.073
2020	1.152

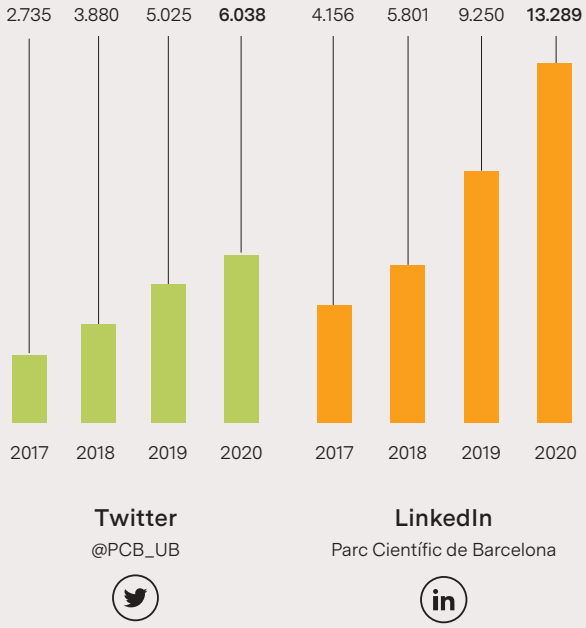
Annual visits to www.pcb.ub.edu

2017	111.144
2018	111.869
2019	107.986
2020	103.111

News items posted on the website

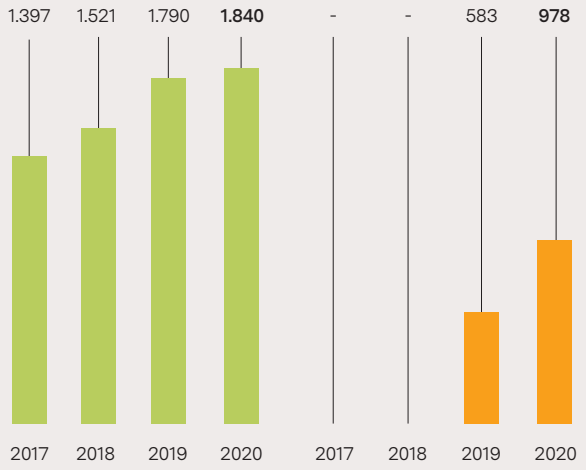
2017	161
2018	145
2019	148
2020	134

Social media followers



Twitter
@PCB_UB

LinkedIn
Parc Científic de Barcelona



Facebook
@ParcCientificdeBarcelona

Instagram
@pcb_ub

Salut diu que el sistema sanitari té prou capacitat per fer PCR

▸El Govern assegura que pot fer entre 14.000 i 15.000 proves de diagnòstic diàries

LAURA FÍGULS/ACN

Màquina de PCR

ACN BARCELONA

■ El Govern ha descartat posar en marxa la fase 2 del programa Orfeu perquè actualment ja es cobreixen «totes les necessitats diagnòstiques» amb la capacitat de fer PCR que té el sistema públic de salut, segons va avançar TV3 i van confirmar a l'ACN fonts del departament de Salut.

Segons aquestes fonts, actualment el sistema sanitari té capacitat per fer entre 14.000 i 15.000 PCR diàries i preveu poder fer-ne fins a 20.000 en les properes setmanes. A més, s'hi han de sumar les proves que es fan en el marc de la fase 1 del programa, que continua en marxa. Fins ara ha fet uns 18.000 tests. El Govern va anunciar aquest programa de cribratge massiu de la població el 7 d'abril i tenia l'objectiu de fer 170.000 proves durant sis setmanes.

Durant la fase 1 del programa Orfeu, s'han activitat les capacitats de diversos centres organitzats en dos nodes de treball. Un d'ells, al Centre de Regulació Genòmica (CRG) del Parc de Recerca Biomèdica de Barcelona. I l'altre, al Parc Científic de Barcelona, amb l'Institut de Recerca Biomèdica (IRB), l'Institut de Bioenginyeria de Catalunya (IBEC) i el Centre Nacional d'Anàlisi Genòmica (CNAG).

Fins ara, el programa ha fet 18.000 PCR i ho ha fet prioritzant cribratges de residents i professionals en centres de convivència obligatòria, com ara residències de gent gran, centres d'hospitalització de salut mental, centres de persones amb diversitat funcional física o intel·lectual, i centres penitenciaris; retorn segur a l'entorn laboral en professionals essencials no sanitaris després d'una baixa mèdica, i suport als circuits de diagnòstic en persones simptomàtiques. Aquesta fase 1 del programa Orfeu continua en curs donant resposta a les necessitats d'aquests col·lectius, segons les fonts de Salut.

M.A.P.

Maria Terrades, directora general del Parc Científic de Barcelona, a les instal·lacions del complex

El parc científic s'obre a les 'start-ups' tecnològiques

Acord amb Genesis Biomed per captar empreses 'medtech'

ROSA SALVADOR
Barcelona

El Parc Científic de Barcelona (PCB) ha començat a comercialitzar 1.200 m² de noves instal·lacions que destinarà a captar empreses de tecnologia mèdica (*medtech*). Maria Terrades, la directora general, explica que el parc vol replicar el model que l'ha portat a convertir-se en un gran *hub* de la biotecnologia, que acull el 40% de les *start-ups* catalanes del sector. "La tecnologia mèdica és un sector que és molt dispers, sense ubicacions de referència i que ha crescut molt últimament. Nosaltres tenim ja algunes firmes, com Qiagen, però volem atreure'n d'altres per guanyar massa crítica i potenciar l'ecosistema, amb les sinergies que es creen quan es comparteix ubicació", explica.

El nou espai, en el qual ha invertit mig milió d'euros, amplia un 10% la superfície del parc i li permetrà arribar als 3.000 usuaris. La comercialització la realitzarà la consultora Genesis Biomed, ubicada al mateix parc. La firma que dirigeix Josep Lluís Falcó està focalitzada en serveis a empreses, *start-ups*, *spin-offs* i centres d'investigació, de manera que "coneix tant el parc com les empreses *medtech* i pot ajudar-nos a trobar les millors fórmules d'encaix".

El PCB és el pol més gran d'R+D en ciències de la vida del sud d'Europa, a més del parc científic més gran d'Espanya. L'any passat va ingressar 19 milions d'euros, amb 5,7 milions d'ebitda i un benefici net d'1,6 milions, el seu tercer any de beneficis des que el 2017 va tornar a equilibrar els comptes. Aquest any, explica Terrades, el parc preveu millorar aquestes xifres i arribar als 20 milions d'ingressos amb dos milions de beneficis. "La pandèmia ha reforçat el sector salut. I nosaltres ni tan sols hem estat tancats, perquè teníem empreses que eren serveis essencials", assenyala Terrades.

La bona marxa del parc ha permès avançar en el pagament del deute, que ha baixat dels 112 milions que va assolir el 2012 a 82 en l'actualitat. "Hem pogut tornar el crèdit sindicat que teníem amb entitats financeres i ara els nostres creditors són només la Generalitat (42 milions) i l'Estat".

El parc, un organisme dependent de la Universitat de Barcelona, ha negociat ja el calendari de pagaments amb la Generalitat i està pendent de fer el mateix amb el ministeri, que va finançar als parcs amb crèdits de curt termini. "Estem pendents que els nous pressupostos de l'Estat permetin trobar una solució", reconeix Terrades.●

ASABYS PARTNERS

El fons entra a Medlumics

■ **El fons Sabadell Asabys ha coliderat una ronda d'inversió de 14 milions d'euros a Medlumics, una empresa de tecnologia mèdica de Madrid que desenvolupa un dispositiu per a intervencions cardíaques. Aquest fons, que dirigeix Josep Lluís Sanfeliu, participa en la ronda amb el fons VI Partners, el CDTI i accionistes actuals, com ara Caixa Capital Risc.**

Fondo de 80 millones para transferencia tecnológica

GENERALITAT/ El ICF se encargará del diseño del nuevo vehículo, que tendra un 60% de aportación pública.

G. Trindade. Barcelona

La Generalitat prepara la creación de un fondo de inversión público-privado para superar uno de los grandes retos de la ciencia y tecnología en Catalunya: la transferencia tecnológica. Pese a la gran producción científica que se realiza en las universidades catalanas, los datos muestran cómo toda esa capacidad no logra trasladarse hacia el mercado y la productividad.

El nuevo vehículo, llamado Deep Tech Discovery Fund, alcanzará un volumen de 80 millones de euros durante el periodo 2021-2025. El 60% de este importe procederá de aportaciones públicas. Los encargados de inyectar estos recursos y fijar las correspondientes partidas presupuestarias serán las conselleries impulsoras del proyecto: Empresa i Coneixement y Economia i Hisenda. El resto del capital se captará de inversores privados.

El Ejecutivo autonómico ha encargado el diseño del vehículo y la licitación para gestionarlo al Institut Català de Finances (ICF), en colaboración con Avançsa, el hólding industrial del Govern.

El fondo impulsará la creación de 'spin off' universitarias. En la foto, el Parc Científic de la UB, en Barcelona.

Emprendimiento

El nuevo fondo debe permitir la mejora de la transferencia de conocimiento hacia las empresas, promover iniciativas de emprendimiento científico y, en consecuencia, contribuir a elevar la competitividad del tejido económico, especialmente de las pymes.

La Generalitat considera que la promoción de la investigación básica y de su transferencia tecnológica hacia el mercado puede ser una pieza clave para el crecimiento económico y el bienestar social de la comunidad autónoma.

Catalunya dispone de un sistema de investigación excelente. Con 369 ayudas para investigación de excelencia, se sitúa sólo por detrás de Bélgica (404) y Suecia (399) en la captación de fondos otorgados por el Consejo Europeo de Investigación. Asimismo, el porcentaje de publicaciones científicas en revistas de alto impacto también se ha consolidado en los mismos valores que estos países, superando el 40%. Sin embargo, el índice Regional Innovation Scoreboard (RIS) sitúa a Catalunya con 77,6 puntos, lejos de los puestos de cabeza e incluso de la media europea, situada en 100 puntos.

El pacto nacional por la sociedad del conocimiento, impulsado por el Departament d'Empresa i Coneixement, prevé que el gasto privado en I+D pase del 0,94% actual hasta el 1,37% del PIB en el periodo 2020-2024 con el objetivo de igualarla a la media actual de la Unión Europea.

TRANSPORTE

El Govern aprobó ayer una aportación de 138 millones del fondo de contingencia del Departament de Territori i Sostenibilitat para el **transporte público.** Los recursos se destinarán a la Autoritat del Transport Metropolità (ATM).

BIOTECNOLOGÍA REMITIDO

ENTREVISTA Gijs Jan Jochems Director General de Promega Biotech Ibérica

"Hay mucho camino todavía para popularizar la ciencia"

Con unas cifras al alcance de pocos (más de 4.000 referencias, 50 millones de dólares invertidos en I+D o 600 patentes), Promega Biotech Ibérica se incorpora en 2005 como la séptima filial europea de la norteamericana Promega Corp. Arranca con un reducido equipo comercial para dar el mejor servicio a científicos e investigadores que trabajan tanto en el ámbito público como en el ámbito privado. Suministran reactivos e instrumentos y dan soporte científico para que puedan avanzar en sus líneas de investigación.

"La COVID-19 es un reto con mayúsculas, pero sabemos que somos una pequeña parte de la solución"

"Me ilusiona trabajar en una empresa que aspira a formar parte de la solución a todos los problemas de salud"

Millorar el benestar

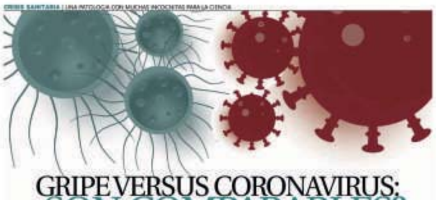
Maria Terrades

La incertesa i la por van irrompre en el sector de les ciències de la vida durant març i abril, a l'igual que en la majoria de segments d'activitat presents a Barcelona. Han estat mesos difícils, però gràcies al caràcter essencial de la salut, posat de manifest en aquesta crisi més que mai, comencem ja a entreveure la sortida i la recuperació del nostre sector, encara que sense marge per a la relaxació. Durant el període de tancament de les activitats econòmiques no essencials, han estat molts els centres de recerca i les empreses vinculades a les ciències de la vida que han multiplicat la seva activitat per descobrir nous tractaments, vacunes i mètodes de diagnòstic i que s'han mobilitzat per captar fons públics i privats que permetin fer-los realitat. El Parc Científic de Barcelona, la seva comunitat de 3.000 professionals i moltes altres entitats similars ubicades a Barcelona han fet evident la importància de la recerca bàsica, la transferència i la innovació en ciències de la salut com a pilars per abordar el repte majúscul que ens va plantejar la pandèmia i per tenir un futur millor.

La reconstrucció de Barcelona després de les conseqüències socials i econòmiques de la Covid-19 passa per reforçar la recerca, el desenvolupament tecnològic i la innovació, incrementant la inversió en R+D+i, tant pública com privada. S'ha de donar suport a les *spin-offs*, *start-ups* i pimes que tinguin projectes innovadors i sòlids, ajudant-les a accedir a infraestructura i recursos científics ja disponibles a la ciutat i així optimitzar grans infraestructures científiques. Hem d'atraure, però també molt important, mantenir i recuperar el talent de la ciutat a través de mesures socials com l'accés a l'habitatge. I per això, haurem d'apostar per la col·laboració públic-privada per construir sinergies entre govern municipal, universitats, hospitals de referència, centres de recerca, infraestructures como el Parc Científic de Barcelona, empreses i emprenedors.

I tot això amb l'objectiu de millorar el benestar i la prosperitat de la ciutadania. La recerca i la innovació permeten llançar al mercat productes que milloren la nostra salut i, a la vegada, creen riquesa i ocupació d'alta qualitat i contribueixen a un creixement sostenible de l'economia. Barcelona, i la seva àrea metropolitana, té tots els ingredients per consolidar-se com una ciutat de referència en recerca i innovació en ciències de la vida i contribuir, significativament, a assolir un Estat del benestar

Maria Terrades és directora del Parc Científic de



GRIPE VERSUS CORONAVIRUS: ¿SON COMPARABLES?

Los expertos en infecciones pandémicas aseguran que sus investigaciones aún no han desvelado si el COVID-19 es más letal que las enfermedades estacionales conocidas, por lo que confían que una nueva vacuna aporte la solución

35.000

HOSPITALIZACIONES

Los científicos aceleran los estudios del virus

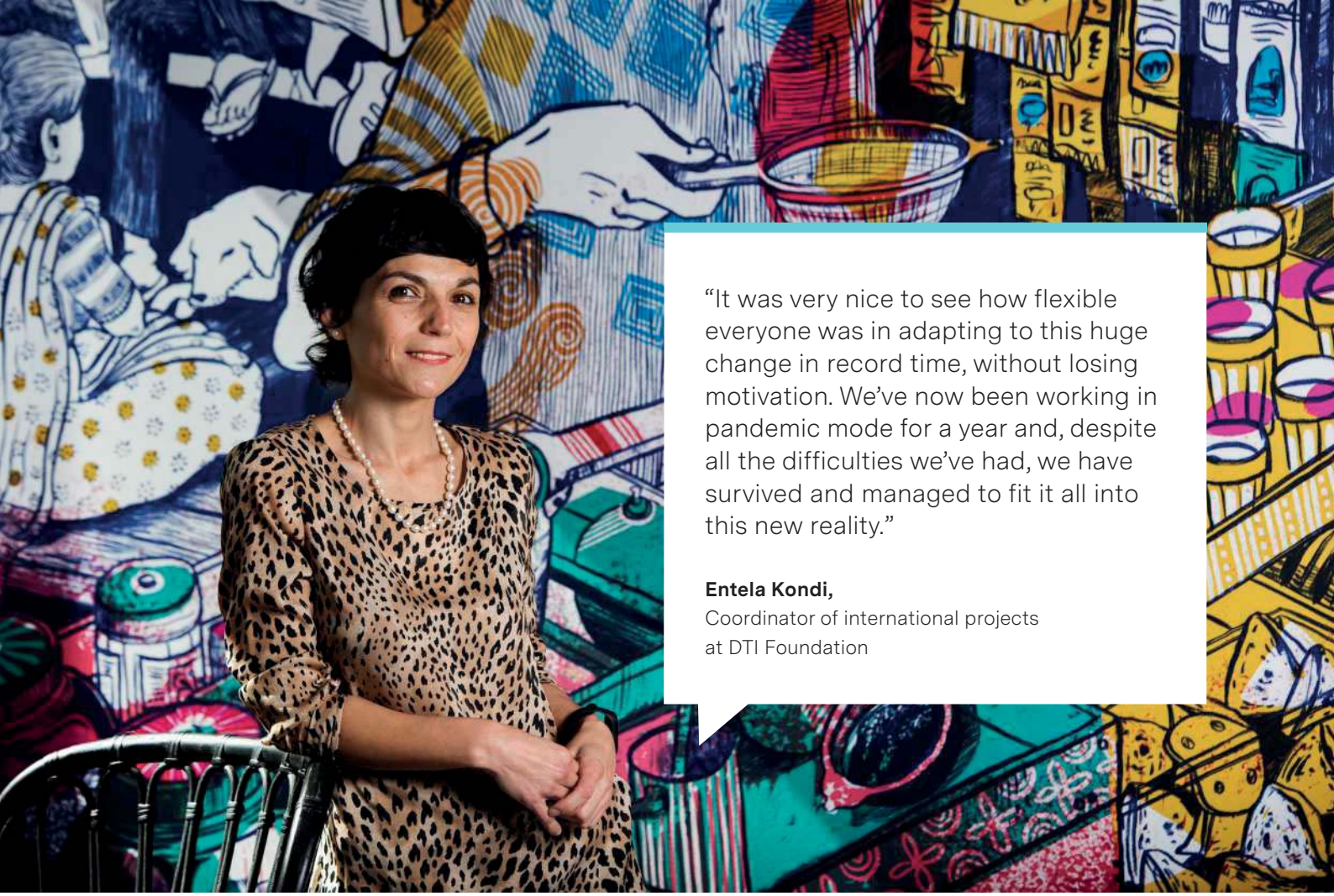
Cómo montar una startup en provincias

C.A. DE MELILLA

COMUNIDAD DE MADRID

CATALUÑA

C.A. DE CEUTA



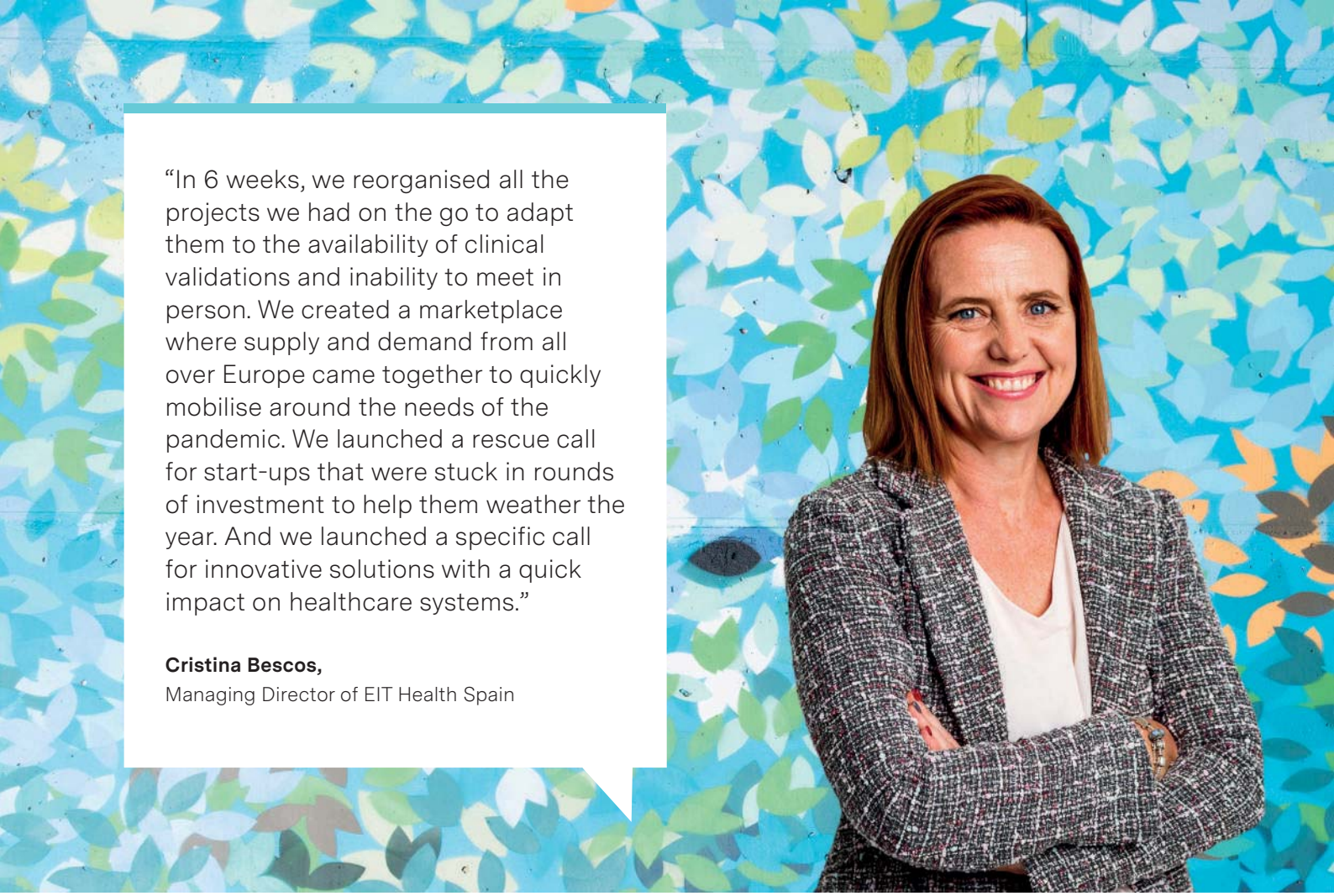
"It was very nice to see how flexible everyone was in adapting to this huge change in record time, without losing motivation. We've now been working in pandemic mode for a year and, despite all the difficulties we've had, we have survived and managed to fit it all into this new reality."

Entela Kondi,
Coordinator of international projects
at DTI Foundation

Creating an open international database and providing scientific and clinical support for healthcare professionals

Thanks to its global network of collaborators, DTI Foundation, along with August Pi i Sunyer Biomedical Research Institute (IDIBAPS)-Hospital Clinic Barcelona and with the backing of IRODaT and the LIDOBS observatory, created the international database of organ donors and transplants-COVID19 (IDOTCOVID), which is open and available in real time to all collaborating centres around the world.

This initiative aims to provide clinical proof for the scientific community to establish protocols to treat and handle patients infected with SARS-CoV-2. At the same time, DTI Foundation also offered a series of scientific webinars on Covid-19 for healthcare professionals in its community, plus 24/7 guidance for organ and tissue donation during the pandemic through its digital interconsultancy platform i-DTI.



"In 6 weeks, we reorganised all the projects we had on the go to adapt them to the availability of clinical validations and inability to meet in person. We created a marketplace where supply and demand from all over Europe came together to quickly mobilise around the needs of the pandemic. We launched a rescue call for start-ups that were stuck in rounds of investment to help them weather the year. And we launched a specific call for innovative solutions with a quick impact on healthcare systems."

Cristina Bescos,
Managing Director of EIT Health Spain

eit Health

Funded by the European Union

Promoting innovative projects and companies, through funding and support, to address Covid-19 challenges

In May, the European Institute of Innovation and Technology in Health (EIT Health) announced the resolution of an extraordinary call for innovation projects in response to the pandemic caused by SARS-CoV-2. The winning projects that include members of EIT Health Spain include: COVID19 Central Control, a tool that classifies Covid-19 patients to make ICUs more efficient and has documented a 50% reduction in mortality; CAR3D, a platform to address the scarcity of healthcare material (PPEs) certified in the EU that connects supply and demand within Europe; and Certify.Health, a reliable tool that compiles certified validated tests in one portal, preventing fraud. Plus, they adapted to the new needs of the pandemic in projects already under way like Incap, Better@home, RGS@Home and VALUE.

EIT Health's actions to fight Covid-19 also included the following initiatives: launching an extraordinary call of the EIT Health Headstart programme to support European start-ups and accelerate ideas associated with Covid-19; creating the Making Connections platform to support people, organisations and companies working in research, by developing products and providing front-line medical care; and the Start-Up Rescue programme to help European start-ups attract investors to drive their company's acceleration.

Scientific Services

Laboratories open to the community

Self-service laboratories, equipment and scientific infrastructure

The Park provides its users with laboratories, equipment and scientific infrastructure on a self-service basis. These laboratories are managed by Park staff who support users and ensure the services operate properly and suit the research requirements of companies and research centres alike.

Users and researchers from the organisations at the Park use these scientific facilities for independent work and have access to all the equipment owned by the PCB.

Online booking

Facilities can be booked online by users, which saves time both for them and for the technical team supporting the spaces.

Special reaction services

- The Park has 43 m^2 of laboratories equipped for carrying out special reactions.

Infrastructure and equipment

- Hydrogenation laboratory
- Toxic products and hazardous reactions laboratory
- Specialised technical support

Core Scientific Services

- 7/24
- 365 days a year
- 1,370 m^2 of self-service laboratories
- 1,000 users
- Laboratories in the Cluster I, Cluster II and Helix buildings
- €196,784 invested to upgrade equipment

Equipment upgraded 2020

1 ice machine, 1 high-speed centrifuge, 7 rotors (5 high-speed, 1 low-speed and 1 micro-ultracentrifuge), 3 ultrafreezers, 1 fluorescent microscope with image capture, 1 autoclave, 1 automated washer-disinfector and 1 cell counter.

Expanded service

New cell culture room with 68 m2, €80,000 invested in the refurbishment and €122,000 invested in cabinets, incubators, microscopes, centrifuge, cell counter, container to store biological samples in liquid nitrogen and storage container for small lab equipment.

Expanded microscope room: started work to fit out a new microscope room to improve and expand this service.

Expanding the cryogenics room and facilities to provide more space for nitrogen containers for organisations at the Park.

Infrastructure and equipment

- 5 clean rooms
- 2 bacterial culture rooms
- 2 yeast culture rooms
- 1 chemical analysis laboratory
- 9 rooms with centrifuges
- 11 rooms with standard equipment
- 5 rooms with shaker-incubators
- 1 climatic chamber at 37ºC with shaking platforms
- 9 cold chambers, 5 ultrafreezer rooms and 2 rooms with cryotanks
- 6 rooms with spectroscopy equipment
- 3 microscope rooms
- 1 histology room
- 3 dark rooms
- 1 laboratory equipped for protein purification
- Laboratory material washing service

Radioactive facility

- Two fully equipped central radioisotope laboratories with qualified technical support are available to users for handling molecules marked with radioactive isotopes.
- Optimum safety and radiation protection measures.
- Radioactive Activities Coordination Service authorised by the Government of Catalonia and the Spanish Nuclear Safety Council.
- Access restricted to authorised users
- 135 users
- 190 m^2 of shared-use laboratories
- 300 m^2 of laboratories for authorised users only

Infrastructure and equipment

- Cell culture area
- Animal experimentation area
- Counter room: Beta and gamma counters
- System for capturing digital images using radioactive sample lasers
- Waste storage
- Cold chambers
- X-ray diffraction room
- X-ray irradiator for biological samples

Drosophila

- Two equipped fly rooms allow users to conduct research with Drosophila melanogaster as an experimental model. There are also climate chambers and cabinets for growing flies and a preparation room for the fly culture medium.
- + 29,000 feed tubes per month

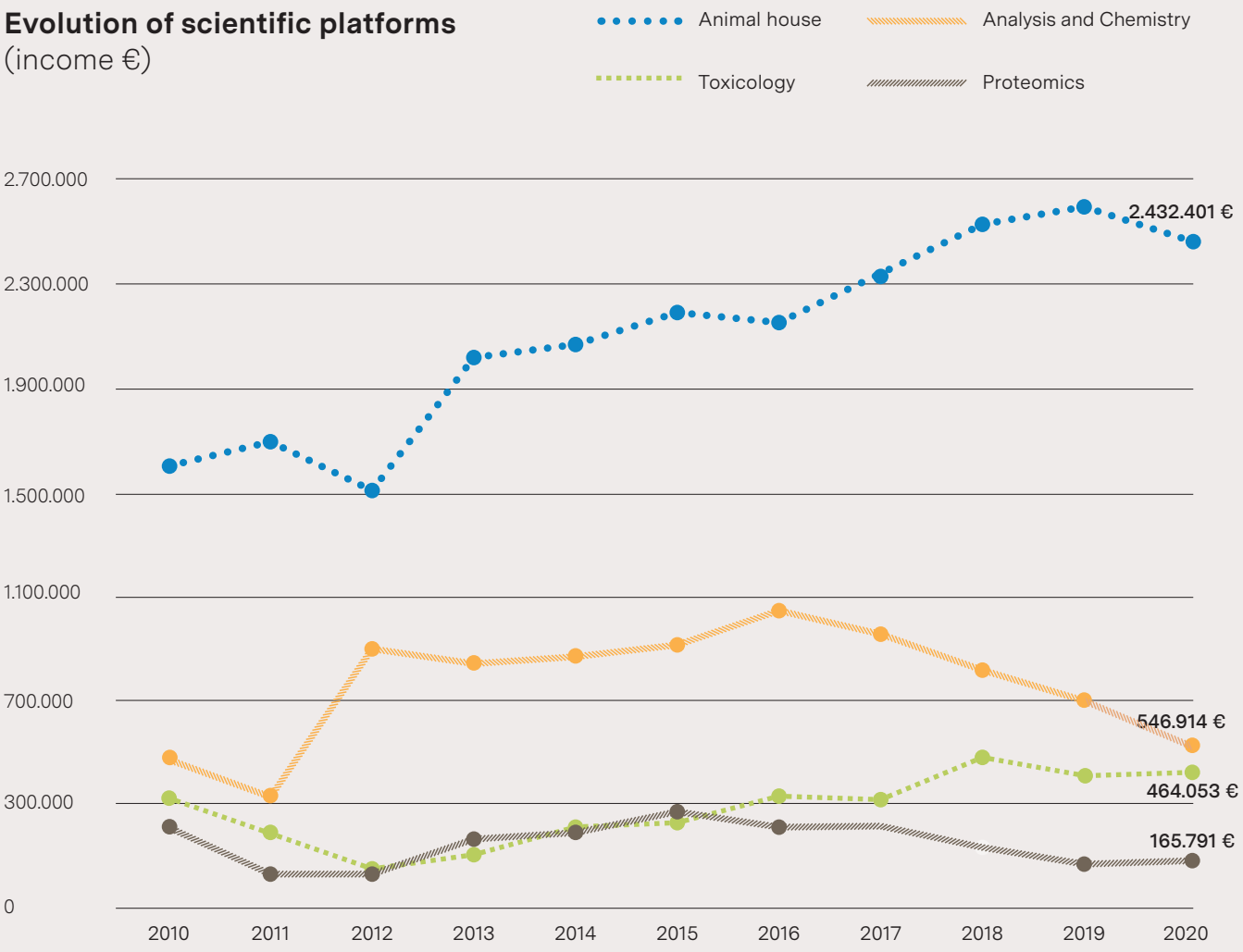
Infrastructure and equipment

- Episcopic stereo microscopes
- CO_2 facility
- Climate chambers and cabinets (at 18ºC and 25ºC)
- 4ºC chambers to preserve the prepared food
- Kitchen for making and supplying the culture medium

Scientific platforms

The Park has four scientific platforms featuring scientific and technical staff and their own equipment that provide services to entities inside and outside the Park. These platforms give users access to cutting-edge scientific services which are essential to the research they conduct. Being part of the Park ecosystem fosters interaction between internal staff and users, optimising joint research.

Evolution of scientific platforms
(income €)



Contingency plan for the pandemic

In 2020, we set up a comprehensive programme for the animal house to deal with the pandemic while ensuring essential experimentation could continue, the health and well-being of the animals housed there, staff availability 365 days a year and essential stocks of critical materials: PPEs and fungibles essential to continued activity with and care for the animals.

Animal house

The Park manages its zoology facilities to provide a benchmark platform for research with live models.

- 2,600 m^2
- 2 SPF animal facilities for rodents (rats, mice, hamsters and guinea pigs)
- 1 animal facility for Xenopus laevis models
- 1 isolation zone for gnotobiotic mice
- 12,000 animals housed
- 362 accredited users

International publications

Maternal spindle transfer overcomes embryo developmental arrest caused by ooplasmic defects in mice

Costa-Borges et al. eLife 2020;9:e48591. DOI: https://doi.org/10.7554/eLife.48591

Launch of project to improve the ANIBIO app

A project was started to improve ANIBIO in order to optimise comprehensive management of the animal house. The ANIBIO environment makes the facility run more quickly, effectively and sustainably: CEEA projects, animal orders, animal facility management and oversight, follow-up on animal health and wellness incidents (IBAs), booking rooms and equipment, requesting services and deliveries.

Guarantee and quality

The Park is a signatory of the Transparency Agreement on Animal Research promoted by the Spanish Confederation of Scientific Societies (COSCE) in collaboration with the European Association for Animal Research (EARA).

We have an Ethics Committee for Animal Research (CEEA), designated as an Authorised Body for evaluating animal research projects by the Government of Catalonia with over 65 projects evaluated in 2020.

Proteomics Platform

The Proteomics Platform provides advice and technology to carry out studies ranging from small- or large-scale identification of proteins to quantitative analysis of their level of expression.

The platform is a member of the Spanish proteomics network ProteoRed-ISCIII, which is part of the Carlos III Health Institute: PRB3 – Biomedical Resources Network Platform.

Research Projects

Collaboration on 2 research projects:

ITACAT: Impact of Thrombus Analysis in stroke patients in Catalonia. Fundació Marató TV3 #20171930, 2018-2020

In collaboration with the IJC Proteomics Platform. This project applies proteomics for protein expression profiling, which could explain processes associated with blood clots, and to help classify cerebrovascular accidents.

Researching the potential of new molecules to treat fibrotic diseases II (DEFIBER II). Collaboration Challenges project, 2020-2022. This project, in collaboration with the Park's Toxicology Platform, is geared towards preclinical development of a drug to treat hepatic fibrosis and myelofibrosis.

Toxicology Platform

The Toxicology Platform provides services for innovation, research and development in ADME, experimental in vitro and in vivo toxicology, and ecotoxicology and microbiology, in order to select new candidates and assess the safety of a wide range of products from pharmaceutical, biotech, cosmetic, veterinary, food, healthcare, personal hygiene, chemical, nanomaterial and environmental organisations and companies. To do so, it has facilities, equipment and staff qualified to carry out experimental studies, analytical determinations, histotechnology, interpretation of data, and safety and expert assessment reports. It also has good laboratory practice (GLP) certification and follows applicable national and international guidelines and requirements.

- Member of the Research Group in Toxicology (GRET)
- Member of the Research Centre in Toxicology (CERETOX) (TECNIO agent)

Research Projects

CIEN, CDTI, Nanointech project: Developing and optimising industrial processes to produce nanomaterials and nanoproducts efficiently and safely, 2016-2020.

AGAUR, PROLIAS: Microbial promoter based on a wine byproduct to optimise fermented products and food supplements, 2018-2020.

CHALLENGES: PRECLINONCO Regulatory Preclinical Development of New Oncology Drug Candidates, 2018-2020.

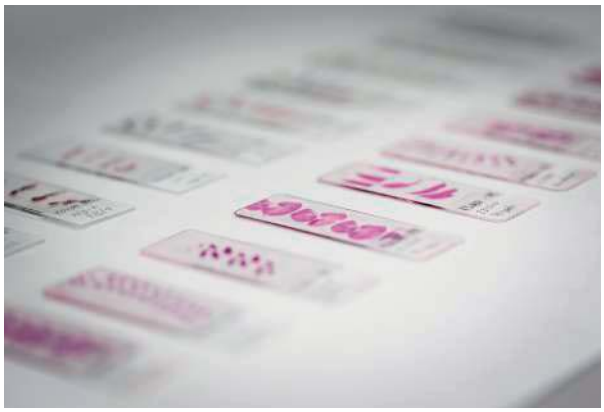
CUPONS, ACCIÓ 2017-2020

COLLABORATION CHALLENGES to assess a preclinical safety package for a new drug to reach the clinical phase, 2020-2022.

MISSIONS CHALLENGES project to assess the safety of new foods so they can be commercialised, 2020-2023.

Collaborations

- **Methodex.** Geared towards preclinical research on the efficacy and safety of cosmetic and healthcare products in vitro and in vivo.
- **Prof. A. Zorzano of IRB Barcelona**. Adreçat a l'avaluació de l'eficàcia i toxicologia mitocondrial de productes d'assaig in vitro.
- **UB Creatio.** Geared towards in vitro and in vivo research in neurotoxicology under the brand avantdrug.

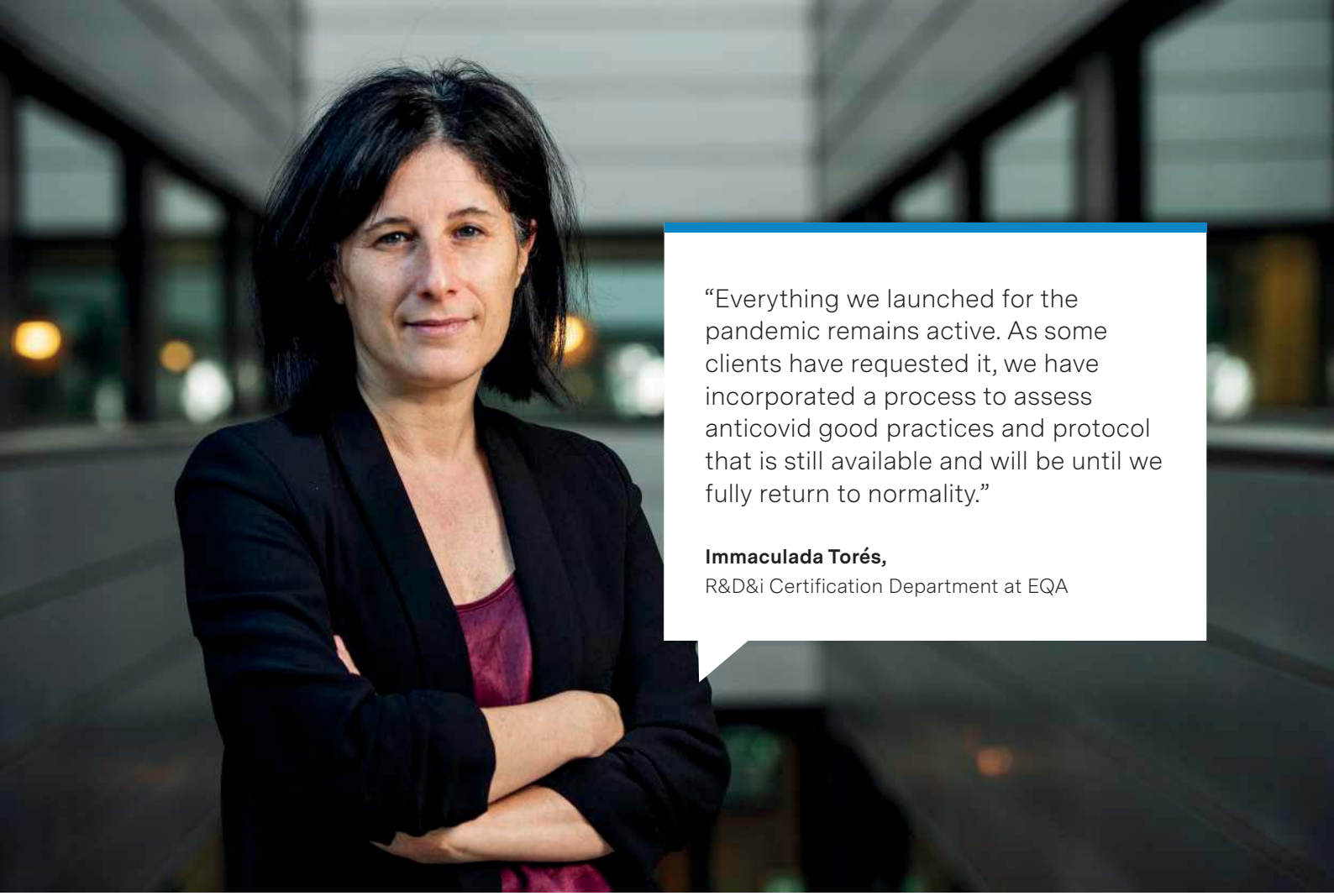


Analysis and Chemistry Technology Platform

The Analysis and Chemistry Platform provides technology and expertise to perform on-demand compound chemical synthesis projects for medical and biological chemistry projects. It also has equipment and extensive experience to carry out chromatographic analysis and preparation and fractionation of natural extracts.

End of service

The Analysis and Chemistry Technology Platform was founded on two agreements with Esteve and Almirall through which the platform staff was exclusively engaged in their projects. As both agreements expired in 2020, the platform ceased activity at the end of the year. In order to continue providing these services to clients at the Park, part of the staff and equipment has been integrated into the Core Scientific Services department.

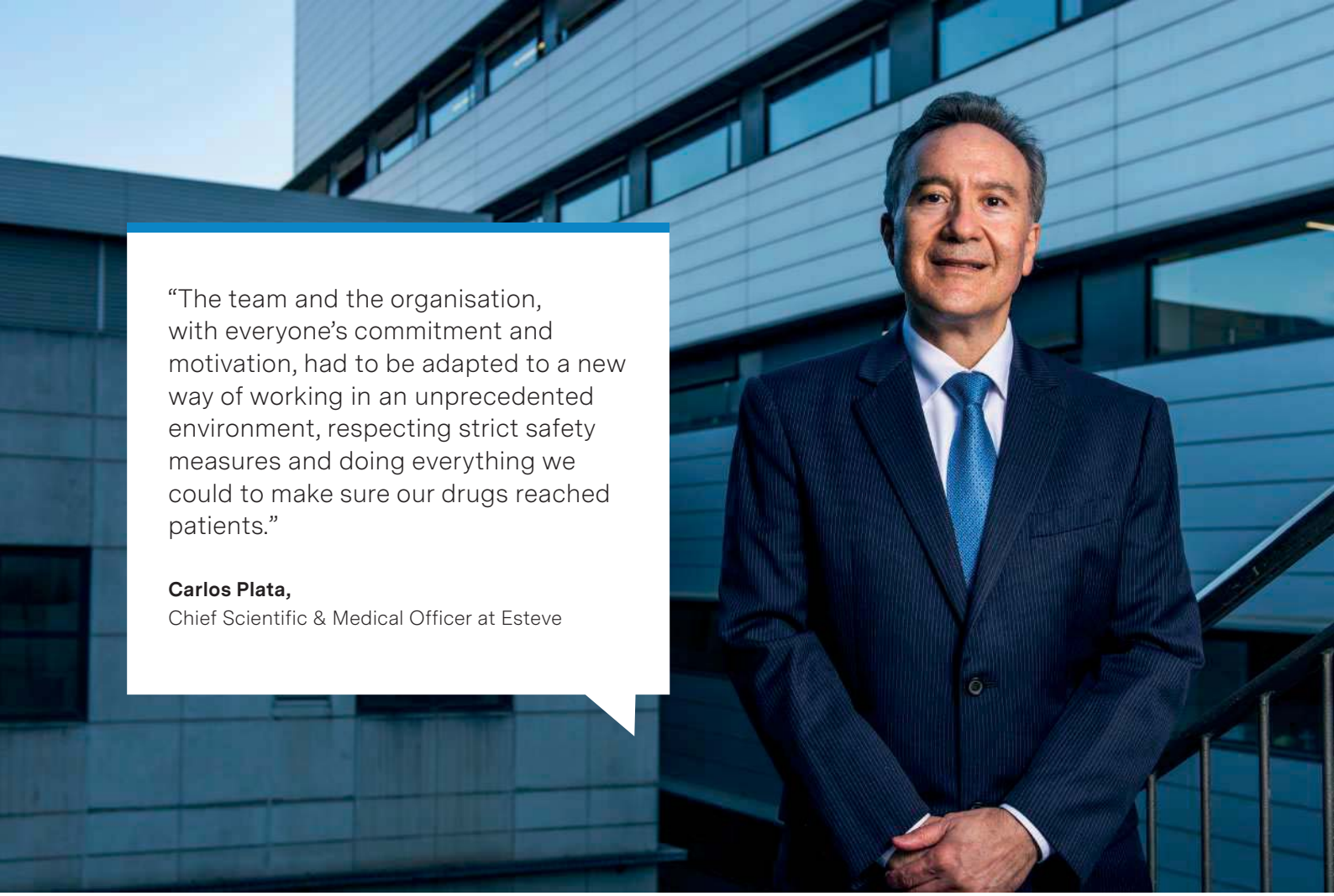


"Everything we launched for the pandemic remains active. As some clients have requested it, we have incorporated a process to assess anticovid good practices and protocol that is still available and will be until we fully return to normality."

Immaculada Torés,
R&D&i Certification Department at EQA

Drafting Assessment of Compliance with Good Practices in Covid-19 Risk Management

EQA, a certification, inspection and control body accredited by ENAC, drafted its Assessment of Compliance with Good Practices in Covid-19 Risk Management in May as the basis for a progressive return to normality, which is essential to social and economic recovery. This assessment consists in reviewing the protocols put in place by organisations, as per the recommendations and requirements established in international and national publications, by the National Institute for Safety and Health at Work, ministries and professional associations.



"The team and the organisation, with everyone's commitment and motivation, had to be adapted to a new way of working in an unprecedented environment, respecting strict safety measures and doing everything we could to make sure our drugs reached patients."

Carlos Plata,
Chief Scientific & Medical Officer at Esteve

ESTEVE

Fighting the pandemic through multiple donations and research collaborations

Esteve began collaborating on a clinical trial, led by Hospital del Mar, that is studying a compound called E-52862 for early treatment of patients with mild symptoms of Covid-19 by supplying the amount needed for the study.

They also took part in the European supercomputing platform EXSCALATE4CoV (EAC), which aims to identify and/or reposition drugs for Covid-19 through in silico simulations and in vitro validations, and to develop an effective tool to stop future epidemics.

Finally, they provided equipment with latest-generation technology for mass testing trials, and many donations to healthcare professionals, patients and people on the front lines of the pandemic.

General Services

The Park provides general services to enable users to focus on their value added: innovation, research, training, etc. In 2020, despite the pandemic, the Park's general services worked at full steam with the twofold mission of keeping the facility open without any disruption to service despite the restrictions and providing services to support the peak of activity many organisations at the Park were experiencing. So, daily cleaning was ramped up, annual preventive maintenance actions increased, 89% more tonnes of biological waste was managed than the previous year and 88% more tonnes of chemical waste. Selective door-to-door collection of laboratory waste also increased.

Receptions and handling correspondence

8:00 am - 7:00 pm

Receptions and handling correspondence

Daily service to receive and deliver goods:

27.400

ITEMS RECEIVED EACH YEAR

4

RECEPTION AREAS

- Cluster I
- Cluster II
- Towers
- Helix

USER AND VISITOR INFORMATION
and service point

MANAGING
meeting spaces

HANDLING
daily post and couriers

Daily cleaning of common areas and spaces for users only

49 DAILY ROUTES

Food Services

The Park's food services have been affected by time, service, capacity and other restrictions that have changed many times over the course of the pandemic. To adapt service to real demand and comply with restrictions, the Terrassa restaurant in Cluster I has been closed. Fifteen restaurant, however, has adapted its service several times to open non-stop all year long, sometimes only for takeaway.

2 RESTAURANTS

7 AREAS WITH VENDING MACHINES

>300 DINERS AT A TIME

5 AREAS SET UP FOR USERS TO EAT FOOD BROUGHT IN

Maintenance and Works

- Designing and coordinating user space refurbishment
- Facility maintenance, conservation, improvement and operation
- Supplying of electricity and softened deionised water
- Supplying of laboratory gasses
- Dispensing liquid nitrogen and dry ice

6.133

Annual user-requested maintenance
OPERATIONS

10.611

Annual preventive maintenance
OPERATIONS

Shop

- Fungible lab and office materials

Cleaning service for lab clothes

- Service includes 3 personalised lab coats per user, cleaned weekly

24/7 Security

- Access control and CCTV perimeter surveillance
- Fire and intrusion detection
- Centralised alarms for general HVAC, freezers and cold rooms, main power and UPS power

Waste management 2020

168
TONNES
of biological waste
per year

100
TONNES
of chemical waste
per year

Selective door-to-door collection of laboratory waste

182 m³
OF EPS BOXES

- User training
- Centralised management of office and other waste

Phone and computer network

- Access to the scientific ring for public organisations. Internet connection for companies.
- Ibercom Corporate Telephone Network with Telefónica and option to hire other operators.
- IP Services
- Wi-FI network, VPN and shared printers
- Server hosting service in the data processing centre
- Secured systems to minimise the risk of using communication networks
- Microcomputer service

Meeting Rooms

13 MEETING ROOMS
for 4 to 40 people

2	Visiting rooms
1	Auditorium for up to 140 people
1	Multipurpose room for up to 120 people
1	Room for up to 70 people

- Audiovisual equipment: LCD screen or projector and computer
- Audiovisual technical support
- Flexible booking in two-hours slots Catering service

6.350
HOURS BOOKED IN 2020

50%
Drop in occupancy
from 2019

17%
Average occupancy
in 2020

*Due to the pandemic, many events and training sessions had to be cancelled. This meant that the hours meeting rooms were booked in 2020 dropped by half. The average occupancy for the year was also down 21%.

Investment

In 2020, we improved the capacity of the Wi-Fi network in all the buildings to boost coverage and bandwidth. We also renovated the water-production system for HVAC in Tower D and the whole control and manoeuvring system for the lifts in Tower R and Tower I.

Parking

512
CAR SPOTS

- Discounted monthly rates for Park users
- Charging stations for 11 electric cars and 2 electric motorcycles
- 24/7 security

14	54	21	10
Adapted car spots	**Motorcycle** spots	**Bicycle** spots	**Secure parking** spots for bicycles on the street

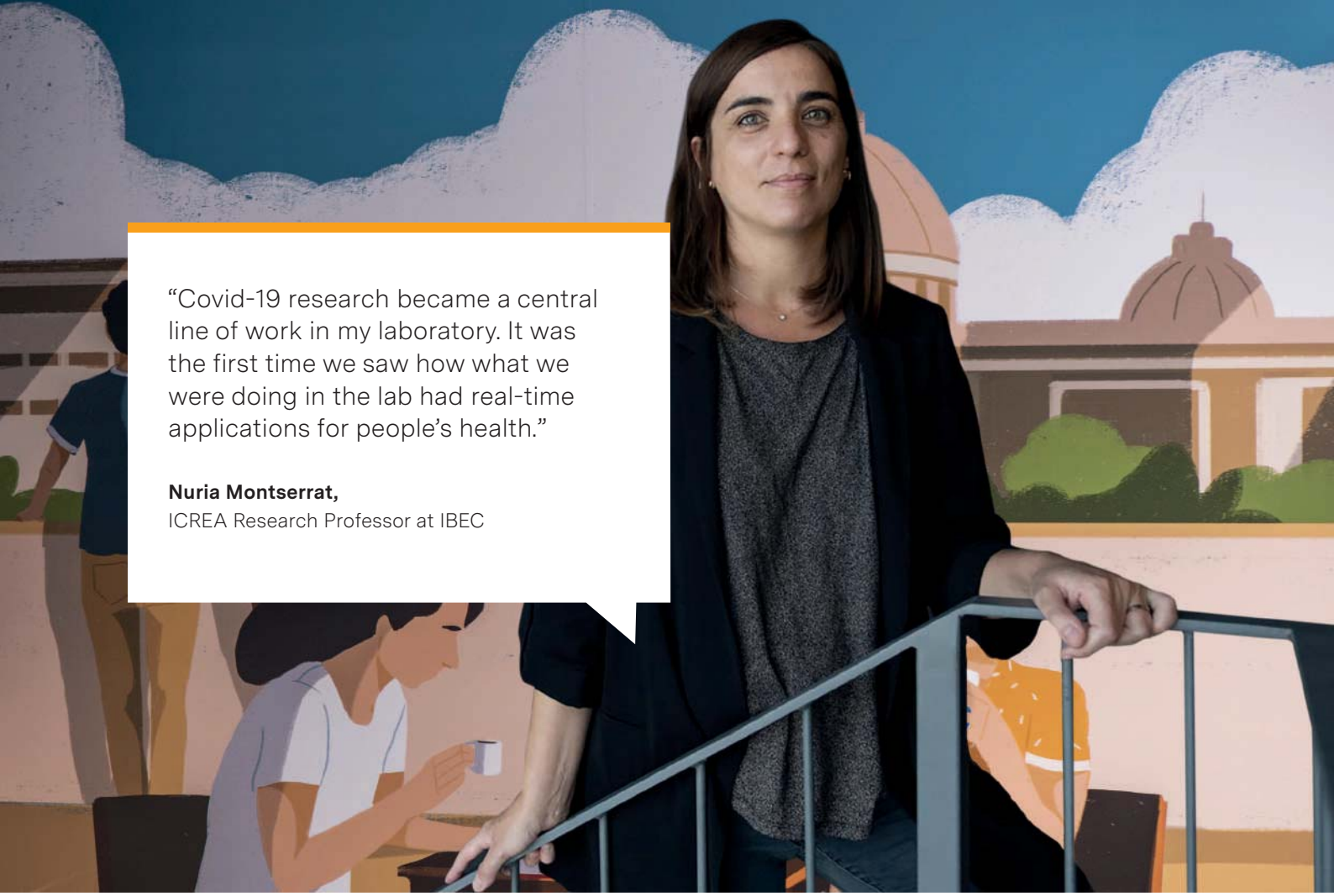
"The pandemic and its effects have made me even more convinced of the importance of science and scientific thinking in our society."

Rita Vassena,
Scientific Director of EUGIN Group

Revealing that the eggs of women with Covid-19 don't contain the virus

A study conducted by a team of researchers from the Eugin Basic Research Laboratory and Embryology Laboratory was the first to analyse the ova of women diagnosed with Covid-19 and detected no signs of the virus in them. This finding, which was ground-breaking in the global field of assisted reproduction and fertility, reveals that there won't be vertical infection from mother to foetus through the ova.

The study was conducted using six ova from one woman and ten from another. It used an innovative technique developed jointly by scientists at Eugin that can identify viral material from very small samples, like human ova. In this case, the result showed no virus RNA was present in any of the 16 oocytes from two women that were analysed.



> “Covid-19 research became a central line of work in my laboratory. It was the first time we saw how what we were doing in the lab had real-time applications for people’s health.”
>
> **Nuria Montserrat,**
> ICREA Research Professor at IBEC

IBEC
Institute for Bioengineering of Catalonia

Several projects and work lines in bioengineering to fight Covid-19: Creating organoids to study SARS-CoV-2 and identifying a potential drug; researching a system of nanoparticles to make drugs more effective and reduce side effects; adapting muscle-on-a-chip to study the effects of the virus and explore drug efficacy; and conducting mass testing of the general population.

In 2020, three IBEC ICREA research professors began working on bioengineering systems to fight Covid-19. Professor Núria Montserrat made a huge breakthrough, based on kidney and cardiac organoids made from stem cells, to identify cell and molecular responses of SARS-CoV-2 replication in these micro-tissues, providing information on how it spreads and possibilities for blocking it. In collaboration with international experts, she also identified a drug that could block the effects of the SARS-CoV-2 virus.

The group led by Professor Battaglia worked to develop a system of nanoparticles for targeted therapy, making drugs more effective and reducing their side effects. For his part, Professor Ramón focused on people who had overcome the disease, aiming to study its effect on their muscles and adapt their muscle-on-a-chip diagnostic platforms to explore the efficacy of potential drugs in muscle tissue.

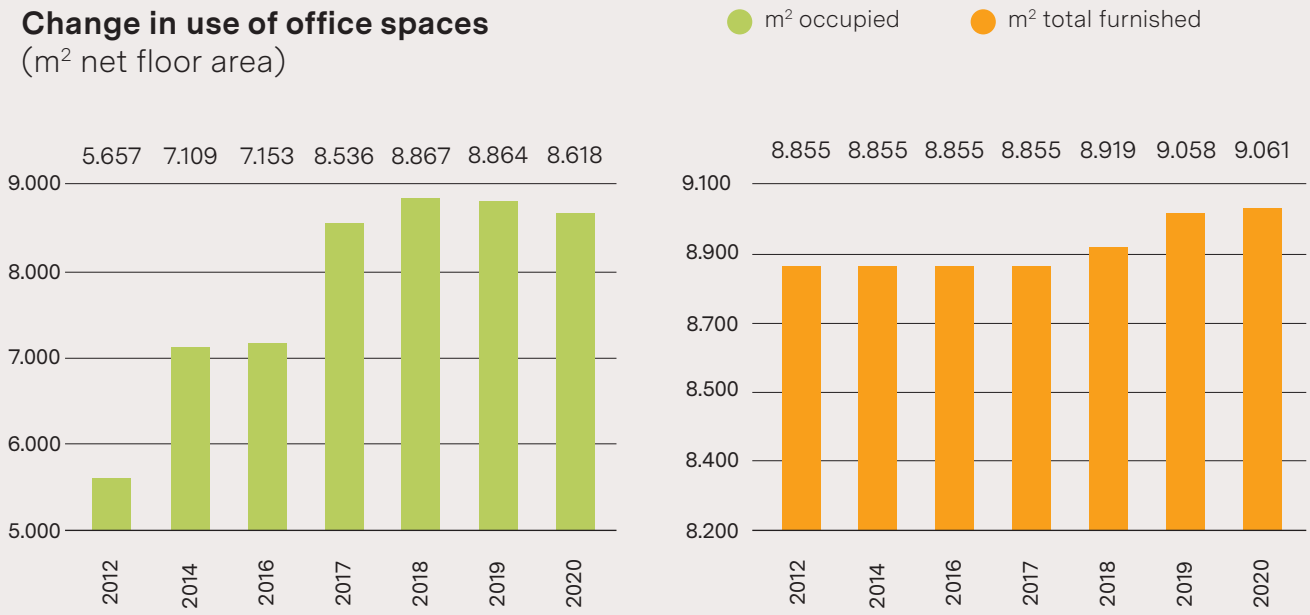
With these three projects, IBEC also kicked off a campaign called “Faster Future - A per a la COVID-19” to raise €100,000 to bring the trials from these projects, which were in the advanced research phase for SARS-CoV-2, to clinical practice, in collaboration with hospitals and patients associations.

Additionally, IBEC adapted its laboratories to carry out mass PCR testing, under the Orfeu Programme.

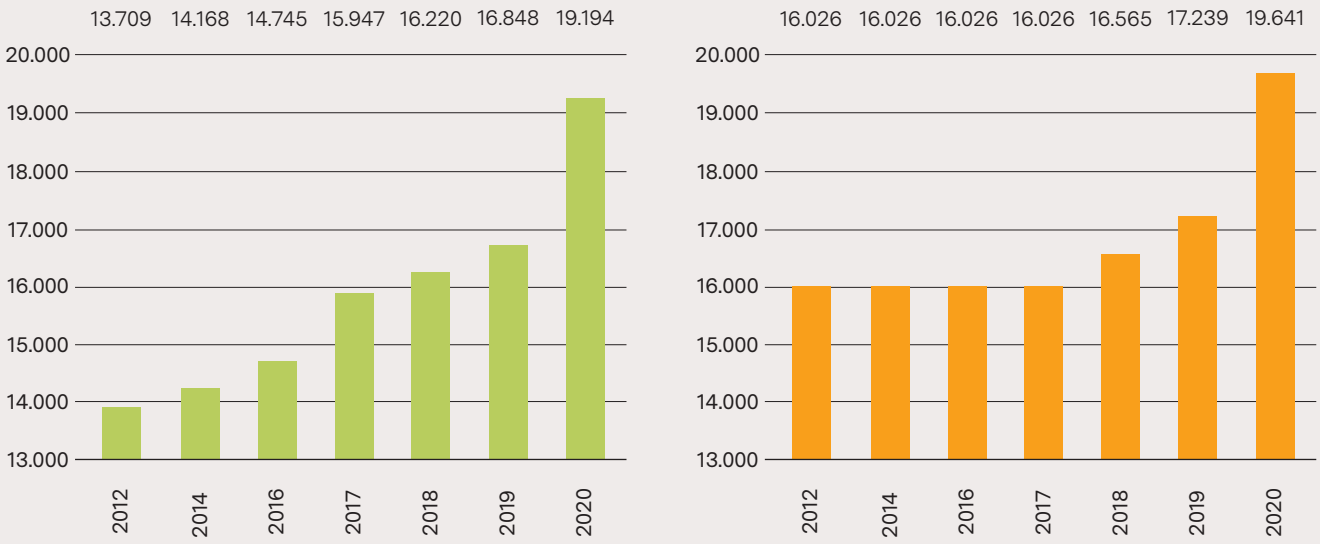
Spaces

The Park has over 33,600 m² in office and laboratory space for its users.

Change in use of office spaces
(m² net floor area)



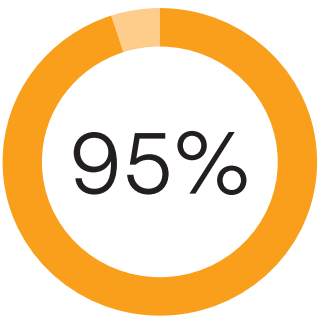
Change in use of laboratory spaces
(m² net floor area)



occupancy of
available spaces

Rise in lab occupancy

Despite the pandemic, the Park saw an increase in occupancy of lab spaces in 2020 thanks to companies like Qiagen, Algaktiv, LeanBioPro, Italpollina and Embryotools, which have chosen to grow and furnish spaces at the Park. So, the Park finished the year with 98% occupancy of its furnished lab spaces available to organisations.

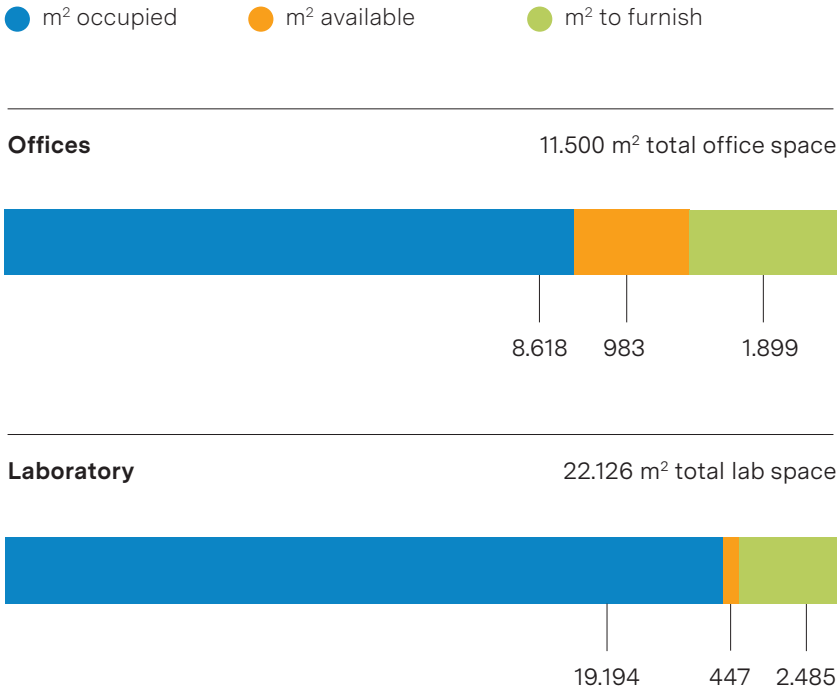


Occupancy of
furnished spaces

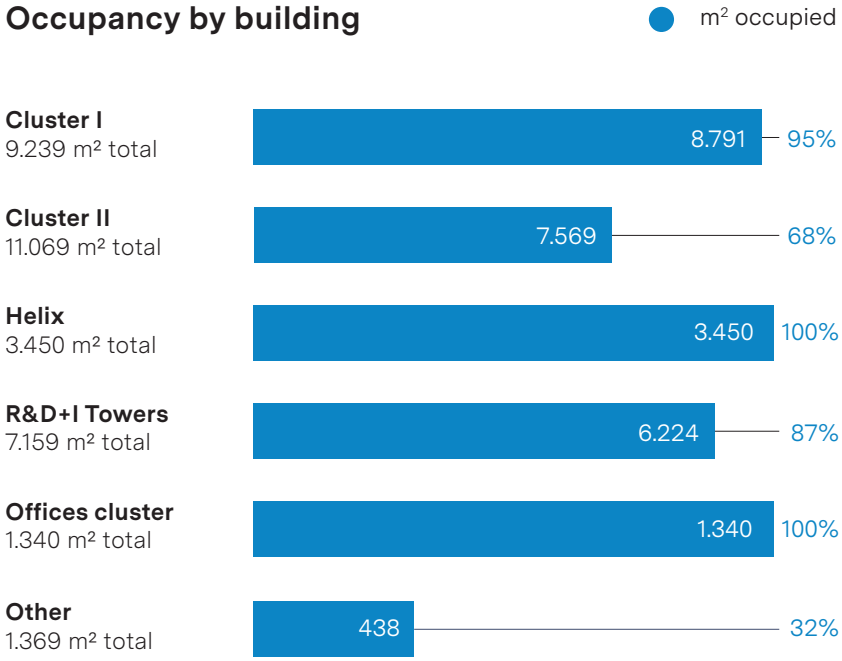
Stabilisation of office occupancy

On the other hand, office-space occupancy has stabilised, with 90% of the furnished offices spaces occupied and 983 m² available in the Towers.

Current occupancy and growth spaces



Occupancy by building



Furnishing spaces

In 2020, a total of 2,945 m² of lab and office spaces were furnished, up 11%. This growth was possible thanks to investment made by the companies located there, which has grown, and the Park's investments to furnish new offices in Cluster II. An estimated total of €4.3 million was invested in works and furnishing at the Park in 2020.

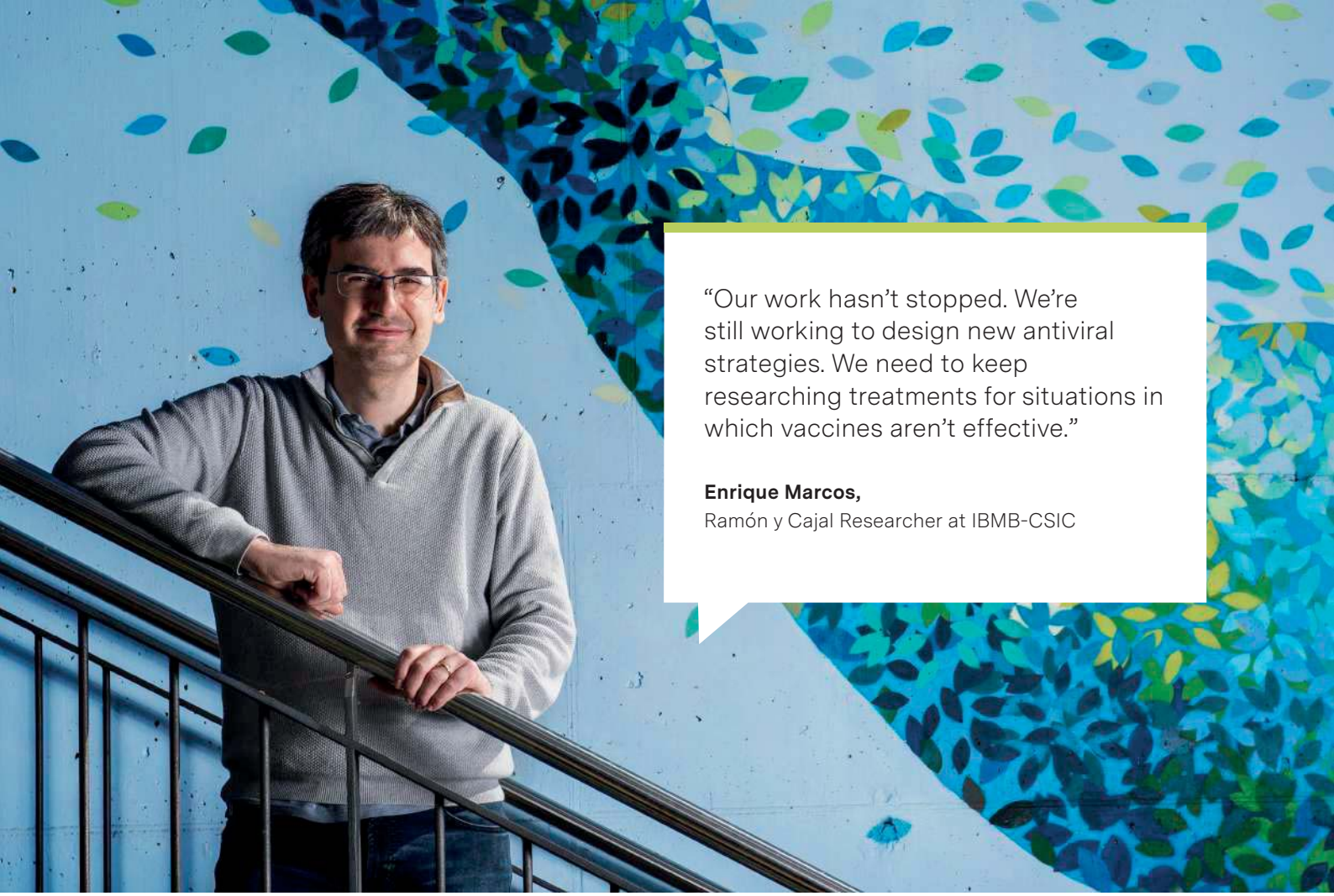
Despite this growth, the Park still has unfurnished laboratories spaces available (2,485 m²) in the Cluster II building and office space (1,899 m²) in other buildings.

Park opens **PCBeach**, a new open space for its community

The Park opened the PCBeach courtyard, a new open space for all PCB community users. The PCBeach area is located in one of the courtyards in the Cluster II building, next to Carrer Baldiri Reixac.

The Park held an art contest to decorate it in May and June with a panel of judges made up of Park representatives, Art Director at Fundació Vila-Casas Àlex Susanna and culture journalist and writer Sergio Vila-Sanjuán. They choose the work titled “Cachalote” (sperm whale) by French artist Christophe Deluz.

The mural of a large whale on a blue background representing the ocean overlooks the space with artificial grass, a pergola to protect users from sun and rain, and tables, chairs and sun loungers. The area is intended to be an oasis of respite outside to eat, rest or socialise with other community members.



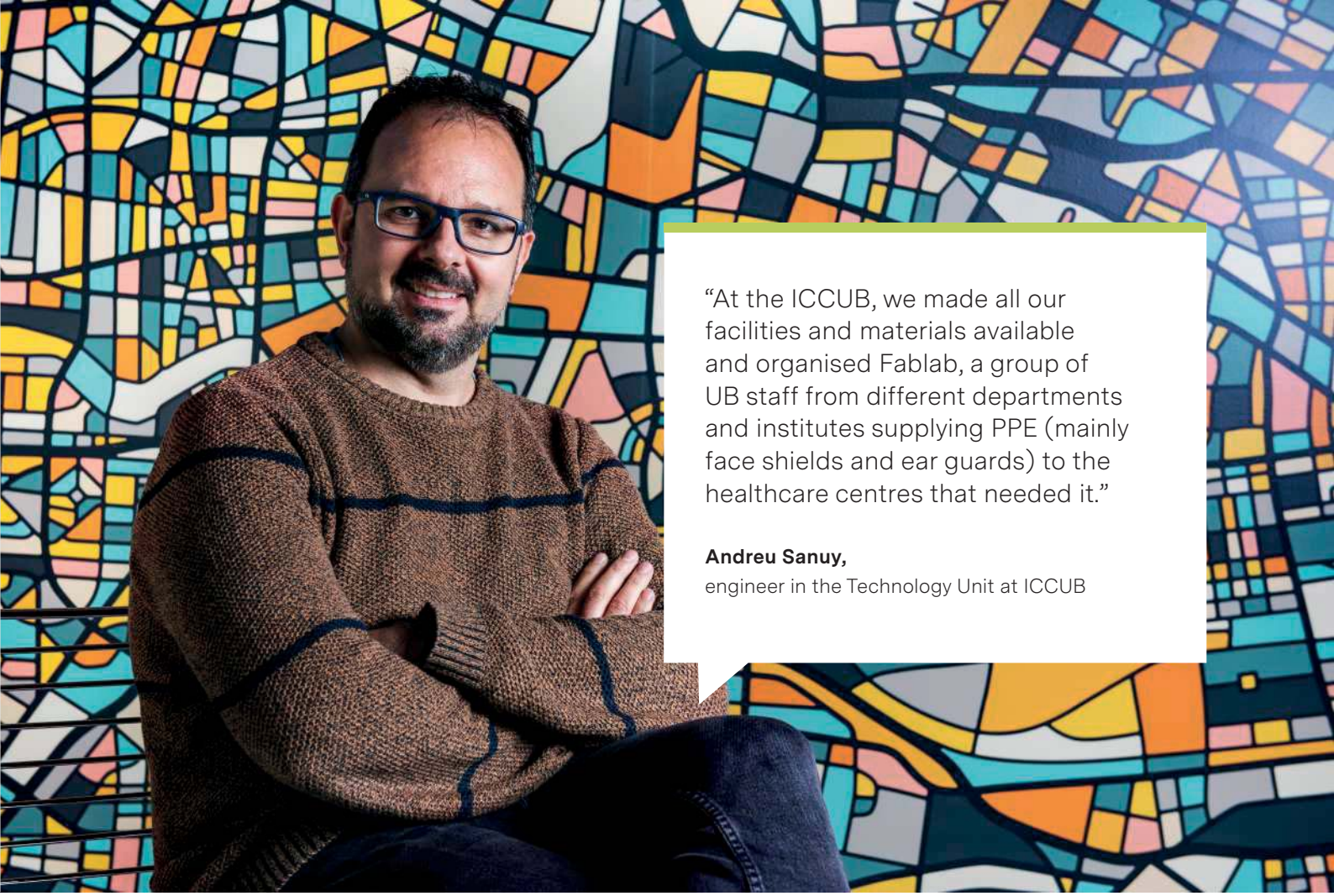
> “Our work hasn’t stopped. We’re still working to design new antiviral strategies. We need to keep researching treatments for situations in which vaccines aren’t effective.”
>
> **Enrique Marcos,**
> Ramón y Cajal Researcher at IBMB-CSIC

Leading a project to test molecules that slow the cytokine storm caused by SARS-CoV-2 and researching computational design of proteins with antiviral action

ibmb
Institut de Biologia Molecular de Barcelona
CSIC

A team of researchers led by Timothy Thomson’s group at the Molecular Biology Institute of Barcelona (IBMB-CSIC) has developed a cell platform that shows the pro-inflammatory cell response to SARS-CoV-2 and its inhibition using drugs in real time. The project has the advantage that all the molecules tested are previously known drugs and compounds, already in use for other clinical indications.

Another team of researchers from IBMB-CSIC, led by Enrique Marcos and Núria Verdaguer, began research focused on “de novo” design of proteins with antiviral action that block the virus from entering the cell. The proteins are designed computationally to mimic the ACE2 receptor in human cells that recognises the virus and therefore stop the viral spike from latching on, which is essential in the first step of the viral cycle. They were then assessed experimentally using biochemistry techniques. The great stability and ease of producing “de novo” proteins is an advantage over monoclonal antibodies, which is particularly relevant for treatments that must be global in scope.



"At the ICCUB, we made all our facilities and materials available and organised Fablab, a group of UB staff from different departments and institutes supplying PPE (mainly face shields and ear guards) to the healthcare centres that needed it."

Andreu Sanuy,
engineer in the Technology Unit at ICCUB

ICCUB | Institut de Ciències del Cosmos
UNIVERSITAT DE BARCELONA

Contributing to production of sanitary materials with 3D printers

The Technology Unit at the Institute of Cosmos Sciences of the University of Barcelona (ICCUB) joined the Fab-Lab UB initiative, one of the many the University of Barcelona community put forth to address the Covid-19 healthcare crisis. Researchers and engineers at the centre took part in the project by designing and testing material with the 3D printer, then assembling and distributing it to the healthcare centres.

Research in Society Programme

Bringing live science to all audiences is the Park's commitment to society through the Research in Society Programme.

The healthcare crisis brought on by Covid-19 and the restrictions imposed as a result have had a direct effect on students and their activities. So, many of the activities this programme collaborates on have been affected as followed:

Activities cancelled:

Live Research Fair, participation in district festivals in Barcelona, Researchers' Night, Yomo and Ideató.

Activities postponed from March:

Discover Research! and Do Research, new edition of "Women who changed the world" exhibition.

Activities adapted to the new measures:

Batx2lab.

New activities:

Online guided tours, Reimagina la Ciència: Assajos clínics, investigació i medicaments! and Imagine Express 2020.

The Park took advantage of the pandemic to kick off new online activities, addressing the huge demand from educational centres.

>3.500
PARTICIPANTS EACH YEAR

10-18
YEARS OLD

19 YEARS PROMOTING VOCATION IN SCIENCE

New in 2020!

Online guided tours of the Barcelona Science Park

This initiative was created under the slogan "Una bona sortida per a temps poc presencials!" (a good option for virtual times), offering a dramatised tour of the Park facilities and equipment streamed live for students from Year 7 through Baccalaureate. A tour of the 100,000 m2 that gave participants a close-up look at the research being done by Park organisations.

The tour, adapted to the school curriculum, was an immersive, participative experience based on the scientific method, with 6 stops along the route of the Park Scientific Services explaining how potential structures for new drugs are identified and the stakeholders involved: What is an active ingredient? How do you work with cell cultures inside and out of living organisms? How and where are samples stored? What role do microscopes play? and How is research conducted with flies? Between the stops, the Big Van Ciencia group performed funny routines on science and asked participants questions about the topics they had just covered. The students responded and asked their own via social media.

53 EDUCATIONAL CENTRES

1.884 PARTICIPATING STUDENTS

Workshops

Identifying a murderer using DNA analysis or understanding diabetes, Alzheimer or arteriosclerosis through experimental workshops at the Park is one of the programme's goals. Working researchers welcome schools to the Park every week, giving them a tour of the facilities and conducting one of the science workshops. At the Park, students and teachers get access to scientific equipment that is hard to find at educational centres and the unique experience of meeting science staff.

Discover Research!
Year 5 and 6 students

484 Students

18 Teachers

9 Educational centres

18 Activities

2 Workshop themes

Do Research
Secondary, Baccalaureate and Vocational Training students

747 Students

92 Teachers

39 Educational centres

25 Activities

7 Workshop themes

BATX2LAB

The Park hosted 1st year Baccalaureate students who have to start their Research Project (RP). The students carried out the practical part of their RP in the laboratories of organisations at the Park under the supervision of Park community researchers.

- 17th year
- Students in 1st year of Baccalaureate

Laia Marcos Cañal, BATX2LAB programme participant, gets top marks on university entrance exams in Barcelona

Laia Marcos, a participant in the 2020 BATX2LAB programme, got one of the highest marks on university entrance exams in the city of Barcelona. With a mark of 13.96, Laia can study Medicine, which was her first choice. According to Laia, who did her practical RP with IBEC, "Taking part in the BATX-2LAB programme was very interesting because you get to be in a real lab, work alongside and watch how the research staff there works, and get a first-hand look at where the world of science is headed."

40 tutored research projects

30 girls

10 boys

24 research staff

11 women

8 men

New in 2020!

Reimagina la Ciència: Assajos clínics, investigació i medicaments!

With Novartis Farmacéutica and Big Van Ciencia, the Park launched the Reimagina la Ciència programme, which aims to help teachers include concepts related to clinical trials in the classroom through e-learning tools. Geared towards students from year 9 through Baccalaureate, the project trained teachers on the importance of clinical trials and refuted the false myths, highlighting the need for society to take part in these studies for drug development. The purpose is for teachers, after they've been trained, to share the concepts in the classroom and for students to create their own story in an artistic video to show what they've learned.

The programme was offered in three modules:

Module 1: Information on e-learning tools for education like co-designing multimedia contents, virtual blackboards, screen recording, video editing and student assessment.

Module 2: Training on what clinical trials are, how they work and the factors and players involve, with materials and dynamics to use in the classroom.

Module 3: Training on how to make videos.

The panel of judges included clinical research professionals from Novartis Farmacéutica, communication specialists and experts in performance arts. They selected 15 finalists and 5 of them were invited to take part in the Big Van Ciencia performance streamed live from the Park's Antoni Caparrós Auditorium in January 2021.

81	316	82
TEACHERS ENROLLED	PARTICIPATING STUDENTS	VIDEOS RECEIVED

"Women who changed the world" exhibition:

The Park took the "Women who changed the world" exhibition on a tour of Barcelona's schools. It comes from the "Science and Technology in Feminine" project sponsored by the Association of Science and Technology Parks of Spain (APTE).

A selection of 10 roll-ups showcases 19 women who over the course of history have experienced a range of circumstances and situations due to their interest in and dedication to research.

The exhibition spent one week at each educational centre, where the students carried out various tasks using a practical guide and other activities related to gender issues.

This year the exhibition was also at the University of Barcelona Food and Nutrition Torribera Campus for one month.

5	1	1800
EDUCATIONAL CENTRES	UNIVERSITY CAMPUS	STUDENTS ESTIMATED VISITS(1)

(1) Visitors not included in the total number of programme participants

iFest Countdown, Government of Catalonia

How to foster scientific vocation among young people was the challenge the Park set for iFest, an initiative geared towards students at educational centres around Catalonia. The proposal consisted in an activity to boost interest in science among secondary and baccalaureate students, as part of the curriculum, which took place at the PCB or online.

The goal of this challenge was to give secondary students a closer look at the health and life sciences today, foster innovation in teaching experimental sciences, and encourage participants to reflect on the associated ethical, legal and social issues to help guide students in choosing an academic and professional path in STEM.

iFest 2020-21 is an initiative of the Government of Catalonia led by Catalunya Emprèn that over 1,100 students from more than 60 educational centres took part in. It will be completed in 2021.

Collaborations

- **Exporecerca Jove:** Organizers: Magma
- **Bayer:** Cuestión de Ciencia 2.0

Our thanks to all our partners:

Our thanks for the financial support of:

"The Orfeu programme was an extraordinary challenge for the PCB institutions involved. Over 65 people volunteered their time, the PCB opened up its facilities and companies like Almirall, Esteve and Eppendorf provided small but essential equipment. When it started, Orfeu ran like a little Swiss watch."

Jorge Domínguez, Scientific Management Coordinator/Head of Competitive Funding & International Promotion at IRB

Several lines and projects under way to fight the virus from different angles: research, diagnostic methods, treatments, therapies and vaccines.

INSTITUTE FOR RESEARCH IN BIOMEDICINE

IRB BARCELONA

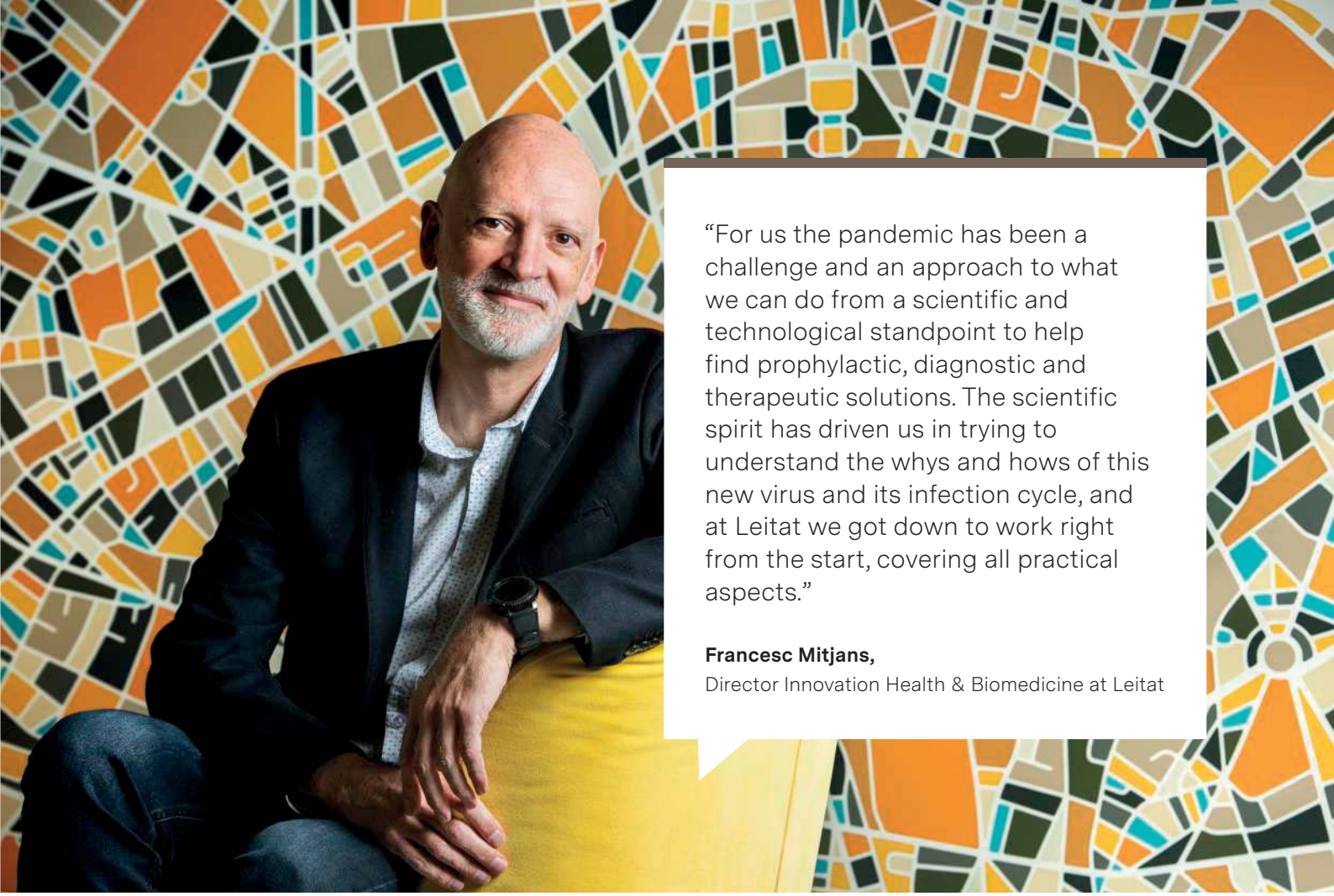
The Structural Bioinformatics and Network Biology Laboratory at IRB Barcelona joined forces with Amazon Search Science & AI Group in April to develop a computational tool that uses artificial intelligence to generate a database, open to researchers all over the world, that is able to incorporate all published results on treating SARS-CoV-2. The same lab also took part in the European RiPCoN project to identify drugs (already on the market or in testing) that could modulate its activity and slow viral replication.

The Molecular Modelling and Bioinformatics Laboratory launched a project to find new molecules of therapeutic interest that can keep the virus from entering the body.

The Biomedical Genomics Laboratory kicked off its participation in the COVARNA project for a new generation of mRNA vaccines or viruses modified to fight SARS-CoV-2 and other related coronaviruses.

IRB Barcelona also took on other projects related to Covid-19, such as developing a quick, easy diagnostic method to detect the virus; a spray treatment; and a treatment to combat the main cause of death: acute respiratory distress syndrome.

Furthermore, the centre adapted its facilities and activities to support the health system by doing PCR testing under the Orfeu Programme for mass SARS-CoV-2 testing.



"For us the pandemic has been a challenge and an approach to what we can do from a scientific and technological standpoint to help find prophylactic, diagnostic and therapeutic solutions. The scientific spirit has driven us in trying to understand the whys and hows of this new virus and its infection cycle, and at Leitat we got down to work right from the start, covering all practical aspects."

Francesc Mitjans,
Director Innovation Health & Biomedicine at Leitat

LEITAT
managing technologies

Making phage display libraries from infected patients to develop therapeutic antibodies for SARS-CoV-2

Leitat-Salut, in collaboration with other research centres, promoted an initiative based on cloning the immune system of patients who have had SARS-CoV-2 and have therefore developed immunity to the infection. The project was conducted using peripheral blood mononuclear cells to put together an antibody library from which to quickly and effectively select the best for therapy and diagnosis.

The ecosystem

The Park Community is made up of over 2,900 researchers, technicians, entrepreneurs and businesspeople in a total of 117 organisations. These professionals mainly work in the health sector: pharmaceutics, biotechnology, medical devices, nutrition and cosmetics.

117 ORGANISATIONS AT THE PARK

6 RESEARCH CENTRES

92 COMPANIES

spin-offs, start-ups, SMEs, large national and multinational corporations

12 NON-PROFIT ORGANISATIONS

foundations, business associations, patients associations and technology centres

7 UNIVERSITY OF BARCELONA GROUPS, UNITS AND SERVICES

6 research centres

- **Institute for Research in Biomedicine** (IRB Barcelona)), created in 2005 and located at the Park from the very beginning. It has 27 research groups and over 380 research staff.
- **Institute for Bioengineering of Catalonia** (IBEC), established in 2005 and based at the Park from the beginning, carries out multidisciplinary research of excellence on the frontiers of engineering and the life sciences to generate knowledge and help solve health issues. It has 22 research groups and over 320 research staff.
- **Molecular Biology Institute of Barcelona** (IBMB-CSIC), created in 1998 and located at the Park since 2003. It has 27 research groups and over 150 research staff.
- **National Centre for Genomic Analysis** (CNAG-CRG), created in 2009 and located at the Park from the very beginning. It has a sequencing unit and a bioinformatics unit, plus 7 research groups doing genomic analysis projects. Over 80 research staff in total.
- Research groups from the **University of Barcelona** and the I**nstitute of Cosmos Sciences of the University of Barcelon**a (ICCUB).
- Rheumatology Research Group is a research group of the **Vall d'Hebron Research Institute** (VHIR).

There are five research centres at the Park. One of them is run by the Spanish National Research Council (IBMB-CSIC), four are part of the CERCA Institute (IRB Barcelona, IBEC, CNAG-CRG and VHIR) and three (IRB Barcelona, IBEC and CNAG-CRG) are members of the Barcelona Institute of Science and Technology (BIST) initiative that brings together the centres of excellence in Catalonia.

Two of the research centres are also accredited Severo Ochoa centres of excellence (IRB Barcelona and IBEC), of the thirteen centres in Catalonia working in the life and health sciences.

Finally, VHIR has been accredited as a Healthcare Research Institute by the Carlos III Health Institute (ISCIII).

New additions

ALGAKTIV · deepull · Longevity Institute · BHV partners · oxolife · eurofins | MEGALAB · JARKOV 2030 · gatbio · GATE2BRAIN · Pharmacelera · B'ZEOS GREEN TECH · NBD NOSTRUM BIODISCOVERY · CONNECTA · HERRINGTON RESEARCH · naturethic · oloBion

Companies at the Park

AELIX THERAPEUTICS · AGUETTANT · ÁlamoConsulting · ALTHEA · aromics · ARCADIA ANALÍTICA · Dan*nD artificial nature · AVINENT · bicosome · bioingenium · BIOLIQUID · bionure · UNIMED · CIRCE Crystal Engineering · Chemotargets · COMPLIFE · CYTES · BioLab · DROPLITE · embryotools · enantia · ENDOR TECHNOLOGIES · ENLIGHTING TECHNOLOGIES · EQA · clínica eugin · Farmaprojects · GAIN THERAPEUTICS · GalChimia · gattx THERAPEUTICS · GENESIS Biomed · GIRÓ | MARTÍNEZ · Global Remediation · GlyCardial Diagnostics · Greenaltech · HIPRA · HOFFMANN EITLE MADRID | BARCELONA · idpharma · infinitec · ngalab · IVFtech for the next generation · ORDESA GROUP · Leanbio Pro · thepapermill · METEO SIM · BAULA · MOIRAI BIODESIGN · MOLOMICS · NBS NEWBORN SOLUTIONS · Nutra essential OTC · OilFlux · ONA THERAPEUTICS · ONCOHEROES BIOSCIENCES · Pharma Mar · ProteoDesign · senolytx · SiTec PharmaBio · SOM BIOTECH · STAT Dx Closer to Care · Syna Therapeutics · Vesismin Health Preventing Infections · XENOPAT

Research Centres

IBEC Institute for Bioengineering of Catalonia

ibmb Institut de Biologia Molecular de Barcelona CSIC

ICCUB Institut de Ciències del Cosmos UNIVERSITAT DE BARCELONA

cnag centre nacional d'anàlisi genòmica CRG Centre for Genomic Regulation

Vall d'Hebron Institut de Recerca VHIR

IRB BARCELONA INSTITUTE FOR RESEARCH IN BIOMEDICINE

Non-profit organisations

LEITAT managing technologies

eit Health

CataloniaBio & HealthTech Connecting companies

ACER Associació Catalana d'Entitats de Recerca

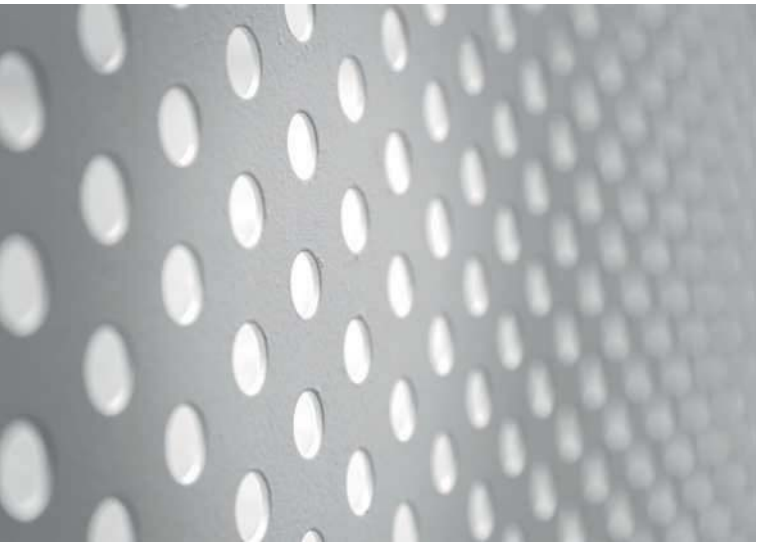
biocat

DTI

FUNDACIÓ FCBARCELONA

IEB Institut d'Economia de Barcelona

FUNDACIÓ GAEM MS Research Grup d'Afectats d'Esclerosi Múltiple



University of Barcelona Groups, Units and Services

CCiTUB Centres Científics i Tecnològics UNIVERSITAT DE BARCELONA

Bosch i Gimpera UNIVERSITAT DE BARCELONA

IBUB Institut de Biomedicina de la Universitat de Barcelona

UNIVERSITAT DE BARCELONA Biotecnologia Microbiana i Interacció Hoste-Patogen

UNIVERSITAT DE BARCELONA Immunologia Traslacional

UNIVERSITAT DE BARCELONA Regulació de l'Expressió Gènica / Biologia del Macròfag

UNIVERSITAT DE BARCELONA RMN de Biomolècules

Associated Companies

New additions:

accuretherapeutics A journey of discovery

EVERAI MEDICAL TECHNOLOGIES

Instituto Empresarial de Biotecnología BioSeed Capital

Mosai Biomedicals

Ninevah

oloBion

seriTECH

Associated Organisations:

arian international

AVX PHARMA

BRUKER

eurofins

PangaeaBiotech s.a.

Pharmaphenix

Recipharm

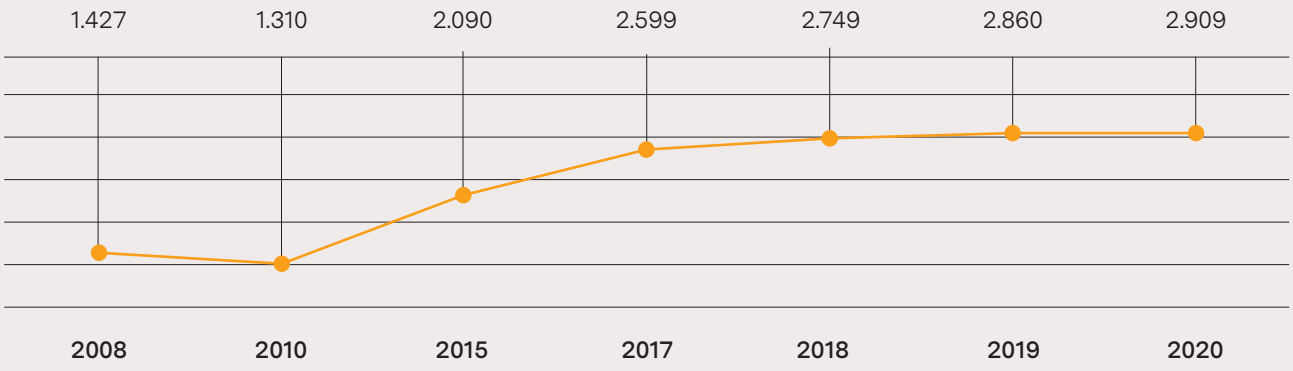
WHOLE GENIX

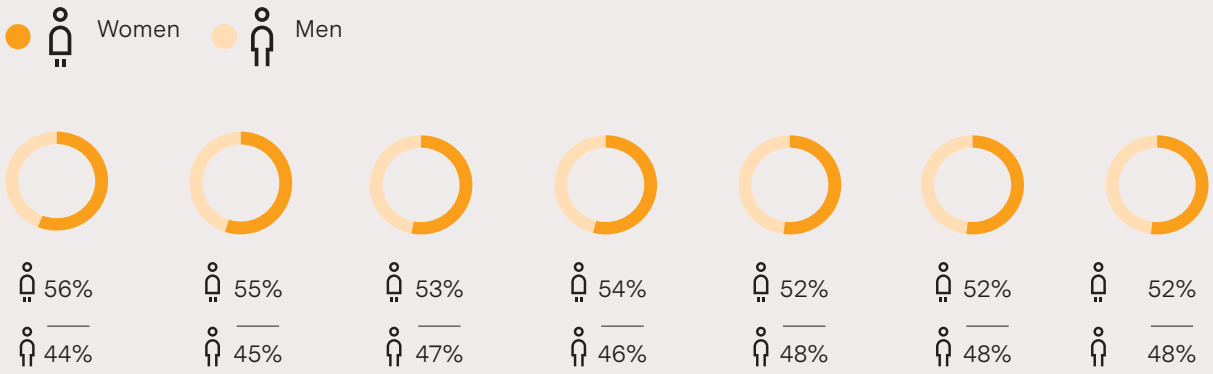
Evolution of the Park Community

30.800
VISITS PER YEAR

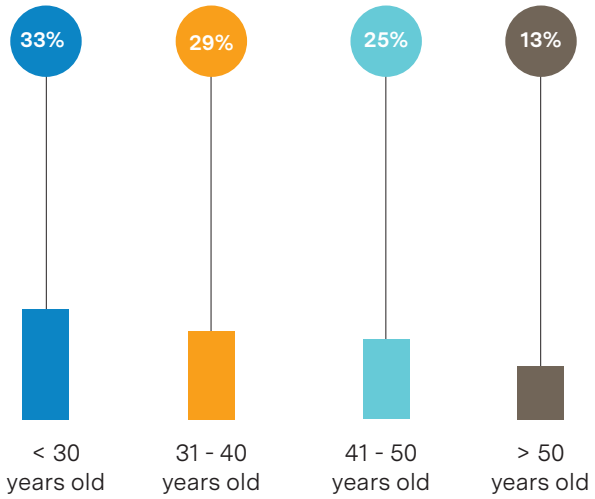
The Park Community is stable at roughly 3,000 professionals, with a well-balanced gender ratio, average age of 37 years old and 18% international users from 59 different nationalities.

Evolution of the Park Community





Demographic data on age, gender and sectors



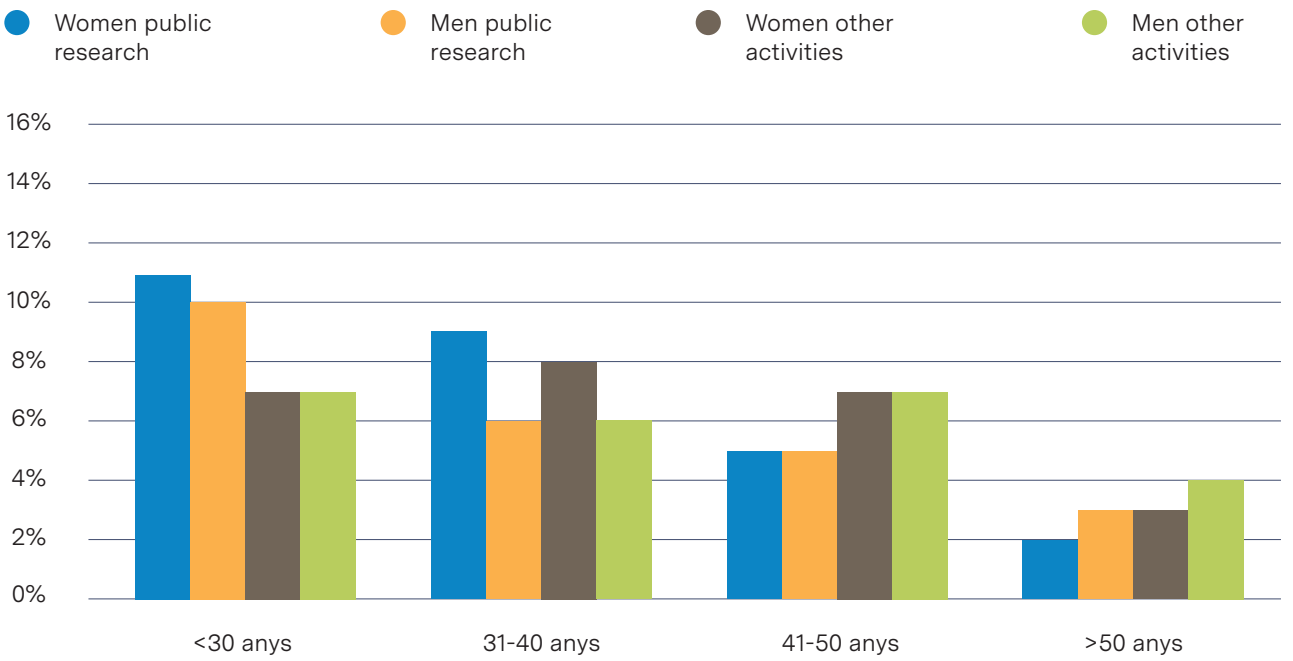
Average age 37 years old

(36 years old women, 38 years old men)

The average age in the Park is 37. The largest age group is the under-30s (33%), dropping gradually to just 13% for over-50s. At the research centres, the proportion of staff under 30 to staff over 50 is very high compared to the private sector. In the private sector, this decrease in senior positions compared to junior ones is more pronounced.

In terms of gender, the population is very balanced with 52% women and 48% men. It has remained stable over the past 13 years. Compared to the data for 2019, the gender ratio has also become more balanced in the various age groups and sectors.

Age distribution by gender and public research sector[1] and other activities at the Park[2]



(1) Public research includes: IRB Barcelona, IBEC, IBMB-CSIC, CNAG-CRG, Vall d'Hebron, University of Barcelona research groups and the CCiTUB. (2) Other: all other organisations at the Park

59 Nationalities

82%
Spain

10%
EU (excluding Spain)

8%
Other

Top 5 Nationalities

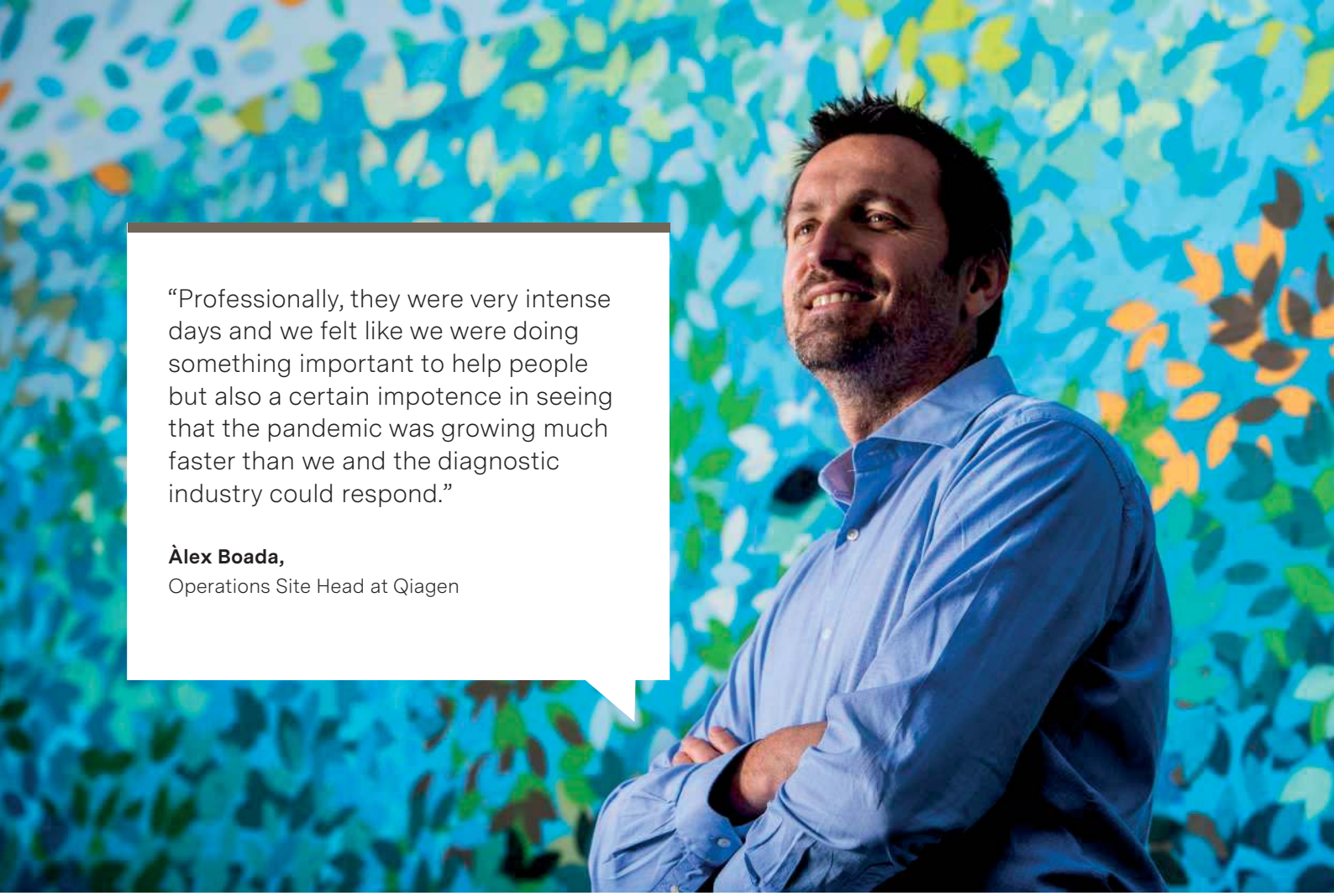
Italy

Germany

France

Portugal

India



"Professionally, they were very intense days and we felt like we were doing something important to help people but also a certain impotence in seeing that the pandemic was growing much faster than we and the diagnostic industry could respond."

Àlex Boada,
Operations Site Head at Qiagen

Creating a quick Covid-19 diagnostic kit and opening a manufacturing node to distribute them worldwide

In 2020, Dutch group Qiagen inaugurated new facilities at the Park, doubling its capacity to develop and manufacture diagnostic tests for Covid-19 used in laboratories and hospitals all over the world.

Qiagen's QIAstat-Dx technology was initially developed by Stat-Dx (DiagCORE), a company incubated at the Park which, after significant growth, was acquired by the Dutch group in 2018. With the help of professionals all over the world, Qiagen was able to quickly adapt the technology, which wasn't initially meant to detect SARS-CoV-2, to create a quick, accessible PCR diagnostic kit to meet the huge global demand due to Covid-19: the QIAstat-Dx Respiratory SARS-CoV-2 Panel. In mid-2020, they obtained CE certification and FDA authorisation for use in the United States.

It is a PCR molecular diagnostic system that can be used by any healthcare professional and differentiates between SARS-CoV-2 and 21 other bacterial and viral respiratory pathogens in approximately one hour. This means samples don't have to be sent outside of the patient's primary care centre and it therefore considerably accelerates diagnosis, treatment and isolation.

"With the healthcare emergency, we knew that our technology could help identify a safe, effective drug quickly. We didn't hesitate. We began working to identify and validate drugs in silico and in vitro and were able to identify three drugs with high levels of efficacy and safety in just four months. In October 2020, we presented the results of the most promising drug, eravacycline, to the scientific community."

Núria Reig, Head of Research and Development at SOM BIOTECH

SOM BIOTECH
The Drug Repurposing Company

Identifying three possible drug candidates to treat SARS-CoV-2 infections and planning Phase 2 clinical trials for one of them

SOM Biotech identified and validated three Covid-19 drugs in vitro, with the Ewha Womans University, using its SOM^{AI}PRO technology based on artificial intelligence. This computational technology made it possible to analyse a database of drugs in the clinical phase to find inhibitors of the 3CL protease in SARS-CoV-2, an essential protein that allows coronaviruses to infect and replicate in host cells.

In August, the company was granted €340,000 from the CDTI to begin clinical trials with eravacycline, the most promising of the three drug candidates. Eravacycline is an antibiotic, in the tetracycline family, which inhibits the main protease in SARS-CoV-2 and, therefore, stops the virus from replicating after it has infected humans.

In November, SOM Biotech identified eravacycline as an effective treatment for SARS-CoV-2. In vitro experiments confirmed a covalent bond in the catalytic domain of the 3CL protease of SARS-CoV-2, inhibiting infection without showing toxicity. The studies also showed that it inhibits the 3CL proteases of other related coronaviruses, such as SARS-CoV and MERS-CoV, which suggests the drug could be repositioned for the treatment of beta-coronavirus infections.

The Park Community in the media

Below is a selection of the main impacts of organisations at the Park in the media in 2020. You can find the whole list of media appearances in the News section of the Park website.

Recerca biomèdica

Cavalls de Troia vs. VIH

AVENÇOS · L'empresa emergent Aelix Therapeutics, amb seu a Barcelona, prova en un centenar de pacients la vacuna que ha desenvolupat MISSIÓ · Pretén potenciar el sistema immune de les persones amb el virus de la immunodeficiència humana perquè puguin destruir les cèl·lules infectades FONS · La firma ha captat, fins al moment, 11,5 milions d'euros de finançament

SALUD La tecnología patentada de la catalana Molomics integra la inteligencia humana colectiva con la artificial para acelerar y mejorar la calidad de los compuestos contra esta enfermedad neurodegenerativa

El 'cíborg' contra el párkinson que seduce a la Michael J. Fox

Moléculas contra movimientos involuntarios

Emergència econòmica

La fotònica, nova eina per detectar el coronavirus

Droplite obre una ronda per fabricar un dispositiu intel·ligent

L'aparell permet analitzar en minuts la taxa de fertilitat, causes d'al·lèrgies i infeccions com la malària

Esteve i Leitat s'uneixen per crear un centre de recerca biomèdica

La farmacèutica Esteve i el centre tecnològic Leitat van acordar ahir crear un equipament per acollir noves iniciatives de recerca en l'àmbit biomèdic (en argot empresarial, una incubadora o acceleradora). El centre, que es dirà WeLab, comptarà amb professionals d'Esteve experts en el descobriment de noves entitats moleculars. La farmacèutica també cedirà la seva infraestructura del Parc Científic de Barcelona al nou projecte. Segons un comunicat conjunt, el projecte permetrà a Esteve "reforçar l'experiència i els coneixements del seu equip humà per seguir desenvolupant la seva cartera de R+D". Esteve, detalla el comunicat, tindrà "via directa i preferencial a la innovació i les tecnologies més avançades" a través de la xarxa de Leitat. La farmacèutica, a més, es reserva la presidència de la comissió estratègica de la futura incubadora i no ha cedit els seus drets sobre les molècules patentades. El centre es posarà en marxa l'1 d'agost. La consellera d'Empresa i Coneixement de la Generalitat, Àngels Chacón, va afirmar ahir que l'acord contribuirà a "reforçar el posicionament internacional de Catalunya" en el sector biomèdic.

Ysios lidera la segona ronda amb Asabys i Caixa Capital Risc

Gasolina per a Splice Bio

Amb seu al Parc Científic i 7 empleats, busca tractaments per a malalties minoritàries sense cura

Alta LS impulsa Accure Therapeutics tras integrar a Bionure e Iproteos

Genesis Biomed eleva su fondo hasta 2,5 millones de euros

BIOTECNOLOGÍA / El primer vehículo inversor de la consultora ha realizado ya doce operaciones por un millón de euros.

Oncoheroes capta un millón de dólares

La *start up* norteamericana Oncoheroes, fundada por el emprendedor catalán Ricardo García, ha captado un millón de dólares del fondo Dreamers Startup Ventures. La compañía con sede en Boston se encuentra en medio de una ronda de financiación de cinco millones de dólares con el objetivo de desarrollar medicamentos para cáncer pediátrico. P4

La 'start up' tiene en marcha una ronda de financiación de cinco millones

La inversión en empresas del ámbito salud crece un 3%

Los expertos prevén alcanzar una cifra récord por el creciente interés del sector

L'empresa ha fet néixer el primer poltre a Espanya amb una tècnica d'eficiència reproductiva

Crea Veterinaris fa un pas més en la millora genètica de cavalls d'elit

Tarradell

D.A.

Fa tres anys, Crea Veterinaris, de Tarradell, va innovar amb una tècnica d'inseminació artificial per congelar embrions després de fertilitzar una euga i transferir-los després a una euga de lloguer. Així ja van néixer alguns exemplars de poltre que es milloraven genèticament. Ara, l'empresa ha fet un pas més perquè "ens trobàvem que alguns no aguantaven", explica el responsable de l'empresa, Guillem Formiguera, que també és criador de cavalls, i l'ha fet amb la participació del laboratori Embryotools, amb seu al Parc Científic de Barcelona i pioner en reproducció humana i animal. Es tracta de la combinació de dues tècniques de fecundació in vitro que milloren la fertilitat i permeten la preservació genètica d'animals d'elit. I és que l'objectiu, explica Formiguera, és acumular milers exemplars per als criadors "ja sigui per a cavalls de tir, per a concursos morfològics o per a les diferents disciplines esportives". En el fons, és el que "sempre han buscat els criadors, la millora genètica". Amb aquesta tècnica es pot, per exemple, utilitzar reproductors de semen de semental "que no hi són i per tant és escàs". Amb la nova tècnica es treu més rendiment a aquest material genètic.

D'una banda, es fa servir la tècnica OPU, d'aspiració fol·licular, i la ICSI, que és la injecció intracitoplasmàtica d'espermatozoides. Així vol dir que es treu l'òvul de l'eu-

L'equip de Crea, amb l'euga i el poltre. Són els veterinaris Guillem Formiguera, Lua Domènech, Sara Valls, Marta Rovira i l'auxiliareva assistència Agustina Peñalba

ga amb aquesta tècnica, guiada per una ecografia "que no és sensible, ja que tot i que l'euga resistirà bé el procediment cal molt entrenament i veterinaris amb experiència". I per això s'han format a Crea i és on fan aquesta feina. Així superen un primer escull ja que moltes eugues no responen als tractaments de superovulació i no permet obtenir òvuls madurs. Després, aquests òvuls entrenament amb el semen van al laboratori d'Embryotools, on agiliquen la tècnica d'ICSI (Que funciona des de l'any 1992 per als homes amb problemes de fertilitat). Allà i per l'especificitat de l'oòcit equi han modificat el procediment tant servir un sistema de microinjecció en què es "trien els espermatozoides que es veuen més eixerits", que s'injecten als òvuls que després de vuit dies hagin madurat. "No tots ho fan i no tots acaben en embrió", diu Formiguera. En el cas del poltre que ha nascut es van inseminar tres òvuls. "Un no va resistir, un el va perdre la nacat i un altre naixerà pel setembre".

Ara, amb el sistema validat i que dona més garanties d'èxit, l'empresa ja l'ofereix comercialment als seus clients. El sistema permet obtenir resultats "amb eugues amb problemes de fertilitat" i els "cicles reproductius es poden estendre a moments en els quals les eugues no tenen un cicle regular, a més de guardar, congelats, els embrions", segons explica Sara Valls, zoòmetotrea a Crea. Aquesta tècnica es pot fer amb exemplars de tot el món sense necessitat de traslladar-los, diu Formiguera.

Pioners des de fa 25 anys

Tarradell El veterinari Guillem Formiguera va aprendre i treballar a Anglaterra, els Estats Units i l'Argentina abans de dedicar-se a la millora genètica dels cavalls. Amb un equip de cinc veterinaris, Crea Veterinaris i han convertit en els especialistes en reproducció assistida equina en una comarca que acull bona part dels criadors equins de Catalunya, sobretot per a l'anàlisis esportives. "Tot està connectat", diu Formiguera. El 70% dels seus clients són a Catalunya; prop d'un 25%, d'altres punts d'Espanya, i la resta, de països europeus.

L'equip de Chemotargets, amb el doctor Jordi Mestres, conseller delegat, a la dreta

Chemotargets gira del software a la biotecnologia

La firma obre una ronda per captar fins a 15 milions d'euros

ROSA SALVADOR
Barcelona

Chemotargets, una empresa de farmacologia computacional nascuda a partir de l'IMIM-Institut d'Investigació Hospital del Mar, ha obert una nova ronda de finançament per passar de ser una empresa de software a una biotec.

Jordi Mestres, fundador i conseller delegat de l'empresa, assenyala que la firma preveu captar entre 5 i 15 milions d'euros. "Fem una empresa rendible i mantindrem l'actitud de llançar al nostre programa a la indústria farmacèutica i a reguladors, com la FDA, però volem ampliar el negoci com a prestadors de serveis a institucions investigadores i desenvolupant la nostra pròpia cartera de nous fàrmacs", afegeix.

Mestres explica que Clemotargets ha desenvolupat un programa capaç de fer previsions i construir models de predicció de l'activitat de milions de petites molècules contra milers de proteïnes. Una de les aplicacions d'aquesta tecnologia és la de poder anticipar els possibles efectes no desitjats d'una substància amb acció farmacològica, la qual cosa permet descartar-la per més eficient.

Chemotargets, fundada el 2006, va realitzar una primera ronda de finançament el 2017 que va dotar centrada a Proxis Institute, amb el 42% del capital. "La seva aportació ens va permetre escalar la compa-

> **L'empresa quintuplica les vendes en tres anys a clients de la indústria farmacèutica i fins i tot la FDA, i ja és rendible**

nyia: de ser quatre persones vam passar a ser-ne dotze i hem quintuplicat la facturació", explica Mestres assenyala que l'any més important de l'empresa són la seva vintena de clients, entre els quals hi ha grans multinacionals farmacèutiques com ara Glaxo, Sanofi o Takeda, "que any rere any renoven la llicència del nostre software: perquè els fa útil". Chemotargets va facturar l'any passat 0,8 milions d'euros amb un ebitda del 15%, sense endeutament.

Larios explica que el cas més viable a l'equip directiu. Mestres, que és també coordinador de farmacologia de sistemes del Grup de Recerca en Informàtica Biomèdica de l'IMIM-UPF, passarà a ser director científic de la companyia, que incorporarà un conseller delegat provinent de la indústria farmacèutica. "El nostre propòsit és ser una empresa biotecnològica que desenvoluparà noves fàrmacs, en múltiples àrees terapèutiques, amb un focus inicial en oncologia". La firma realitzarà l'interessament la primera fase del desenvolupament dels nous fàrmacs, i preveu crear spin-off amb inversors per als projectes més prometedors. "Volem ser una petita fàbrica de biotecs", resumeix.

Mestres considera que la crisi de la Covid-19 pot ser un estímul. "Chemotargets es va crear per resoldre desafiaments biomèdics complexos i ara aportarem els nostres milions euleregs d'investigació en trobar solucions a aquest gran repte", assegura.■

MÓN EMPRESARIAL

Els fundadors de Stat llancen DeepUll per tractar la sèpsia

Alta Life i fons internacionals hi inverteixen 3,5 milions

Jordi Carrera i Rafel Ibru, fundadors de DeepUll, a la sou de la firma en el Parc Científic (PCB)

ROSA SALVADOR
Barcelona

Jordi Carrera i Rafel Ibru, els fundadors de Stat Diagnostics, han llançat un nou projecte anomenat DeepUll, una empresa que se centra en el desenvolupament d'un sistema per al diagnòstic primerenc de la sèpsia. Carrera i Ibru, que van liderar Stat fins que la companyia va ser adquirida per Qiagen per 154 milions d'euros el 2018, van fundar DeepUll el març de l'any passat i han aconseguit tancar una primera ronda, de 3,5 milions d'euros, en la qual participen Alta Life Sciences, l'ICO a través del Fond-ICO Impact que gestiona Acció i els fons internacionals Kfarma Partners i Pentavest 2.

Carrera destaca que després de la sortida de Stat van estar madurant idees per a un nou projecte i van reprendre les idees dels seus 15 anys d'experiència investigadora sobre com detectar antígens a sèrum d'una única cèl·lula.

Rafel Ibru explica que DeepUll es basa a identificar els agressors i precisió els patògens, oferint l'antibiograma en pocques hores, i a gestionar les dades de la situació del pacient per guiar el maneig en el tractament.

"La sèpsia ni una clínica complexa i petits indicis sovint passen desapercebuts fins que la situació del malalt és molt greu i de molt difícil resolució", assenyala Carrera. Per això «estimo que cauen al voltant d'11 milions de morts a l'any,

> **El projecte, pioner al món, donarà feina a 15 persones i preveu dur el sistema diagnòstic al mercat el 2025**

més que el càncer. "El diagnòstic s'aborda de forma fragmentada i no funciona. Nosaltres proposem fer un abordatge global i aplicar-hi la intel·ligència artificial", assegura.

Ibru explica que aquesta sonda d'inversió permetrà validar la tecnologia i produir les primeres unitats que confirmin la rellotia del sistema. L'empresa, que durà feina ara a 6 persones i n'ocuparà unes 15 en aquesta primera fase, espera poder comercialitzar el seu equip diagnòstic el 2025.

Carrera va destacar el proposit de desenvolupar un sistema diagnòstic fiable i clar, pioner al món, i la capacitat de fer-lo, des de l'inici, a Barcelona. "Aquests mesos de projectes normalment es fan als Estats Units. Es important que des de Barcelona puguem impulsar un projecte així, pensant en gran. Quan van llançar Stat, fa només 10 anys, això hauria semblat impensable".

José Mesa, soci d'Alta Life Sciences, va assenyalar que la inversió en DeepUll reflecteix la confiança de l'ecosistema de la indústria biotecnològica a Catalunya. "Je tenim equips directius amb experiència, que han protagonitzat casos d'èxit, i que han après a tractar amb inversors i socis tecnològics fins a la venda de la companyia, i això li confereix a tots els efectes un valor afegit molt gran. Per això en un any hem pogut crear una companyia i captar fons internacionals disposats a invertir-hi en un estadi inicial. Hem d'agrair-ne-els, perquè aquesta ronda no donarà cada vegada més en companyies de Barcelona".■

David Prous, Jordi Fàbrega i Josep Prous, fundadors de Connecta, amb Sara Secall (d'Inveready)

Inveready i el CDTI llancen Connecta amb 1,7 milions

La biotec investiga malalties neurològiques

ROSA SALVADOR
Barcelona

La biotec Connecta Therapeutics ha tancat una ronda d'inversió d'1,7 milions d'euros liderada per Inveready i el CDTI, que li permetrà avançar fins als estudis de fase 2 la investigació del seu primer fàrmac, CTH120, un tractament per als pacients amb la síndrome de la X fràgil (SXF).

Jordi Fàbrega, cofundador i director general de la biotec, explica que Connecta és una *spin-off* del Prous Institute for Biomedical Research, una societat que utilitza intel·ligència artificial per identificar molècules que puguin ser actives en malalties neurològiques, del metabolisme o contra el càncer.

Així, el Prous Institute és el primer accionista de la societat, i els seus accionistes Josep i David Prous ho són també a títol individual juntament amb el mateix Fàbrega, que anteriorment va ser director de desenvolupament de negoci a Biocat.

Connecta es va fundar al juliol del 2019, amb seu en el Parc Científic de Barcelona, i l'han arrel Fàbrega i Josep Prous, que han posat en marxa la societat, negociat l'entrada d'accionistes. "La Covid-19 ha endarrerit el projecte", reconeix Fàbrega.

Ahora, serà així. Prous Institute va invertir més d'un milió d'euros a avaluar més de 30 dianes molecular i terapèutiques per identificar el CTH120, amb estudis in vitro i en animals. Ara, Connecta iniciarà els estudis preclínics de toxicolo-

> **La 'spin-off' del Prous Institute començarà la fase clínica d'un fàrmac contra la síndrome de la X fràgil**

gia i seguretat per iniciar el procés regulatori i podrà començar directament la fase 1 en persones sanes, a finals del 2021. "El capital que hem aixecat ens permetrà acabar les primeres proves en pacients", previsiblement el 2024, explica.

En l'ampliació de capital hi participat el CDTI, l'agència d'innovació del Ministeri de Competitivitat, a través del programa Innvierte, destinat a empreses tecnològiques i innovadores. "El nostre propòsit ara és complementar el finançament amb fons competitius no diluïtus", assenyala.

Connecta ha identificat un fàrmac que recuperaria la neuroplasticitat del cervell, una propietat de les cèl·lules que es perd en les persones que pateixen la síndrome de la X fràgil i que provoca discapacitats com ara retard mental, autisme, hiperactivitat i problemes d'aprenentatge. "És una malaltia hereditària, minoritària i òrfena, perquè de moment no hi tractament i només es pal·lien els símptomes", explica Fàbrega. La pèrdida de neuroplasticitat pot ser provocada per altres patologies, com la síndrome de Down, pel que el fàrmac podria tenir en el futur altres indicacions.

Sara Secall, sòcia d'Inveready, explica que aquesta és la vuitena inversió del seu fons Biotech III. "De Connecta ens va agradar la solvència i l'audàcia de l'equip emprenedor, així com els resultats preclínics. El fàrmac apunta a una necessitat clara del mercat i a més té la capacitat d'estendre's a altres trastorns del neurodesenvolupament", afegeix.■

INDUSTRIA La plataforma de la startup catalana Kumux permite a las empresas de iluminación recortar un 50% el coste de sus prototipos

Recetas de luz para reducir el jetlag o el tiempo en el hospital

MARÍA CLIMENT

INNOVADORES

Parte del equipo de Kumux, con sede en el Parc Científic de Barcelona.

Los seres vivos estamos sincronizados con el ciclo de la luz y la oscuridad. Pero, los humanos, especialmente en pandemia, vivimos más dentro que fuera. La luz artificial altera nuestros ritmos circadianos, generando alteraciones médicas como trastornos del sueño, obesidad, diabetes, depresión o trastorno bipolar, entre otros. Sin embargo, a través de una nueva disciplina que se conoce como Biohacking tarda la ciencia ciudadana de las personas, aunque sólo somos pocos son capaces de hacerlo. Y ahí ha encontrado su nicho la catalana Kumux. «Queremos democratizar el conocimiento de la iluminación centrada en las personas», afirma su CTO, Javier Iglesias. Porque «l, este empresa está convencida de que es posible mejorar la salud de la gente a través de la luz artificial.

La startup nació hace cuatro años, a partir de un proyecto del departamento de Física de la Universidad de Barcelona. Dos doctorandos y un estudiante de máster desarrollaron una tecnología de algoritmia para conseguir adaptar el nivel colorimétrico de la luz. Que significa lograr la adjución al mercado y, gracias al fondo Beable Capital, conectarán su conocimiento en un software para todas las empresas de iluminación, «democratizando algo tan complejo como el diseño de espectros».

Su herramienta, en definitiva, permite la creación de «recetas de luz» a partir de su base de datos de más de 1.000 leds (en el mercado actualmente existen unos 10.000). Resulta que el conocimiento de la luz «está en manos de las empresas de led. Las empresas de iluminación pueden acceder a los leds de Kumux y escoger los que mejor se adapten a sus necesidades de colorimetría o eficiencia lumínica hasta la general» sin PCB (circuitos impresos) de leds.

«Reducimos hasta el 50% el coste del prototipado», destaca el CEO e INNOVADORES. Hasta ahora, la única manera posible de hacerlo era mediante "prueba y error", pero esta plataforma permite simular los resultados que se obtendrían sin tener que desarrollar la luminaria.

Uno de los puntos fuertes de su simulación es que incluye factores como el índice de luz, «igual que nos recomiendan llevar una dieta equilibrada o caminar cada día, debemos estar dos horas al día bajo la luz natural», comenta. El problema es que «pasamos el 90% de nuestro tiempo en espacios cerrados» y la luz artificial es «cutre». Los leds, que representan un 80% del mercado, aunque mejoran en eficiencia energética, tienen un picos en las azules que puede acabar afectando a la salud de las personas.

Aunque el azul no siempre es perjudicial. El azul que genera el led puede ser positivo por la mañana, cuando necesitamos más activación. «Pero a medida que pasa el día, esa cantidad de componente azul en el espectro tiene que ir disminuyendo hasta llegar a cero», comenta Iglesias. Eso no significa que cambie el color de la luz, es decir, se puede conseguir una luz fría o cálida independientemente de su contenido de azul. Pues Kumux permite hacer estas recetas a la largo del día para espacios cerrados. «Podemos incitar las propiedades no visibles del led para provocar esa activación y relajación», subraya Iglesias.

La suma de cada una de esas recetas, que pueden entenderse a cada hora, genera un ciclo de fluminación dinámica para todo el día. La startup ya ha empezado a lanzar esa funcionalidad de simulación, donde un algoritmo crea la recomendación teniendo en cuenta las de nuestras generadas por el usuario.

La empresa, que ya cuenta con seis personas en el equipo, actualmente está trabajando en diferentes sectores que necesitan 'jugar' con esos cambios en las luces. Tienen, por ejemplo, un proyecto para reducir el jetlag en los aviones, otro de horticultura (para mantener el ciclo de las plantas) o uno en un hospital con el objetivo de mejorar a través de la luz la estancia de los pacientes.

En total, ya operan más de 20 empresas en la plataforma, principalmente, fabricantes de iluminación (nacionales e internacionales), universidades internacionales y asociaciones para proyectos de investigación.

Ona Therapeutics capta 30 milions contra les metàstasis

Asabys, Alta Life, Ysios, FundPlus i BPI lideren una ronda rècord

Salvador Azmar-Bonitah i Valerie Vanhooren (junts al centre), amb els representants dels inversors

ROSA SALVADOR
Barcelona

Ona Therapeutics, l'spin-off de l'Institut de Recerca Biomèdica i ICREA fundada pels investigadors Salvador Azmar-Bonitah i Valerie Vanhooren, ha tancat una ronda d'inversió de 30 milions d'euros per portar a l'estudi en humans el seu descobriment sobre la metàstasi dels cànsers: un antieix que bloqueja una proteïna, anomenada CD36, que en estadis avançats la impedir que els cànsers desenvolupessin metàstasi i que, les que ja hi hauria, creixessin.

La ronda és la primera d'aquesta firma, que es va constituir l'any passat. L'ha encapçalat Asabys Partners i ha comptat també pels fons barcelonins Sabadell Asabys, Alta Life Sciences i Ysios Capital, juntament amb el belga FundPlus i BPI France.

Clara Campàs, sòcia cofundadora d'Asabys Partners i presidenta del consell de la *biotech*, explica que els fons han entrat amb participacions similars, i que la inversió permetrà portar la companyia als estudis de fase 2, en un grup reduït de persones (un centenar). Aquests estudis començaran al voltant de 2022, va explicar Azmar-Bonitah, inicialment en pacients de la Vall d'Hebron. Josep Tabernero, director del VHIO, és assessor de la companyia), però quan s'entri en fase clínica la firma preveu realitzar un estudi multicèntric, incorporant-hi també hospitals dels

> **La inversió permetrà desenvolupar el fàrmac en la fase preclínica i començar els estudis en humans el 2023**

Estats Units. Montserrat Vendrell, sòcia d'Alta Life, explica que el projecte vegada que els tres serveix col·pital català en col·laboren en una inversió. "Es una situació excepcional: un descobriment científic capdavanter, un dels que més interès va despertar en Nature, quan va publicar l'article, una necessitat mèdica no coberta i important, i un equip gestor amb una visió empresarial".

Asabys va entrar a Ona fa un any, amb un préstec participatiu d'1,5 milions d'euros per posar en marxa la companyia i desenvolupar l'ampliació de capital, que inicialment estava prevista en 20 milions d'euros i ha estat finalment de 30. "Hem volgut tenir la companyia ben finançada fins a poder superar el punt d'inflexió en el qual el risc es baixi i pot resultar una inversió interessant per a una gran empresa farmacèutica", assenyala Jordi Jean-Mairet, soci de Ysios, que va destacar que estan "en diàleg constant" amb farmacèutiques interessades. Ona desenvoluparà un sol producte que pot ser efectiu en múltiples cànsers, per això descarta obrir línies especialitzades si els estudis clínics mostren que hi pot haver diferències d'eficàcia.

Ona Therapeutics, ambseu al Parc Científic de Barcelona, ocupa ara quatre persones, segons va explicar Valerie Vanhooren, directora general, i n'incorporarà dues més immediatament, encara que els serveis generen l'important és les externalitzat. La firma, va assenyalar, no preveu sortir a borsa. "L'exit d'aquesta ronda ja ens donarà els mitjans per desenvolupar el nostre medicament biològic fins als primers assajos clínics en pacients amb càncer metastàtic".■

EXPANSIÓ

La farmacèutica Qiagen dobla la capacitat productiva a BCN

- El grup holandès passa a ocupar 2.800 metres quadrats al Parc Científic
- La companyia reforça l'aposta pel test PCR que ven a 70 països

EL PERIÓDICO
SANTI GIL-TOR

El holding holandès Qiagen acaba d'incrementar (en seven litres) la seva capacitat de desenvolupament i producció de tests de diagnòstic de la Covid-19. Amb aquesta ampliació, Qiagen disposa actualment al PCB d'una superfície total de 2.800 metres quadrats, inclosos espais per a desenvolupament, control de qualitat, administració, producció, magatzematge i vendes, amb un equip de més 200 professionals.

La companyia té previst incrementar la seva capacitat d'R+D i operativa amb una inversió extra durant els pròximes anys. Qiagen ha desenvolupat el sistema QIAwizard 96 Respiratory SARS-CoV-2 Panel, un kit de diagnòstic molecular basat en PCR que permet determinar el nivell concentració de 23 dianes genètiques associades a l'infecció per coronavirus SARS-CoV-2. Panel, un kit de diagnòstic molecular basat en PCR que permet determinar el nivell concentració de 23 dianes genètiques associades a l'infecció per coronavirus SARS-CoV-2. Panel, un kit de diagnòstic molecular basat en PCR que permet determinar el nivell concentració de 23 dianes genètiques associades a l'infecció per coronavirus SARS-CoV-2.

●● Instal·lacions de Qiagen al Parc Científic de Barcelona, amb...

Barcelona, Joan Elias, i ha comptat amb la presència de Nil Boronat, director general de Qiagen Barcelona; Maria Torrades, directora general del Parc Científic de Barcelona; Francesc Xavier Grau, secretari d'Universitats i Investigació; Joan Gómez, director general d'Investigació; i Quim Ferrer, secretari d'Empresa i Competitivitat.

Boronat va incidir que la companyia «és el principal proveïdor mundial de solucions amplificació per a diagnòstic molecular i una mitjana-alta tecnològica amb més de 500.000 clients de tot el món en diagnòstic molecular i otres àrees de la vida». Per la seva part, Torrades va destacar l'aposta de la firma «pel PCR i per Catalunya pel continuar-la en la seva seu al projecte».

La tecnologia de Qiagen, QIAstat-Dx va ser desenvolupada inicialment per Stat-Dx i va ser adquirida el 2018 per grup holandès per uns 154 milions d'euros. Qiagen ja ha incorporat tot el seu know-how de traballadors, amb un pla per de blicat volumen de la planta la qu rarà més endavant.

Amb la inversió realitzada, la companyia espera doblar la seva capacitat de desenvolupament i fabricació d'R+D test de diagnòstic per al coronavirus en la seva planta de Barcelona, fins a assolir els 10 milions d'unitats anuals. A més, el holding holandès té previstes la construcció d'una tercera línia de producció (més espai per a 8+D, amb la mateixa rotativa), una que li permetrà continuar augmentant el desenvolupament i la producció de noves tecnologies de detecció de SARS-CoV-2 i altres detectats en el futur.

NPAO La integració de la tecnologia molecular PCR que per un trasllat per qualsevol professional sanitari i permet diferenciar el SARS-CoV-2 d'una altra patologia respiratòria en qüestió d'hores i per tant, accelerar considerablement el diagnòstic dels tractaments, i les mesures d'aïllament.■

ENTREVISTA

JOSEP CAPARRÓS, CEO y fundador de Baobi

"La palabra que más oí fue 'imposible'"

Josep Caparrós, CEO y fundador de Baobi

Cuando Josep Caparrós (Barcelona, 1966) era niño, su padre le regaló un libro de Jacques Cousteau y se quedó fascinado con el mundo submarino. Ese interés por la naturaleza y por el mar le llevó a estudiar Biología y a hacer un doctorado en Ecología marina. Pero, cuando terminó la tesis, no encontró trabajo en su campo y tuvo que buscarse la vida en otros sectores. Hasta que, en 2015, decidió dar un giro a su carrera y fundó Baobi, una empresa que ofrece soluciones para la gestión sostenible de los recursos marinos. Hoy, con 15 trabajadores y una facturación de 1,5 millones de euros, Caparrós ha logrado que su pasión se convierta en su profesión.

¿Cómo se le ocurrió la idea de crear Baobi?

Siempre me ha gustado el mar y, cuando era pequeño, mi padre me regaló un libro de Jacques Cousteau que me fascinó. Por eso, cuando terminé la carrera, quise dedicarme a la investigación marina. Hice el doctorado en Ecología marina y, después, trabajé en varios proyectos de investigación. Pero, cuando terminé la tesis, no encontré trabajo en mi campo y tuve que buscarme la vida en otros sectores. Hasta que, en 2015, decidí dar un giro a mi carrera y fundé Baobi, una empresa que ofrece soluciones para la gestión sostenible de los recursos marinos. Hoy, con 15 trabajadores y una facturación de 1,5 millones de euros, Caparrós ha logrado que su pasión se convierta en su profesión.

¿Cómo se desarrolló el producto?

Pensé, cuando estaba haciendo el doctorado, en una forma de ayudar a los pescadores artesanales, que es la base, para que tuvieran más ingresos. Así nació Baobi. Nuestro producto, que llamamos Baobi Ocean Intelligence, es una plataforma que ofrece información en tiempo real sobre la ubicación de los pescadores artesanales, para que puedan saber dónde están sus competidores y cuántas capturas están haciendo. Así, pueden tomar mejores decisiones sobre dónde pescar y cuándo hacerlo. Además, también ofrecemos información sobre la ubicación de los barcos de pesca industrial, para que los pescadores artesanales puedan evitar conflictos con ellos.

El proyecto empezó en el Parc Científic de la UB.

Sí, empezamos en el Parc Científic de la UB y, después, pasamos a Barcelona Activa, donde estuvimos unos años. Ahora estamos en el Parc Científic de Barcelona (PCB), donde se encuentra el laboratorio donde hacemos el desarrollo de nuestras tecnologías. Y, a medida que hemos ido creciendo, hemos ido cambiando de oficinas. Ahora estamos en el PCB, pero también tenemos una oficina en Madrid y otra en Galicia, donde hay muchos pescadores artesanales.

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Reúne consenso en el mercado industrial

Porque tenemos el feedback de ellos. Nuestro producto, en cierto modo, Baobi, lo hacemos en Madrid, en Galicia, en Barcelona... Hemos ido cambiando de oficinas. Ahora estamos en el PCB, pero también tenemos una oficina en Madrid y otra en Galicia, donde hay muchos pescadores artesanales. Y, a medida que hemos ido creciendo, hemos ido cambiando de oficinas. Ahora estamos en el PCB, pero también tenemos una oficina en Madrid y otra en Galicia, donde hay muchos pescadores artesanales. Y, a medida que hemos ido creciendo, hemos ido cambiando de oficinas. Ahora estamos en el PCB, pero también tenemos una oficina en Madrid y otra en Galicia, donde hay muchos pescadores artesanales.

Además de la acología, ¿cuál es la esencia?

Hacia ecológico, pero es cierto. Tenemos los mismos problemas que los fabricantes de vacuna. Baobi lo pretende ser positivo en papel tuna.

Trabajáis la economía circular y la sensación.

El trabajamos con Tecnalia, un centro especial de trabajo, que nos cosa el producto. Otro de esos beneficios? Sí, pero son de más segmentos. Somos ellegan, cualquiera y una responsabilidad social. Lo hacemos porque nos gusta trabajar así. Ahora estamos encontrando nuevos retos que resolver.

¿Y el futuro?

Los retos siempre de mediamente son locos trabajando, locos encontrando los fallos y los retos y estamos planteando el año 2021 con proyectos de cargas contratados. Tenemos muchos trabajos por delante.

El nuevo consejero delegado de Nostrum Discovery, Ezequiel Mas del Molino.

Nostrum Biodiscovery se alía con IrsiCaixa y Grifols contra el Covid-19

"SPIN OFF" DEL BARCELONA SUPERCOMPUTING CENTER// La 'start up', especializada en el descubrimiento de medicamentos por ordenador, acaba de nombrar a Ezequiel Mas del Molino como nuevo CEO.

Quirze Salomó Barcelona

Nostrum Biodiscovery, spin off del Institute of Research in Biomedicine de Barcelona (IRB) y del Barcelona Supercomputing Center (BSC), se ha embarcado en la lucha contra el coronavirus. Lo hará en equipo con la empresa de biotecnología Grifols, el consorcio IrsiCaixa para la lucha contra el VIH y el Centro de Regulación Genómica (CRG), todos ellos con base en la ciudad condal.

La compañía, con sedes en el IRB Barcelona y el Parc Científic de Barcelona (PCB), centra su actividad en la búsqueda y desarrollo de medicinas mediante una combinación de herramientas bioinformáticas de inteligencia artificial. Su director científico, Gianni De Fabritiis, es también el director de la unidad de simulación y modelización del PCB y el fundador de Acellera, una de las empresas pioneras en el uso de la computación para el descubrimiento de fármacos.

Mas del Molino se doctoró en Biomedicina por la Universitat de Barcelona, y cuenta con un MBA por la ESADE. Ramon Roca, director general de Grifols, ha destacado la profesionalidad mostrada en la investigación con la gestión y dirección de personas como

Nostrum Biodiscovery

centro el Covid-19, como el Josep Baselga (CRIS).

Más allá de la lucha contra el coronavirus, la start up se encuentra en un momento de cambio. La compañía acaba de nombrar a Ezequiel Mas del Molino como nuevo consejero delegado, en sustitución de Robert Soler, que deja la compañía para asumir un nuevo reto profesional.

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La compañía ha levantado 1,5 milions en el seu origen desde su fundación, en 2016

Junto formada ciclos europeos convencionales inclusos.

Nostrum Biodiscovery participa en cinco proyectos públicos distintos de descubrimiento y desarrollo de fármacos en múltiples áreas —desde cáncer hasta la regeneración ósea— y mantiene colaboraciones con grupos de investigación de prestigio, como el Institut de Bioenginyeria de Catalunya (IBEC) y el Institut de Recerca Biomèdica de Barcelona (IRBBarcelona).

"Las previsiones para 2020, en cuanto al aumento de facturación, están muy ajustadas a causa de la crisis de Covid-19, pero confiamos en crecer un 30% en line ales", afirma el consejero delegado. El 2019 la compañía obtuvo una facturación de unos 300.000 euros.

Desde que los fundadores de 2016, por ejemplo, obtuvo 300.000 euros de la Fundación Marcelino Botín, y en 2018 recibió unos 1,6 millones de euros 500.000 euros de la Fundación Mercedes Boria, y en 2019 unos 1,6 millones de euros del Ministerio de Ciencia y del programa Horizon 2020.

Driving the Park Community

The Park is a large ecosystem with over 2,900 people and driving this community by organising various activities is one of our cornerstones. Throughout the year, the Park hosts networking activities, workshops, seminars, training and various leisure activities. However, 2020 was a particularly complicated year in this regard. All training activity ground to a halt in March and then had to be moved online. Unfortunately, all the leisure activities, such as yoga, salsa and Zumba, have been cancelled pending further notice until the healthcare situation allows us to resume them, hopefully in 2021. But 2020 was also an important year in terms of improving the Park's digital image, with a brand-new website.

Networking

Keiretsu Forum

On 6 February, the I Life Sciences Investor Capital Forum 2020 took place at the Park. The event, organised by Capital Pimes Fòrum, with the Barcelona Science Park, Canaan Investment & Research and Keiretsu Forum, gave 12 companies in the life sciences sector the chance to pitch their projects to a group of investors. Each company had 10 minutes to pitch plus time for questions. The goal was to find funding, looking for capital increases of between €500,000 and €700,000, to continue developing their projects or launch their growth and expansion plans. Corify Care was named the best start-up of 2020. The event also featured a panel discussion with leading organisations like Asabys Partners.

Work-life balance

Science camps

The Covid-19 crisis has been difficult for families, who have had to work even harder to balance family life, telecommuting and online education as schools were closed. To help promote work-life balance in the most complicated moments of 2020, the Park offered families some of its spaces to host science camps for children between 5 and 12 years old. They were held for several weeks in July and September, managed by the company Funbrain. These camps also aim to awaken the children's interest in science, encouraging critical thinking, creativity and communication.

Barcelona Science Park launches new website

Towards the end of the year, the Park launched its new, redesigned website www.pcb.ub.edu to give users a better browsing experience with a new design, new content and a better structure.

The main changes include a new section on scientific services with everything the Park has to offer, a new section on renting spaces with the spaces available, comfortable forms to request information and make bookings, and another new section with a press service to get all the Park's corporate information. The Research in Society Programme also has a greater presence, with a direct link from the main menu.

Changes to the design include a box with indicators on the homepage, a new illustration featuring the Park's skyline, a timeline of its history and a better news and events sections with more images, a better search engine and the option to search by category.

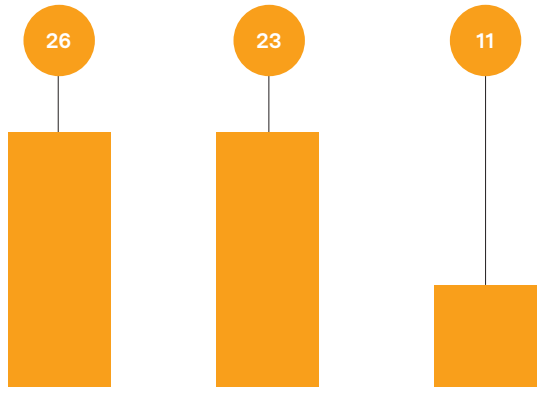
Training

Events, conferences and workshops

The Park organised talks, conferences, events and workshops for its community both in person and online, according to the restrictions at any given time.

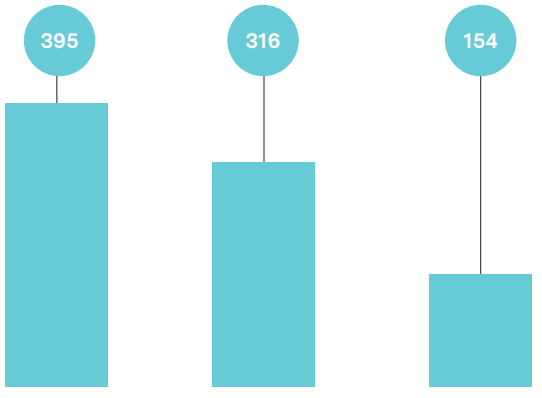
- Cocktail Connection
- Pharmaceutical compliance with Alta Medical Partners
- Dream Big Novartis
- I Life Sciences Investor Capital Forum 2020
- Technological Patronage with Kaudal
- Fundraising Bootcamp with Life Science Nation
- Main legal and fiscal aspects of M&A operations with Cases Lacambra
- Neotec Call, news and other CDTI calls of interest for young, innovative companies with CDTI
- 6th “A Day at the Park!” photo contest

Total activities hosted at the Park organised by the Park



2018	2019	2020
2.660 Participants	1.900 Participants	575 Participants

Total activities hosted at the Park organised by other organisations



2018	2019	2020
21.710 Participants	22.915 Participants	9.385 Participants

“The daily pressure we had from hospitals to get disinfectants, combined with the supply chain difficulties, was like a tsunami. To me it felt like being in a war, full of anxiety but happy to be useful!”

Victor Vallès,
CEO of Vesismin Health

Introducing ultraviolet-light disinfection technique in cutting-edge hospitals

Vesismin Health
Preventing infections

Vesismin Health, a company that specialises in developing and commercialising products to control infections in hospital settings, introduced its UVGI technology using advanced ultraviolet light for disinfection at several hospitals in Spain in June 2020 as a way to help fight the spread of Covid-19. Its professional system for medical use, UV-360, produces ultraviolet germicidal irradiation for terminal disinfection of rooms, and is equipped with motion sensors that stop the process automatically if they detect someone in the room.

"As the saying goes, every crisis is also an opportunity. As we specialise in biomedicine and needed to do something to help, to do our part, we identified a project and a compound with therapeutic potential to alleviate Covid-19."

José Miguel Vela,
Managing Director & Chief Scientific Officer
at WeLab

Welab
BARCELONA

Taking part in research collaborations and donating materials to do PCR testing

WeLab was established in 2020 as a strategic alliance between Esteve and Leitat to create a bioincubator, a business accelerator and a centre of excellence in biomedicine and pharma in Spain. Since it was created, it has helped prepare documents to obtain approval for a clinical trial on a new drug developed by Esteve to treat Covid-19, as well as conceptualising and designing a clinical trial to assess its efficacy. Additionally, it took part in proposing a new therapeutic strategy to treat Covid-19.

Finally, it provided fungible materials for processing samples to test for SARS-CoV-2 using PCR in clinical trials.

Budget

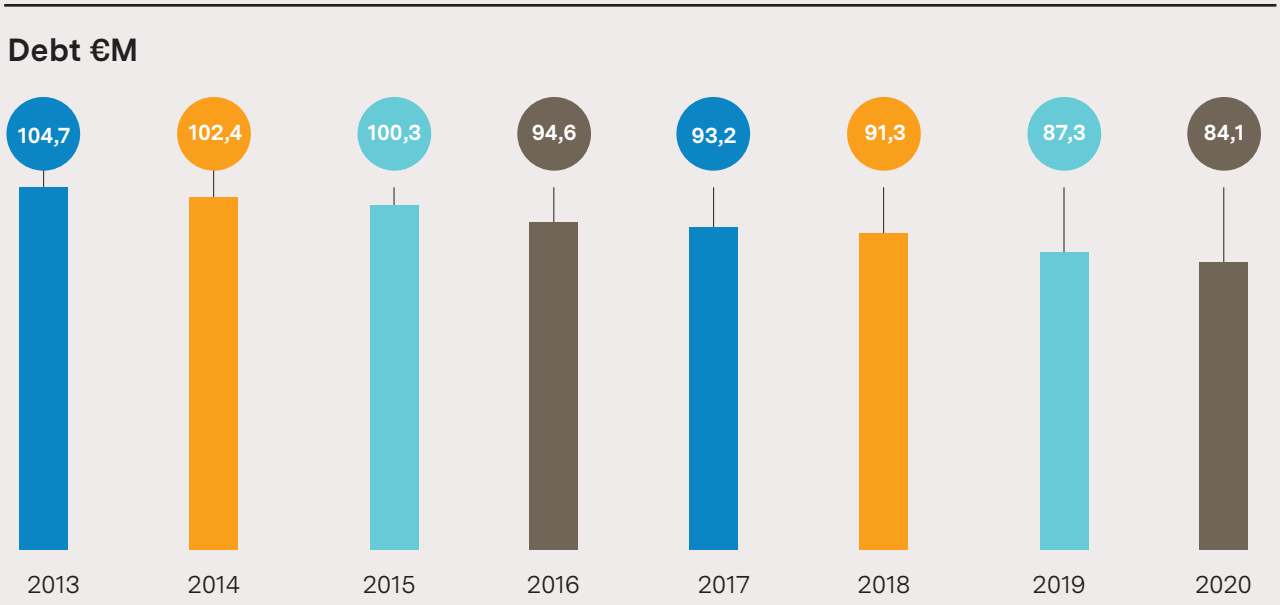
Description of income	Budget Amounts	Year-end Amounts
Rent	10.833	10.993
Services provided	9.069	8.167
Grants / donations	194	208
Ordinary income	**20.096**	**19.368**
Description of expenditure		
Staff	-4.224	-4.231
Maintenance and services	-9.575	-8.678
Ordinary expenditure	**-13.799**	**-12.909**
EBITDA	**6.297**	**6.459**
Financial expenses	-1.223	-953
EBTDA	**5.074**	**5.506**
Amortisation and depreciation	-4.350	-4.487
Capital grants applied	1.360	1.365
Total	**2.084**	**2.384**

Amounts in thousands of €

Year-end as of 31/12/2020

Paying down debt

To build and equip the Park, a total of €113 million in debt has been taken on. Thanks to the positive EBIDTA in recent years, this debt has been paid down to €84.1 million as of the end of 2020.



Refinancing debt

The €84.1 million in debt as of 31 December 2020 includes €43.8 million from the Government of Catalonia, paid off yearly through 2032, and €40.3 million from the Ministry of Science and Innovation pending refinancing. Additional provision 15 of the General State Budget for 2021 states that the Science and Technology Parks of Spain may request 25-year refinancing of the payments due through 2021. Refinancing may be granted only with a favourable report from the Ministry of Finance and will require a feasibility plan and report on scientific/technical actions.

The feasibility plan that the Park will submit to the Ministry to pay off the debt over 25 years does not allow a reduction in prices without reducing expenses. This is why, in 2020, Park users could not be offered payment forgiveness due to the pandemic, as expenses have only increased. We were, however, able to allow users who needed it to delay payment.

Barcelona Science Park

WHERE SCIENCE BECOMES BUSINESS

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