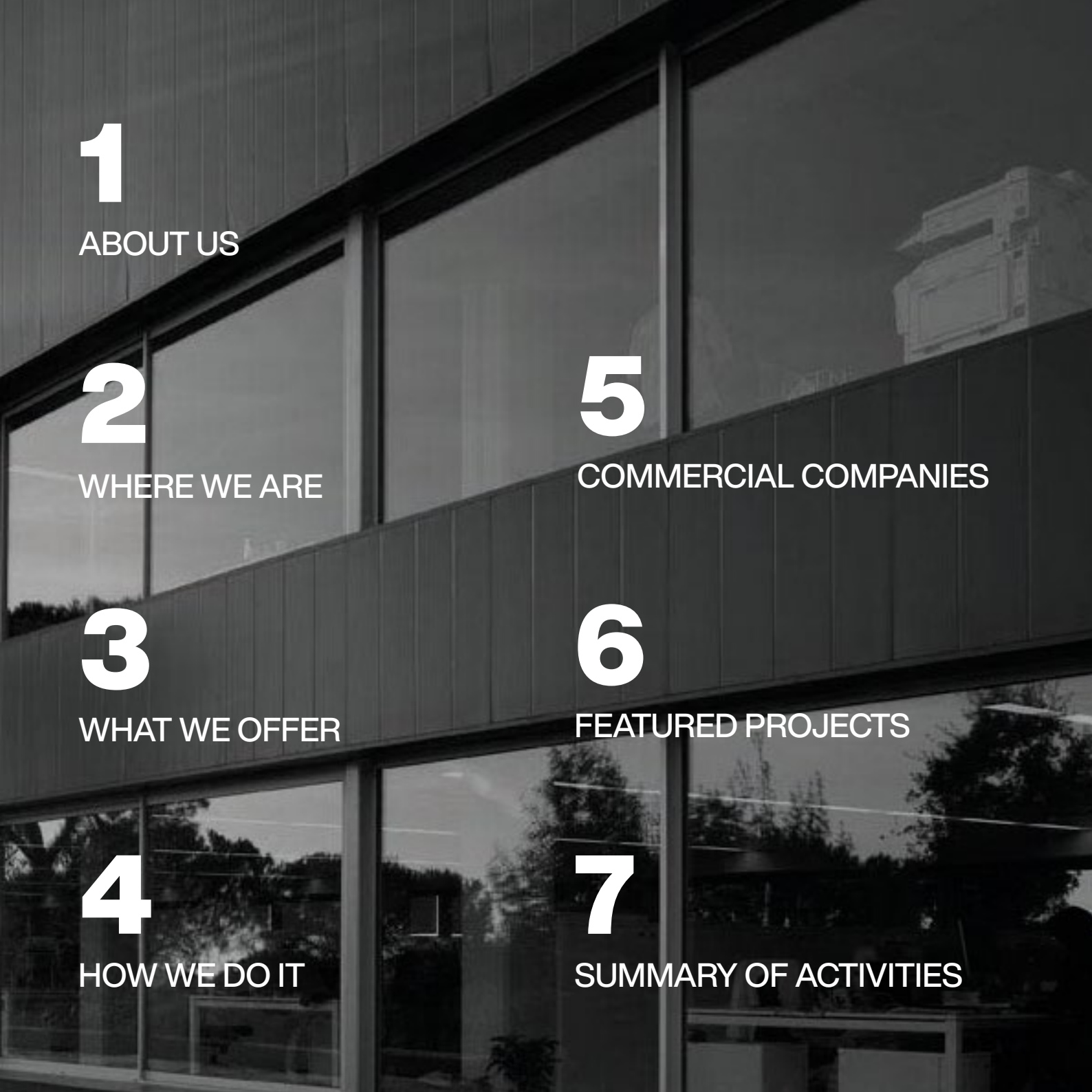
LEITAT

managing technologies

ANNUAL REPORT 2023



MANAGING INNOVATION

We start this new chapter of Leitat with enthusiasm, a deep sense of responsibility, and a strong commitment to Leitat's mission: to promote industrial R&D as a lever to promote the competitiveness of the country's business and economic fabric.

In 2023 we reaffirmed our position as a national and international leader in managing technologies to create and transfer sustainable social, environmental, economic, and industrial value to companies and organisations.

Our objective: To help increase the competitiveness of companies

As a non-profit organisation, Leitat's main objective is to promote business competitiveness, either by developing ad hoc R&D&I projects for companies or by collaborating in competitive national and European projects. We close the year by developing projects with more than 500 companies of different profiles and sizes, and we continue to be a point of reference in participation in European projects with 158 projects in the last 3 years.

Leitat: A leading centre in the management of R&D&I projects

Leitat continues to be a leading centre and a key player in the management of state and European R&D&I projects. We have a highly qualified and passionate team, which has enabled our productivity to be 27% higher than the average of other technology centres in Spain.

We are one of the centres with the most projects awarded by the CIEN programme of the CDTI, which confirms our ability to offer disruptive solutions to the technological needs of companies and organisations.

These achievements are a source of pride for the Leitat team and reaffirm that we are on the right track.

Human talent: Our main driver

Leitat's success would not be possible without the talent and dedication of the people who make up this family. Their creativity, knowledge, passion for their work and commitment are the fundamental pillars on which our present and future are built.

We would like to take this opportunity to thank the team that makes up Leitat for their work and their daily effort. They are the ones who make it possible for Leitat to be a pioneer in the field of technological innovation.

A sustainable future: Our commitment

At Leitat, we're convinced that technology should be an instrument to build a more sustainable future. Therefore, we're committed to continue developing innovative solutions that contribute to environmental protection, energy efficiency and the circular economy.

A new chapter: An exciting future

Leitat opens a new chapter in its history in 2024. It's a chapter full of challenges and opportunities, in which together we will build an even brighter future for our organisation.

We are sure that, with the talent and passion that characterises us, Leitat will continue to be an engine of progress and development for the industry and for society.

Kind regards,

Sr. Jordi William Carnes
President
presidencia@leitat.org

Sr. Jordi Cabrafiga
Director General /CEO
info@leitat.org

1.1 | ORIGINS

In 1906, a group of industrialists concerned about quality, certification and research projects in the field of the wool textile sector decided to establish an association to support the competitiveness of companies that they called Acondicionamiento Tarrasense.

These industrialists knew how to anticipate solutions for the needs of business groups and laid the foundations of the current Leitat concept.

1st Leitat logo

Thanks to effort put in over the years the organisation evolved both in the expansion of its activities and in the name that is now identified with the brand known as Leitat.

During this time, its vocation to serve companies and entities has remained unchanged, although the type of activities carried out, the organisational diagram and the internal work systems have changed significantly, specialising in different areas of knowledge that enable the search for the best technological solutions for companies.

The results obtained in recent years show that the commitment that Leitat is developing, towards the generation of knowledge and its transfer to the productive fabric, is an effective model for the growth of the economy in a fast, efficient and sustainable way, while creating new spaces and models for the development of the talent and personal performance of workers.

1.2 | FAQS

FREQUENTLY ASKED QUESTIONS

At Leitat, innovation consists of solving industrial technological challenges efficiently and effectively.

WHAT IS LEITAT?

Leitat is a leading technological center at national and European levels. With more than 100 years of history, it has a team of 400 professionals, experts in applied research, technical services, and management of innovation initiatives.

WHO OWNS LEITAT?

Leitat is a private non-profit association and, as such, belongs to its members.

WHAT DOES LEITAT OFFER?

At Leitat we help to improve the competitiveness of companies through the development of R+D+i projects and through the management of research projects with public-competitive funding at regional, national and international levels. In this way, Leitat provides social, industrial, economic and sustainable value, offering integral solutions in multiple sectors and fields.

HOW DOES LEITAT IMPROVE INDUSTRIAL COMPETITIVENESS?

It promotes the implementation of industrial innovation by encouraging the modernisation of production structures and the development of new products with high technological value while meeting the changing demands of the global market.

HOW DOES LEITAT SOLVE TECHNOLOGICAL NEEDS?

Leveraging its technological expertise, Leitat consistently generates knowledge, develops talent and provides the latest technology equipment and cutting-edge facilities, enabling us to respond to the specific and technological needs of our clients.

WHY DOES IT WORK A MULTISECTORAL LEVEL?

Because it applies diverse technologies to different industries with a greater cost-effectiveness of technology, creating and expanding new opportunities. In so doing, it establishes interfaces between previously unconnected sectors. In order to achieve this, Leitat does not spread itself too thinly but instead focuses its activity on the following select industries: transport, construction, packaging, textiles, energy, environment, food, cosmetics, detergency, healthcare, pharmaceutical & veterinary, chemical & materials, biotechnology and safety & maritime.

HOW DO IT COLLABORATE WITH COMPANIES AND INSTITUTIONS?

Leitat leverages its experience and flexibility to sign partnership agreements, joining forces with other experts to tackle industrial technology challenges and foster entrepreneurship and technology transfer.

WHAT EXPERIENCE DOES LEITAT HAVE WITH INDUSTRIAL PARTNERSHIPS?

For more than 100 years, Leitat has impacted companies and other entities through the management of proposals in R+D+2i (research, development and industrial innovation), leading or participating in strategic projects and generating assets and knowledge.

WHAT IS LEITAT'S GEOGRAPHICAL SCOPE OF ACTION?

In addition to acting intensively at the national level, Leitat leads and actively participates in numerous international collaboration projects and networks with European partners and those from other geographical areas with converging interests.

1.3 | VALUE PROPOSAL

PURPOSE

We generate technological knowledge and innovation, managing technologies and talent.

MISSION

We manage technologies to create and transfer sustainable Social, Environmental, Economic and Industrial value to companies and entities, through research and technological processes.

VISION

To be a global leader in the management of innovative technologies, stimulating the creativity and talent of our personnel.

VALUES

Enthusiasm, self-improvement and respect.

INNOVATION + TALENT + REPUTATION + PROFITABILITY

We believe in the power of collaboration as a driver of innovation, that's why we are always close to the R+D ecosystem: universities, professional training, companies and entities, technology platforms, organizations, technology centers, etc.

By collaborating with Leitat, you can address the great technology-based challenges of today's world and turn them into an opportunity to create the world that society, companies and the environment will need in the future.

1.4 | ORGANISATION

BOARD OF DIRECTORS 2023

PRESIDENT	Mr. Jordi William Carnes Ayats *Representing Carnes Global Projects, SL*
VICE PRESIDENT	Mr. Francesc Roca Llongueras *On behalf of Finish S.A.*
VICE PRESIDENT	Dr. Joan Parra Farré
SECRETARY	Mr. Joan Serra Albesa *Non membrer*
MEMBER	Mr. Ricard Cima Julià *Representing the INDUSTRIAL INSTITUTE OF TERRASSA*
MEMBER	Mr. Salvador Maluquer Trepat *Representing the TEXTILE INDUSTRY ASSOCIATION OF THE COTTON PROCESS*
MEMBER	Mrs. Dolors Puig Gasol *Representing TALENTUM associats, S.L.*
MEMBER	Mr. Joan Romero Circuns *Representing the AGENCY FOR COMPANY COMPETITIVENESS (ACCIÓ)*
MEMBER	Mr. Daniel Altimiras Viladrich *Representing the EURECAT FOUNDATION*

GOVERNING BODIES

The Board of Directors consists of 8 associate members who come from industrial, business and professional sectors and business associations. The General Assembly is the sovereign and main body of the entity in which all its partners are represented. The Board of Directors has the powers to represent, direct and administer the Association. Likewise, it complies with the decisions taken by the General Assembly in accordance with the regulations, instructions and guidelines established by it.

Acondicionamiento Tarrasense is a non profit association with its own legal personality and assets, established in 1906. It's activities are regualted in accordance with Law 4/2008 of 24 April of the third book of the Civil Code, relating to legal entities (DOGC no. 5123 of 2 May) and Organic Law 1/2002 of 22 March, which regulates the right of association and its bylaws (BOE 73, de 26 de març).

ORGANISATIONAL CHART

From a traditional structure to a flexible and dynamic organisation, prioritising work and project teams with cross-functional communication and a clear definition of responsibilities, with the aim of fully meeting with the technological expectations of the customer and society.

APPLIED RESEARCH & TECHNOLOGY SERVICES (ARTS)

- Health & Biomedicine (H&B)
- Digital Industry (DI)
- Applied Chemistry & Materials (ACM)
- Circular Economy & Decarbonization (CED)
- Advanced Technological Services (STA)

NOTIFIED BODY

Personal protective equipment (PPE) certifications.

SINGULAR INITIATIVES

PROMOTED PROJECTS

- Healthcare Living Lab Catalonia
- IAM 3D HUB

SINGULAR INITIATIVES

- 3D INCUBATOR

COMMERCIAL COMPANIES

- Gene Vector
- Amira Therapeutics
- Abac Therapeutics

1.5 | LEITAT IN FIGURES

STAFF

TOTAL: 521

46,83% men

53,17% women

Trainees: 61

QUALIFICATIONS

DOCTORATES: 135 employees (25,91%)

HIGHER DEGREES: 288 (55,27%)

OUTPUTS

EUROPEAN PROJECTS I+D+2i	**72**
NATIONAL PROJECTS I+D+2i	**189**
PROJECTS LED	**20**
INDUSTRIAL PROJECTS	**240**
ADVANCED TECHNOLOGICAL SERVICES	**9.449**

LAST 3 YEARS

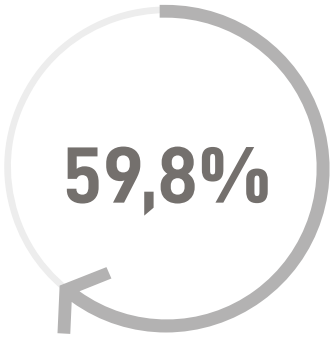
€M OF REVENUE	130 M€
COUNTRIES	90+
PROJECTS	1.700+
CLIENTS	2.200+
STAFF	600+
€M IMPACT	675 M€
ADVANCED TECHNOLOGICAL SERVICES	27.100+

FIGURES 2023

In recent years, Leitat has focused on the creation of lasting, sustainable technological value, aligned with the needs and expectations of the market while generating an economic return for companies and institutions.

REVENUE IN MILLIONS OF EUROS M€ 48

SHARE OF REVENUE BY TYPE OF PROJECT



PROJECTS FOR COMPANIES

IN-HOUSE R&D&2I PROJECTS

PROJECTS WITH PUBLIC FUNDING

BALANCE

NON-CURRENT ASSETS	18.553.528 €	EQUITY	17.199.942 €
DEBTORS	34.802.187 €	NON-CURRENT LIABILITIES	19.600.053 €
FINANCIAL ACCOUNTS	14.068.999 €	CURRENT LIABILITIES	30.624.719 €
TOTAL	67.424.714 €	TOTAL	67.424.715 €

For every basic euro received in 2023, we generate 8.2 euros

1.6 | OUR COMMITMENT

We continue to strengthen our commitment to Corporate Social Responsibility through initiatives aimed at providing social and technological value to our stakeholders: customers, partners, collaborators, suppliers, public administrations, alliances and society.

WITH THE SUSTAINABLE DEVELOPMENT GOALS (SDGS)

We align our strategy with the SDGs to contribute towards a development model capable of generating wealth without compromising social, environmental and economic justice.

WITH SOCIETY

- A firm commitment to dual training as a basic tool of the business fabric and the educational community, in the creation of new professional profiles linked to the industrial and R&D&I world. Leitat, in addition to actively and jointly participating in the curricular definition of the training of these new professional profiles by Institutes, also participates in youth orientation conferences and motivational talks. Likewise, Leitat collaborates with entities oriented towards these ends.
- Collaboration in programmes for young entrepreneurs as technical coordinators and project evaluators in the various institutional and technical juries. Promotion and dissemination of scientific careers among students and future employees in the knowledge and innovation society through collaboration with public-private entities in specific projects.
- Conducting conferences and welcoming trainees in the different areas of Research and Technological Solutions of Leitat, both nationally and with international entities, welcoming students with Leonardo and Marie Curie scholarships, Erasmus internships, etc.
- Collaboration with local agents (Consorci per l'Ocupació del Vallès Occidental) on strategic policies related to entrepreneurship and environmental sustainability and the attraction of business economic activity that generates a direct impact on the creation of jobs linked to industry.
- Participation in "Science Week", making our facilities available for visits focused on future technological themes.
- Professional and Business Orientation Days for Institutes, Private Schools and Universities to attract talent.
- Collaboration in commissions related to the promotion of talent development and diversity.
- Collaboration with foundations and entities for the promotion of training and insertion in the labour market, as well as the promotion of diversity.
- Participation in working groups with the different public representatives that make up the political spectrum to formulate possible proposals that lead to executive actions and legal measures that allow a positive impact on economic reactivation and growth based mainly on Research, Development and Innovation (R&D&I) and specifically on the real transfer of knowledge to the SME business fabric.
- Renewal of our commitment as a signatory member to the United Nations Global Compact.
- Creation of the Office for the SDGs, on the occasion of the 10 years of Leitat's accession to the United Nations Global Compact with the aim of measuring the impact and increasing our contribution to the fulfilment of the 2030 agenda.

WITH OUR WORKERS

- Investment and adaptation of training plans adapted to the needs of our workers, aligned with their performance, development plans and career, applying an annual budget appropriate to the demands of each of Leitat's organisational structures.
- Doctoral programmes.
- Facility for Leitat staff to provide and receive internal/external training.
- Empowerment, training and development of workers in the tutoring and management of trainees.
- On-boarding plans that facilitate the adaptation of both trainees and workers from different cultures to be integrated into the Leitat centres and the cities in which they are located.
- Reinforcement of corporate culture through the channels that facilitate internal communication.
- Specific campaigns to promote healthy habits in daily life, the environment, risk prevention and safety, for the benefit of everybody.
- Visibility of the figure of the Equality Agent through reception plans, training actions and awareness campaigns aimed at workers.
- Reconciliation and flexibility measures for employees.
- Internal mentoring programmes to achieve an adequate and optimal adaptation to the organisation and the job.
- Leitat adheres annually to the European Week of Waste Prevention with activities such as providing staff with data on the environmental impact associated with their printing, online display of waste treatment plants, and publication of the annual quantities of waste generated in each workplace.
- Leitat joins European Mobility Week every year with activities such as promoting sustainable mobility (car sharing and a company bus), organising annual walks, mobility surveys and publishing carbon footprint data on commutes to work.
- Leitat adheres annually to the European Sustainable Energy Week with actions like raising awareness on how to save energy in the office and procuring 100% renewable electrical energy.

2 | WHERE WE ARE

CONNECTED TO THE NETWORKS OF KNOWLEDGE

Aware that intellectual property is universal and can be generated and developed anywhere in the world, Leitat firmly believes in and promotes the concept of “Open Innovation” as an engine of collaboration in order to provide an effective response to the technological challenges posed by our customers.

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NATIONAL

NATIONAL ORGANISATIONS AND TECHNOLOGY PLATFORMS

22@NETWORK BCN	Innovation District 22@Network Bcn
ACAT	Office of Collaborating Entities
ACIA	Catalan Association of Artificial Intelligence
ADELMA	Association of Detergents and Cleaning Product Companies
AEBIOS	Spanish Biosafety Association
AEC	Spanish Association for Quality
AEDYR	Spanish Association of Desalination and Reuse
AEH2	Spanish Hydrogen Association
AEI TEXTIL	Group of Innovative Textile Companies
AELAF	Spanish Association of Fire Laboratories
AEQCT	Spanish Association of Textile Chemists and Colourists

AER AUTOMATIZACIÓN	Spanish Association of Robotics and Automation
AFM	Spanish Association of Manufacturers of Machine Tools, Accessories, Components and Tools
AMETIC	Association of Electronics, Information Technology, Telecommunications and Digital Content Co
ASEBIO	Spanish Association of Bioenterprises
ASEPAL	Association of Personal Protective Equipment Companies
ATIT	Association of Textile Industry Technicians
BANC	BUSINESS ANGELS Catalonia
BIONANOMED	Alliance of Biomaterials and Nanomedicine
BIOPLAT	Spanish Biomass Technology Platform
BIOVEGEN	Plant Biotechnology Technology Platform
C2G	CHANGE2GROW
CATALONIABIO & HEALTHTECH	Catalan Association of Biotechnology and Health Technologies Companies
CEEC	Efficient Energy Cluster of Catalonia
CFS	Food Service Cluster
CIAC	Efficient Energy Cluster of Catalonia
CIDAI	Center for Innovation In Data Technologies and Artificial Intelligence
CLUB EMAS	EMAS Registered Companies Association of Catalonia
CLUSTER MAV	Advanced Materials Cluster Catalonia
CLUSTER PACKAGING	Catalan Packaging Cluster
CONNECT EU AS	Grup Connect-EU / Sustainable automotives
CONNECT EU CS	Grup Connect-EU / Sustainable Catalysis
CONNECT EU E	Grup Connect-EU / Energy
CONNECT EU FO I SE	Grup Connect-EU / Photonics and Electronic System
CONNECT EU FOF	Grup Connect-EU / Factories of the future

CONNECT-EU	Grup Connect-EU / Agri-food
CÚSTER RESIDUS	Catalonia waste cluster
CWP	Catalan Water Partnership
FEDIT	Spanish Federation of Technological Centres
FEELING INNOVATION	Association for innovation in perfume, cosmetics and personal care by STANPA
FEIQUE	Business Federation of the Spanish Chemical Industry
FEM VALLÈS	Association of economic, professional and social entities of the Eastern and Western Vallès
FEMAC	Association of Manufacturers and Operators of Agricultural Machinery of Catalonia
FOMENT	National Labour Promotion
FOTONICA 21	Spanish Technology Platform for Photonics
FOTOPLAT	Spanish Technology Platform for Photovoltaics
HISPAROB	Spanish Technology Platform for Robotics I
INDESCAT	Catalan Sports Cluster
INNOVACC	Catalan Alternative Meat and Protein Cluster
MANU-KET	Advanced Manufacturing Technology Platform
MATERPLAT	Spanish technological platform for advanced materials and nanomaterials
MEDICAMENTOS INNOVADORES	Spanish Technological Platform for Innovative Medicines
MERCADOS BIOTEC	Biotech Markets Platform
NANOMED	Spanish Nanomedicine Platform
OIF - BIOCAT	Open Innovation Forum
PACKNET	Spanish Technology Platform for Packaging
PACTO MUNDIAL	Platform of the Spanish Global Compact Network
PESI	Spanish Technology Platform for Industrial Safety
PLANETIC	Spanish technological platform for the adoption and dissemination of electronic, information and communication technologies
PTE - HPC	Spanish Technology Platform for Hydrogen and Fuel Cells
PTEC	Spanish Technology Platform for Construction
PTEPA	Spanish Technological Platform for Fisheries and Aquaculture

RAILGRUP	Sustainable Mobility and Multimodal Logistics Cluster in Spain
SECARTYS	Association for the Internationalisation of Electronics, Software and ICT
SECPHO	Southern European Cluster of Photonics and Optics
SEQC	Spanish Society of Cosmetic Chemists
SOLAR CONCENTRA	Concentration Solar Energy Technology Platform
SOLARTY	Association for the Internationalisation and Innovation of Solar Companies
SUSCHEM-ES	Spanish Technology Platform for Sustainable Chemistry
TEXFOR	Textile industry confederation
XRES4S	R&D&I Energy for Society Network

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INTER NATIONAL

INTERNATIONAL ORGANISATIONS AND TECHNOLOGY PLATFORMS

AISE	The international Association for Soaps, Detergents and Maintenance Products
AM PLATFORM	Additive Manufacturing Platform
BBI	Biobased Industries Consortium
BEPA	Batteries European Partnership Association
BIOLAGO	BioLago the health network

CCI FRANCE	CCI FRANCE ESPAGNE- Cámara Comercio Francesa
CITIES2030	Collaboration Platform for Climate Neutrality of Spanish Cities
CLEANSKY	Clean Sky Joint Undertaking
CO2VALUE	Association representing the Carbon Capture and Utilisation (CCU) community in Europe
CROWDHELIX	Open Innovation Network
EARMA	European Association of Research Managers and Administrators
EARPA	European Automotive Research Partners Association
EARTO	European Association of Research and Technology Organisations
ECSEL	Electronic Components and Systems for European Leadership (JU) [ENIAC+ARTEMIS+EPoSS]
ECTP	European Construction Technology Platform
EEBA	European Eye Bank Association
EFFRA	European Factories of the Future Research Association
EIT HEALTH	Knowledge and innovation community' (KIC) of the European Institute of Innovation and Technology (EIT)
EMIRI AISBL	Energy Materials Industrial Research Initiative
ENOLL	European Network of Living Labs
EPoSS	European Technology Platform for Smart Systems Integration
ESIA	European Solar PV Industry Aliance
ESOT	European Society for Organ Transplantation
TEXTILE ETP	European Technology Platform for the future of textiles and clothing
ETP NANOMEDICINE	European Technology Platform on Nanomedicine
EU ROBOTICS	European Robotics Coordination Action
EUMAT	European Technology Platform on Advanced Engineering Materials and Technologies
GEDRT	Groupe Europeén d'échange d'expériences Sur la Direction de la Recherche Textile
GIPOM	Global Innovation Platform
IMPARAS	Improving Allergy Risk Assessment Strategy for New Food Proteins

IPIFF	International Platform of Insects for Food and Feed
ISMET	The International Society for Microbial Electrochemistry and Technology
OE-A	Organic and Printed Electronics Association
PHOTONICS 21	European Technology Platform for photonics
PTF4LS	Plataforma Tecnológica del Sector Agroalimentario Español
RHC-ETP	Renewable Heating & Cooling European Technology Platform
RM-PLATFORM	Rapid Manufacturing Platform
SETAC	Society of Environmental Toxicology and Chemistry
SPIRE	Sustainable Process Industry through Resource and Energy Efficiency
SUSCHEM	European Technology Platform for Sustainable Chemistry
TEXTRANET	European Network of Textile Research Organizations
WAITRO	World Association of Industrial and Technological Research Organizations
WSSTP	The European Water Platform (Water supply and sanitation Technology Platform)

ACTIVE MEMBER

Leitat is part of the Governing Council of the Spanish Federation of Technology Centres (FEDIT), holds the second vice presidency and is Regional Focal Pont for Europe of WAITRO (World Association of Industrial and Technological Research Organisations).

3 | WHAT WE OFFER

3.1 | LEITAT INNOVATES

As an agent of the innovation ecosystem, Leitat positions itself alongside companies as an extension of its R&D&I department to facilitate the transfer and adoption of innovative technological solutions that allow the company to develop new products with high technological value and meet the changing demands of the global market.

INDUSTRIAL REVOLUTION

Leitat was launched in 1906, at the beginning of the "Technology push" debate, to create and transfer value and technology to companies and entities.

1970s

Innovation goes beyond a department and, with globalisation, it goes beyond conventional borders. Leitat becomes a global leader in the management of innovative technologies, stimulating the creativity and talent of our personnel.

*These images have been generated using artificial intelligence to recreate the most outstanding milestones of the historical context of each decade.

Innovation ecosystems, whether sectoral or geographical, improve their efficiency with agents like Leitat, which facilitates the adoption of technological developments.

1950s

As a driver of OPEN INNOVATION, Leitat connects the development of technologies with the generation of opportunities along multiple value chains.

2000s

At Leitat, the physical/material world and the digital/virtual world to generate technological knowledge and innovation.

ACTUAL MOMENT

3.2 | MULTISECTORAL RESPONSES

TO THE TECHNOLOGICAL NEEDS OF COMPANIES

ENVIRONMENT

- Water treatment, reuse and efficient management.
- Soil monitoring and restoration.
- Air treatment and control.
- Nature-based solutions.
- Membrane, physicochemical and electrochemical processes.
- Detection and monitoring of emerging contaminants.
- Decision support systems and predictive models.
- Sustainability assessment and social innovation.
- Human and environmental risk assessment.

AGRICULTURE

- Plant growth biostimulants, biofertilisers and biopesticides.
- Plant metabolism and plant health.
- Pest control: natural antimicrobials, nematicides and attractants.
- Microencapsulation of active compounds.
- Soil monitoring and remediation.
- Recovery of bio-waste for use as fertiliser and/or soil amendment.
- Water for irrigation use.
- Monitoring the impact of chemicals on soil and aquatic ecosystems.
- Photonics applied to quality control and classification.
- Collaborative mobile robotics.

ENERGY

- Hydrogen and biofuel production.
- New photovoltaic energy (thin-film solar cells, smart windows).
- Energy recovery of waste streams.
- Li-ion and post-Li-ion energy management systems.
- Synthesis and recovery of active materials.
- Energy efficiency and simulation.
- CO2 capture, conversion and utilisation.
- Membranes, (bio)electrochemical and (photo) electrochemical systems.
- AI and predictive models applied to energy management systems.

FOOD

- Alternative sources of active ingredients: agri-food by-products, microalgae, insect breeding.
- Alternative protein.
- Biorefinery: extraction and conversion technologies.
- Fermented foods and beverages.
- Food technology: 3D printing, microencapsulation.
- Formulation of functional products.
- Chemical and nutritional characterisation.
- Bioactivity assessment.
- Omic sciences and AI.

- Photonics applied to the digitisation of composition/ quality.
- Sensory evaluation of food products.
- Food safety.
- Sustainability assessment and social innovation.

RECYCLING AND WASTE

- Physical-chemical, microbiological characterisation. Biodegradability.
- Optical classification with hyper and multispectral vision
- Robotics and automation
- Conditioning, hydrolysis/extraction, (bio) conversion, purification:
  - Inorganic: recovery of Critical Raw Materials, catalysts, advanced materials.
  - Plastic: amides, polyamides, polyester, polyurethane.
  - Bio-waste: proteins, active ingredients, biomaterials, biofuels.
- Energy recovery: thermal, bioelectrochemical, anaerobic digestion.
- Assessment of circularity and social innovation.
- Safe and sustainable through design.

CHEMISTRY

- Flow chemistry.
- Synthesis of polymers.
- Metal and oxide nanoparticles.
- Microencapsulation.
- Porous carbon electrodes.
- Nanofibres.
- Anti-corrosion pretreatment of metals.
- Lubricant formulation, stability test, performance test.
- Advanced plasma coating.
- Non-fluorinated hydrophobic coating.

MATERIALS

- Hollow fibre membrane.
- Flat sheet membrane.
- Gas purification.
- Liquid purification.
- Injection model.
- Twin-screw extrusion.
- Film blowing.
- Transformation of polymers.
- Physical and mechanical characterisation services.
- CO2 capture and building blocks.
- Hydrogen storage materials.
- Metal absorbent materials.
- Porous carbon electrodes.
- Metal and oxide nanoparticles.

TEXTILES

- Physical and mechanical characterisation services (ageing, weathering, light behaviour, corrosion and radiation).
- Reaction-to-fire and fire-resistance testing services.
- Selection of materials.
- Development of new products.
- Defect analysis.
- Process optimisation.
- Development parallel to recycling and waste.
- Cleaning and activation of surfaces using plasma technology or wet processes.
- Desizing, desizing, bleaching.
- Selective dyes for textiles, sustainable dyes.
- Combined dyeing and finishing processes.
- Selection of functional finishes.
- Application by padding or blade coating.
- Release of microplastics.
- Plasma treatment of fibres, yarns and textiles to improve their adhesion to polymer matrices in composites.

HIGH TURNOVER CONSUMER GOODS

- Design of detergent and cosmetic formulations.
- Research on new raw materials.
- Optimisation of formulations and applications: Value-added products.
- Custom tests.
- Enzyme activity.
- Quality control and formulation with photonics.
- Microbiological tests.
- Ecolabel evaluation.
- Performance tests: standard and bespoke.
- Stability tests.
- Market research.
- Consumer testing.
- Olfactory evaluation.
- Toxicity and in vitro testing.

AUTOMOTIVE

- Chemical resistance.
- Protection and corrosion testing.
- Tribology (pre-treatments of metals + lubricants).
- Thermoplastic compounds.
- Extrusion and injection moulding.
- 4.0 technologies to improve flexibility and optimise supply chains, production, quality and logistics.
- Additive manufacturing of new components and/or tools.
- Robotics for the automation of manufacturing and logistics operations.
- Part Failure Investigation: Photonics Systems and vision


4/0.10

for inspection and quality control.

- Physical and mechanical characterisation services (ageing, weathering, light, corrosive and radiative behaviour of materials, colour identification).
- Reaction-to-fire and fire-resistance testing services.
- Metrology (dimensional characterisation of parts and assemblies).

TRANSPORT

- Chemical resistance.
- Protection and corrosion testing.
- Tribology (pre-treatments of metals + lubricants).
- Thermoplastic compounds.
- Extrusion and injection moulding.
- 4.0 technologies to improve flexibility and optimise supply chains, production, quality and logistics.
- Additive manufacturing of new components and/or tools.
- Robotics for the automation of manufacturing and logistics operations.
- Part Failure Investigation: Photonics and vision systems for inspection and quality control.
- Physical and mechanical characterisation services (ageing, weathering, light, corrosive and radiative behaviour of materials, colour identification).
- Reaction-to-fire and fire-resistance testing services.
- Metrology (dimensional characterisation of parts and assemblies).

MEDTECH & DIAGNOSTICS

- Bioanalytical and metabolomic services for in vitro and in vivo studies, using high-resolution analytical techniques.
- Development of devices from rapid tests to points of care. Our diagnostic solutions and specific biosensors are applicable in various sectors such as healthcare, sports medicine, veterinary medicine, food and the environment.
- Organ on a chip.
- Microfluidics.
- Identification, validation and characterisation of new therapeutic targets and diagnostic biomarkers.
- Development of new and innovative tools for the diagnosis, prognosis and monitoring of the evolution of diseases and their treatment.
- AI applied to medical imaging.
- Photonics and vision for the evaluation of quality in medical devices.
- Physico-chemical characterisations of medical devices.
- Surgical masks.

PHARMA AND VETERINARY

- Generation, production and purification of monoclonal antibodies for therapy and diagnosis.Engynieria d'anticossos i visualització de de fags.
- Antibody engineering and phage display.
- Non-regulatory preclinical (in vitro/in vivo) validation of

NME in oncology, neurodegenerative diseases, immune-mediated inflammatory diseases, musculoskeletal disorders and fibrotic processes.

- Discovery and validation of biomarkers in biofluids (blood, plasma/serum, saliva, urine...).
- In Vivo end-to-end microbiome studies.
- Development and validation (MVP) of medical and diagnostic devices.
- ADME and characterisation of the metabolomic profile.
- Bioprinting.
- Support for vaccine development.
- Advanced surgical techniques and imaging in in vivo experimental models.
- Exploratory toxicity in vitro and in vivo tests (non-regulatory).

COSMETICS

- Profiling of dermo-cosmetic substances.
- Microbiological tests.
- Ecolabel evaluation.
- (bio)Extraction of active ingredients.
- Green chemicals.
- Design and development of polymers with improved properties (biodegradability, solubility, etc.)
- Exploratory toxicity in vitro and in vivo tests (non-regulatory).
- Encapsulation and release systems for active ingredients.
- Characterisation and testing of ingredients (efficacy, safety).
- Characterisation of final products: formulation, stability and compatibility of final products.
- Reference and market studies.
- Consumer testing.
- Olfactory evaluation.

MANUFACTURING AND ENGINEERING

- Design and engineering of advanced industrial applications enabled by additive manufacturing.
- Production processes, post-processing and additive manufacturing technologies.
- Robotics and automation: manufacturing applications and services.
- AI applied to industrial manufacturing: Optimisation of processes and prediction models.
- Predictive maintenance of industrial production assets.
- Logistics 4.0: Demand and traceability optimisation and prediction models.
- Photonics and vision applied to digital manufacturing and quality control.
- Accelerating time to market for industrial product innovation.
- Sustainable and safe by design.
- Environmental, social and cost life cycle assessment.

LOGISTICS

- Robotics:
  - Logistics (intra and external).
  - Security and surveillance (mobile robotics).
  - Loading/Unloading of Goods (trucks, trains...).
- IoT:
  - Interconnected devices, sensors and systems.
  - Real-time communication and automation.
  - Inventory management.
  - Advanced IoT, connectivity protocols, including 5G.
- Application of 4.0 technologies to the supply chain.
- Big data.
- Predictive maintenance.
- Improved operational efficiency.
- Additive manufacturing.

DIGITISATION

- Intelligent Devices: Design, development and prototyping of IoT/EDGE, sensors, electrical systems and communications.
- Connectivity: Wired/Wireless: ModBus, Ethernet, SiFox, LoRa, NB-IoT, LTE-M, GSM/4G, 5G private networks, WIFI, LoRaWan, Bluetooth 5.0.
- Ingestion: Design and development of ingestion and data management solutions.
- Automation: Segmentation and categorisation of .data. Extraction of information, design of AI models applied to automation and segmentation.
- Analytics: Design and development of AI algorithms to analyse data. AI based on information.
- Security and intelligence built into IoT devices.
- Interoperability of systems and integration of heterogeneous data.

ROBOTICS & AUTOMATION

APLICATIONS

- Neutral advice on market solutions.
- Support for the introduction of robotics in companies.
- Benchmarking / testing of new processes in the robotics laboratory.
- Development of advanced processes and industrial pilot schemes.

TECHNOLOGIES

- Handling, 2D/3D vision, navigation.
- Industrial, collaborative/mobile and service robotics.
- Implementation of robotic processes.
- Artificial Intelligence applied to production processes and operational technologies.
- Design of robot end effectors using additive manufacturing.
- Surface treatments.
- Disassembly of battery packs.

4 | HOW WE DO IT

WITH THE FOLLOWING LINES OF RESEARCH

HEALTH & BIOMEDICINE (H&B)
DIGITAL INDUSTRY (DI)
APPLIED CHEMISTRY & MATERIALS (ACM)
CIRCULAR ECONOMY & DECARBONIZATION (CED)
ADVANCED TECHNOLOGICAL SERVICES (STA)

INDUSTRIAL RESEARCH

That adds value, differentiation and innovation opportunities in global markets.

- PROCESS IMPROVEMENT
- PRODUCT IMPROVEMENT
- ADAPTATION TO CHANGE
- INNOVATION CAPACITY

MULTIDISCIPLINARY TEAMS

With know-how and experience in various fields of knowledge and disciplines.

- CORPORATE IMPACT
- SOCIAL IMPACT
- INTERNATIONALISATION
- ECONOMIC RETURN

TECHNOLOGICAL CAPBILITIES HEALTH

THERAPY

- Identification, characterisation and validation of therapeutic targets.
- Pharmacological characterisation of new molecular entities. In vitro/Organoid/in vivo models.
- Monoclonal antibodies, phage display libraries and antibody engineering.
- Bioprinting-based therapies.

DIAGNOSIS

- Discovery and validation of biomarkers.
- Metabolomic and bioanalytical studies.
- Development of diagnostic devices.

INDICATIONS

- Oncology.
- Inflammatory diseases.
- Fibrosis.
- Osteo-Articular and Musculoskeletal Pathologies.
- Neurodegenerative.
- Microbiome & Metagenomics.
- Skin pathologies.
- Dermocosmetics, Dermo-Pharmaceuticals.

HEALTH & BIOMEDICINE (H&B)

LINES OF RESEARCH

In vitro cell models to study the efficacy, safety, mechanism of action, screening, ADME-Tox, bioanalytics, metabolomics, etc., of drugs, cosmetic, regenerative health products and food supplements.

In vivo models to study efficacy, combi-therapy, immuno-oncology, biodistribution, pre-Tox and Maximum Tolerated Doses (MTD), pre-PK, histology, etc. (oncology, inflammation, dermatology, neurodegeneration, cell and tissue regeneration, angiogenesis).

Generation of on-demand polyclonal and monoclonal antibodies (mAbs) for basic research, diagnosis and therapeutic treatments.

Antibody engineering: Antibody Drug Conjugates (ADC), VHH single domain (nano) antibodies, Bispecific Antibodies, Chimerisation, Humanisation, Antibody frag- ments (Fab, scFv), Phage Display Libraries and biosimilars.

In vivo models for microbiome, dysbiosis and human microbiota transplantation studies. Collaboration in the development of probiotics and prebiotics for nutrition and treatment of diseases.

In vivo models of osteoarticular – musculoskeletal, cartilage, tendon, ligament lesions (small and large animals) combined with imaging studies (CT, MRI).

We are focused on therapies and diagnostics in fields and sectors such as oncology, inflammation, dermatology, sport, cell and tissue regeneration, angiogenesis, etc., with activities including:

- Analysis of the therapeutic efficacy of new drugs, whether chemical, biological, cellular or genetic (at the molecular, biochemical, immunochemical, cellular and in vivo levels).
- Drug-targeting and drug-delivery projects for the improvement of drugs and other therapeutic applications.
- Development of new biological drugs (monoclonal antibodies) and improvement of these (chimerisation, humanisation, biosimilars, conjugation).
- Identification, validation and characterisation of new therapeutic targets and biomarkers.
- Determination of new indications for drugs on the market and in clinical phases (reprofiling, repurposing).
- Development of new and innovative tools for the diagnosis, prognosis and monitoring of the evolution of diseases and their treatment (monoclonal antibodies, ELISA kits, immunohistological kits).
- Development of devices for ambulatory use (lateral flow devices, biosensors, POCT). Our diagnostic solutions and specific biosensors are applicable in various industrial sectors such as health, veterinary, food and environment.
- Bioanalytical and metabolomics services for in vitro and in vivo studies, making use of high-performance analytical techniques (chromatography combined with mass spectrometry).

TECHNOLOGICAL CAPABILITIES CHEMICAL AND MATERIALS

SYNTHESIS AND MANUFACTURING

- Microencapsulation and nanotechnologies.
- Organic and inorganic synthesis.
- Manufacture of membranes for gases and liquids.
- Synthesis and transformation of polymers.

FORMULATION AND APPLICATION

- Functional coatings for metallic and polymeric surfaces.
- Formulation of lubricants and industrial fluids.
- Formulation of cosmetic detergents, lubricants, inks and textile finishes.

CHARACTERISATION AND VALIDATION

- Climatic ageing and corrosion.
- Emissions.
- Optical and electron microscopy.
- Physical-mechanical-chemical characterisation.
- Characterisation of surfaces and metrology.
- Resistance and reaction to fire.

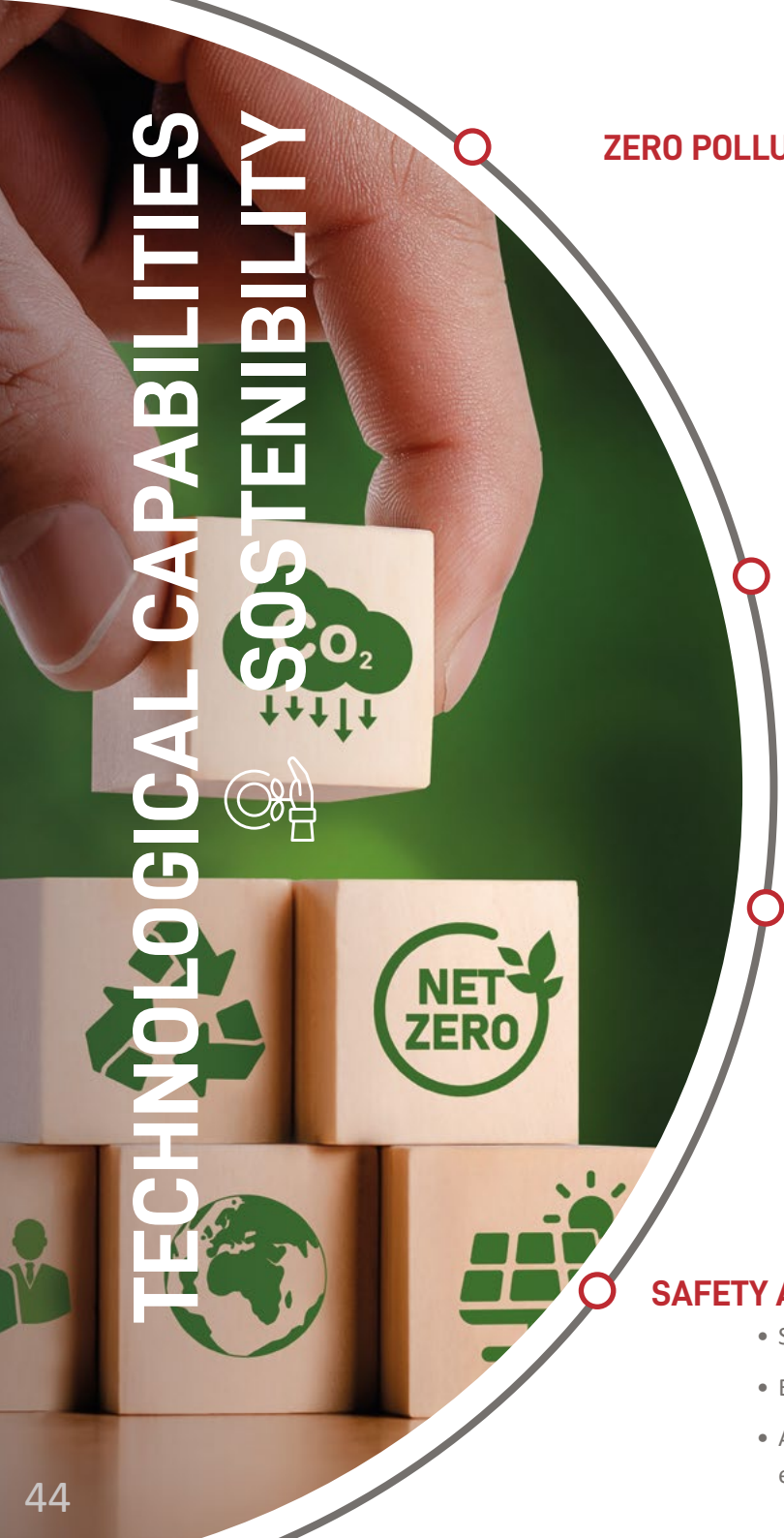
APPLIED CHEMISTRY & MATERIALS (ACM)

LINES OF RESEARCH

We carry out comprehensive projects in the field of applied chemistry and new materials, encompassing the entire value chain including the synthesis of new molecules and the formulation of raw material to achieve products with advanced properties, scaling of manufacturing processes at the pilot level and validation of new technologies including accelerated ageing, stability and efficiency or mechanical properties.

- Raw materials:
  - Study and synthesis of polymers and biopolymers, resins, organic compounds, surfactants and oils.
  - Synthesis of micro and nanocapsules.
  - Synthesis and surface modification of metallic nanomaterials, ceramics, nanofibres and carbonaceous structures.
  - Study and modification of surfactants, oils and greases. Synthesis of organic molecules by conventional techniques and flow chemistry.
- Design and Formulation:
  - Formulation of paints, inks and functional coatings.
  - Mixing processes of asphalts, concretes and cements.
  - Formulation of detergents and cosmetic products.
  - Development of polymeric composites (nanocomposites, biocomposites) by means of extrusion and reactive extrusión.
  - Electrospinning of nanofibres, nano-meshes and hollow fibres.
  - Formulation of cutting fluids, drills, lubricants and greases.
- Processing and Application:
  - Transformation of polymers by conventional techniques (injection, extrusion and blown injection).
  - Spinning processes.
  - Plasma treatments and application of coatings and paints (spray, Spin Coating, padding, squeegee).
  - Ink printing (screen printing, inkjet, pad printing).
  - Washing processes on textiles and surfaces.
  - Application of tribochemicals on metal surfaces.
  - Sol-gel treatments and application of nanofibres by electrospinning on substrates.
  - Chemical recycling of polycondensation polymers.
- Validation:
  - Characterisation of materials (mechanical, impact, barrier, antimicrobial, hardness, scratch resistance, adhesion, fire resistance).
  - Validation tests on detergents and cleaning products.
  - Formulation stability studies, lubricity, corrosion and foaming studies for tribochemicals.
  - Consumer testing.
  - Olfactory and ecolabel evaluations.
  - Evaluacions olfactives i ecolabel.
  - Accelerated ageing tests.
  - Chemical characterisation HPLC, GPC, UV-VIS, FTIR, ICP-MS, etc.

TECHNOLOGICAL CAPABILITIES SOSTENIBILITY



ZERO POLLUTION

- Water treatment and reuse.
- Recycling and recovery of waste.
- Air and gas treatment.
- Soil restoration.
- Membrane, physico-chemical, electro-chemical, biological processes and nature-based solutions.

BIOECONOMY AND BIOTECHNOLOGY

- Bioprocesses and biocatalysis.
- Microbiome engineering.
- Renewable resources and biorefinery.
- Agri-food technologies.

ENERGY TRANSITION AND DECARBONISATION

- Captura CO2 capture, conversion and utilisation.
- Energy storage systems.
- Hydrogen and biofuel production.
- New photovoltaic devices.
- Bio-electrochemical and photo-electrochemical systems.

SAFETY AND SUSTAINABILITY

- Sustainable production and new circular business models.
- Environmental, economic and social benefit.
- Analysis of risks and impact on human health and the environment.

CIRCULAR ECONOMY & DECARBONIZATION (CED)

LINES OF RESEARCH

Innovative technologies and strategies for safe and sustainable production, the efficient management of natural resources and energy, the valorisation of waste streams, the incorporation of biotechnology and bioeconomy in the industrial environment, and the decarbonisation of production processes.

- Zero pollution.

Innovative technologies for water treatment and reuse, removal of emerging contaminants (separation and purification technologies, oxidative, (bio) electrochemical, nature-based solutions). Treatment and recovery of industrial, urban, biomass waste/by-products (conditioning, hydrolysis/extraction, (bio)conversion, recovery of critical raw materials). Treatment of air and gases (photocatalysis, filtration, adsorption, nature-based solutions). Soil restoration (phytoremediation, bioremediation, organic amendments).

- Biotechnology and Bioeconomy.

Bioprocesses and biocatalysis for the sustainable production of bioproducts of industrial interest. New natural assets, new microbial consortia for industrial or environmental applications. Biorefinery, valorisation of waste, by-products or renewable substrates to obtain ingredients and assets with added value. New sustainable food sources (microalgae, breeding of insects and by-products) and agri-food technologies. Agrobiotechnology.

- Energy transition.

Third generation photovoltaic materials and devices (thin-film solar cells, smart windows). Energy storage materials, systems and processes (advanced lithium-ion, post-lithium-ion technologies). Technologies for the production of hydrogen and biofuels, (bio)electrochemical and photo-electrochemical systems. Energy recovery from waste streams. CO2 capture, conversion and utilisation. Energy efficiency.

- Sustainability and Safety.

Sustainable production, industrial symbiosis, eco-design and eco-innovation. New business models based on circular economy. Quantification of environmental, economic and social benefits: Life Cycle Assessment (LCA) of products, services and processes. Strategies for environmental communication, social innovation, awareness and citizen participation. Risk analysis of technologies, products and processes. Exposure assessment, human and environmental (eco)toxicity. Safe and sustainable design (SSbD).

Technological solutions along the entire value chain in strategic sectors such as agri-food, chemical, energy, environmental and urban environment, among others.

TECHNOLOGICAL CAPABILITIES
DIGITALIZATION

DIGITAL MANUFACTURING

- Design and engineering of advanced industrial applications in additive manufacturing.
- Development of innovative additive manufacturing materials and processes.
- Post-processing strategies and functionalisation of 3D components.
- Development of robotic technologies and new processes.

DATA & ADVANCED SENSORS

- Development, testing and validation of new sensors for industrial, health and environmental monitoring.
- Development of microfluidic devices and diagnostics.
- Development of new advanced vision and photonic systems.

CONNECTIVITY & INFORMATION

- Development and application of new IoT device connectivity protocols.
- Security and intelligence embedded in IoT devices.
- Interoperability of systems and integration of heterogeneous data.
- Applied artificial intelligence and software engineering.

SMART PRODUCT DEVELOPMENT

- Product design and engineering.
- Testing, experimentation and validation in target applications.
- Industrialisation support.

DIGITAL INDUSTRY (DI)

LINES OF RESEARCH

The Department of Digital Industry focuses on the development, technology transfer and adoption of technology and innovative solutions for the transition to a digital, sustainable and competitive industry.

Our activities improve the competitiveness of companies and entities, providing knowledge and differential technology for the transition to a digital, sustainable and competitive industry

- Our technological capabilities are located at different points in the value chain and level of technological maturity for key enabling technologies of the digital transition: Digital Manufacturing, Advanced Data and Sensors, Connectivity and Information and Intelligent Product Development:
- Digital Manufacturing:
  - Design and engineering of advanced applications in additive manufacturing.
  - Development of innovative additive manufacturing materials and processes.
  - Post-processing strategies and functionalisation of 3D components.
  - Development of new robotic technologies and processes.
- Advanced Data and Sensors:
  - Development, testing and validation of new sensors for industrial, health and environmental monitoring
  - Development of new photonic and advanced vision systems.
  - Development of microfluidic devices and diagnostic systems.
- Connectivity and Information:
  - Application of new IoT device connectivity protocols.
  - Security and embedded intelligence in devices.
  - Interoperability of systems and integration of heterogeneous data.
  - Applied AI and software engineering.
- Intelligent Product Development:
  - Product design and engineering.
  - Testing, experimentation and validation in target applications.
  - Industrialisation support.

We generate competitive value in the form of technological innovation, with the vision of technology and knowledge transfer in industry and a positive return for society.

ADVANCED TECHNOLOGICAL SERVICES (STA)

TECHNICAL CAPACITY AND RELIABILITY IN THE RESULTS

Leitat is aware that, with its multisectoral vocation, it must be in continuous adaptation to the context and circumstances that surround it, making state-of-the-art equipment and services available to the market. With extensive experience in testing all types of materials, and in their characterisation and behaviour determination, as well as in dimensional measurement of parts and components, Leitat is backed by over 30 years of work experience under ISO 9001 and ISO/IEC 17025 quality references.

DETERMINATION OF PHYSICAL-MECHANICAL PROPERTIES

- Tensile, bending, compression, peeling, coefficient of friction, adhesion, drilling, and others.
- Abrasion, wear, scratching, and surface hardness.
- Colour fastness, wash resistance, and comfort.
- Impact resistance (Charpy, Izod, ball drop and others).
- Rheometry (MFI/MVR) and viscosity.
- Density (liquids and solids).
- Water permeability, vapour resistance, liquid absorption, and others.
- Electrostatic charges.
- Tribology.

DETERMINATION OF CHEMICAL PROPERTIES AND EMISSIONS

- Identification and characterisation of polymers and additives: FT-IR, DSC, TGA, UV-Vis, and others.
- Molecular weight (GPC).
- Gas (GC-MS, GC-FID) and liquid (HPLC) chromatography.
- Inductively coupled plasma mass spectrometry (ICP-MS).
- Analysis of nanoparticles and encapsulated products.
- Elemental analysis (EA).
- Identification and characterisation of volatile and residual substances (VOC's, formaldehyde and others).
- Carbon and formaldehyde emissions (automotive).
- Condensable components "fogging" (automotive).
- Analysis of phthalates.

DETERMINATION OF THE AGEING RESISTANCE OF MATERIALS

- Radiation ageing: Xenon, UV, IR.
- Solar simulation: MHG lamps.
- Corrosion ageing.
- Climatic ageing: Temperature, humidity, thermal shock.
- Natural ageing.

DETERMINATION OF OPTICAL PROPERTIES

- Optical microscopy (OM) and scanning electron microscopy (SEM).
- Digital macro and microphotographs.
- Cross sections, coatings.
- Studies of defects, surface degradation and others.
- Surface appearance, shine, colour and others.

REACTION TO FIRE

- Materials for upholstery and curtains.
- Materials for tents and textile architecture.
- Fire safety of aviation textiles and polymers.
- Tests for fluids (Manifold, Wick test).
- Horizontal combustibility tests for products inside the car.
- Textile and coating materials in aviation.

ENVIRONMENT

- Wastewater analysis. (DQO, DBO5, NTK, SSD, SSV, Hardness, etc.).
- Analysis of anions and volatile fatty acids.
- Analysis of metals in soil and water.
- Analysis of emerging contaminants.
- Biodegradability tests.
- Biogas analysis.
- Analysis of air pollutants.
- Fertiliser analysis (NPK).

PROTECTION – GLOVES AND CLOTHING

- Resistance to cutting, impact and abrasion by impact.
- High visibility.
- Mechanical, thermal, chemical-microorganism hazards.
- Motorcycling, welders, firefighters, foresters and others.
- Comfort of protective clothing.

PROTECTION - MASK

- Bacterial filtration efficiency (BFE).
- Breathability (differential pressure).
- Resistance to blood splashes.
- Bioburden.
- Biocompatibility.

METROLOGY

- Three-dimensional metrology by contact (in laboratory).
- Non-contact dimensional metrology (in laboratory).
- Measurements and graphical reports with CAD comparative method.
- Dimensional studies for problem analysis.
- Capacitive studies and process control statistics.
- Digitisation and reverse engineering.
- Analysis of surface roughness.

ECOLABEL

- Tests and evaluation of environmental criteria for all categories. For example:
  - Textile products.
  - Surface cleaning products.
  - Laundry detergents.
  - Detergents for industrial and institutional clothing.
  - Dishwasher detergents.
  - Industrial and institutional dishwashing detergents.
  - Hand dishwasher detergents.
  - Cosmetics (which require rinsing).
  - Paints and varnishes.
  - Furniture.
  - Lubricants.
  - Paper.
  - Tourist accommodation.
  - Campsites.

FOOD

- Fatty acid analysis (GC-FID).
- Protein analysis.
- Analysis of polyphenols and antioxidant power.

- Total protein analysis.
- Fibre analysis.
- Sugar analysis.
- Analysis of metals (Hg, As, Cr, etc.).

MICROBIOLOGY

- Antibacterial and antifungal activity of active ingredients, materials and formulations.
- Models of biofilm formation and removal.
- Microbiological water control tests.
- Efficacy test of preservatives in cosmetics (Challenge Test).
- Microbiological tests for detergency products.
- Microbiological tests for textiles and plastics.
- Microbiological tests for medical devices and materials.
- Detection of pathogens and indicator microorganisms in food products.
- Evaluation tests of biocidal products and disinfectants.

APPLICATION OF NEW TECHNOLOGIES

- Plasma.
- Polymer extrusion.
- Rapid Prototyping - 3D Printing Three-dimensional metrology (in the laboratory).
- Parts metrology: reports on the approval of springs and dies.
- Measurement and graphical reports with comparative CAD method.
- Dimensional study for analysis of assembly problems.
- Sample measurement, process control statistics studies.
- Automatic measuring programmes for coordinate measuring machines.
- Digitisation and reverse engineering.

PROTOTYPE VALIDATION

- Materials.
- Finished products.
- Industrial processes.

BIOANALYSIS AND HEALTH

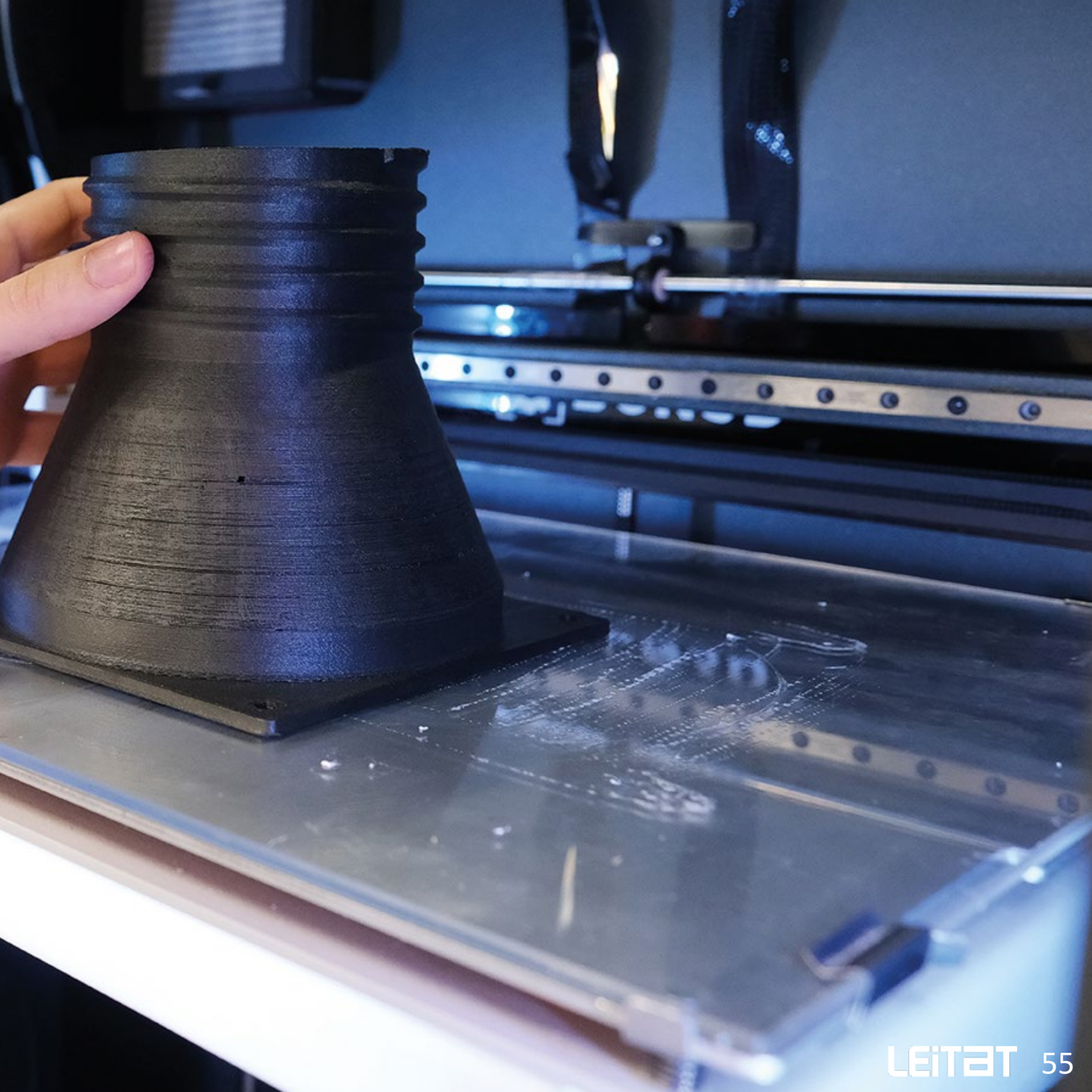
- Enzyme activity tests.
- Cosmetic safety and efficacy studies.
- Safety studies for detergency products.
- Safety studies for medical devices.
- Bioavailability and food allergenicity studies.
- Drug Absorption, Distribution, Metabolism, Excretion and Toxicity (ADMEtox) studies.
- Bioequivalences.
- In vitro / in vivo metabolomic analysis.
- Efficacy studies of anti-tumour compounds (in vitro and in vivo).
- Efficacy studies of potential drugs against autoimmune and inflammatory diseases (in vitro and in vivo).
- Generation of polyclonal and monoclonal antibodies for research, diagnosis and therapy.
- Design and development of diagnostic biosensors.
- Antibody engineering: humanisation and chimerisation: nanobodies, scFv, bispecifics, ADCs, fusion proteins, biosimilars.
- Drug reprofiling.

4.2 | NOTIFIED BODY

Leitat is a Notified Body with no. 0162, recognised by the European Union and authorised by the Ministry of Industry, Energy and Tourism, to carry out the Conformity Assessment (CE marking) prior to its placing on the Community market of Personal Protective Equipment (PPE) included in the scope of accreditation and in accordance with REGULATION (EU) 2016/425 of the European Parliament and Council for:

- EU Type Examination Certificates (Module B, Category II and III PPE)
- Conformity to type based on internal production control plus supervised product control at random intervals (Module C2, Category III PPE)

4.3 | SINGULAR INITIATIVES



IAM3DHUB

WWW.IAM3DHUB.ORG

IAM 3D HUB is a digital innovation centre specialising in additive manufacturing and 3D printing. It's aim is to promote the adoption of additive manufacturing and 3D printing technologies by companies and the industrial sector in the European Union as an alternative to the design, development and production of new products and services that improve their competitiveness.

IAM 3D HUB offers a one-stop service to advise and guide companies wishing to invest in 3D printing, contributing to a new era of production from code to tool-free material as a fast, safe and efficient manufacturing method.

It is an initiative constituted by HP, Leitat, Renishaw, BASF, DLyte-GPA Innova, Abrast by Coniex, AM Solutions, Materialise Software, CIM UPC as technological partners, as well as 3Dnatives, 3D Printing & Design, Additive Manufacturer Green Trade Association (AMGTA), the 3D Incubator, the first 3D printing incubator in Europe and Fira de Barcelona. It's also supported by ACCIÓ, the Generalitat of Catalonia's agency for business competitiveness.

SERVICES

DESIGN AND ENGINEERING FOR ADDITIVE MANUFACTURING (DfAM & EfAM)

These are the key insights to make the most of the use of additive manufacturing and 3D printing technologies. Freedom of design to create innovative applications with advanced functionalities.

BUSINESS & MENTORING

It also helps to design the best economic strategy for the implementation of the technology.

EDUCATION & TRAINING

To provide the digital skills necessary for the adoption of AM/3DP, the centre will provide industrial training programmes and theoretical-practical professional training to company personnel to familiarise them with 3D printing technologies, design, engineering, production control, machine operation or other necessary skills.

ADOPTION PROJECTS

EXPERIMENTING AND TESTING

In order to gain knowledge and confidence in the technologies, the hub currently offers the following activities:

- Diagnostics for companies.
- AM/3DP Use.
- Benchmarking and testing for product development.
- Capabilities and limitations of AM/3DP for manufacturing purposes.
- Selection of materials and processes.
- Practical workshop/Lab-Day.

END TO END SOLUTIONS

The centre currently offers the following resources for developing end-to-end solutions:

- A service to design or redesign parts in order to make the most of the advantages and possibilities provided by additive manufacturing technology.
- Advice on the creation of the floor plan for a 3D production plant or on how to integrate technology into a traditional production plant.

The following resources are available to facilitate these activities:

- A team of 20 people, including the technical staff/operators of the 3D printing equipment.
- Design software, simulation software and production software.
- Materials laboratory (physical and chemical).
- Additive production equipment. The centre currently has the following equipment:

- 1 SLM.
- 2 SLAs.
- 3 LCDs.
- 5 FDMs.
- 2 MJFs.
- 1 SLS.
- 1 BJ.
- 3 Post-Processing devices.

- Metal laboratory.
- Heat treatment laboratory.
- Materials laboratory: characterisation and tests.
- Polymer laboratory:
    - o Filament laboratory.
    - o Photopolymer laboratory.
    - o Polymer powder laboratory.
- Post-processing laboratory: cleaning, polishing and coating.

3D INCUBATOR//

WWW.INCUBATOR3D.ORG

The 3D Incubator is the first European high-tech incubator in 3D printing, which aims to propagate initiatives related to additive manufacturing by creating a space for the incubation of start-ups, SMEs and micro-enterprises that use this technology. Ready to incubate more than 100 companies in five years, the 3D Incubator will promote the business take-off of incubated initiatives through the provision of general incubation services, 3D production technological services, business consulting, parts testing and advice on marketing and internationalisation.

With 1000 m2, the space has a coworking and training area, private offices, meeting rooms and a laboratory with eight 3D production technologies, post-processing and metrology equipment. Likewise, all incubated projects have at their disposal a wide range of services along the entire value generation chain: production, business consulting, marketing and certification.

The initiative is led by Leitat and the Free Trade Zone Consortium of Barcelona and is financially supported by FEDER funds through the INCYDE Foundation.

SERVICES

GENERAL INCUBATION

INNOVATION & BUSINESS CONSULTING

TESTING

- Specific tests related to their projects to gain access to official certificates.

COMMERCIALISATION AND INTERNATIONALISATION

TECHNOLOGY SERVICES

- 3D design and engineering.
- Production.
- Reverse engineering and quality control.

FORMATION

To offer these activities, 3D Incubator has the following resources:

- Four industrial 3D printers (MJF, Material Jetting and FDM).
- Six mini printers (FDM, SLA, DLP and SLS).
- Post-processing laboratory.
- Design, scanning and metrology area.

The Healthcare Living Lab Catalonia (HCLLC) is a Living Lab specialised in the health and social sector that has the mission of bringing together health centres, technology centres and Living Labs throughout Catalonia to connect them with innovative people and entities. This facilitates the prototyping, testing, and validation of their solutions based on a proprietary methodology quickly, efficiently, maximising the results. The HCLLC offers its services to advise and methodologically guide start-ups, SMEs and companies that wanted to prototype, test and/or validate innovative solutions in real environments with end users in the fields of medical devices, in vitro diagnostics and digital health.

It's an initiative of Leitat that aims to turn Catalonia into a leading Living Lab. To achieve this, it has an extensive network of collaborating entities that includes the main healthcare centres and innovation leaders throughout the country, as well as the main associations of healthcare and social centres in the country.

This network is growing day by day and currently includes the following organisations:

Salut/Institut Català de la Salut

Vall d'Hebron Hospital · Bellvitge Hospital · Germans Trias i Pujol Hospital · Hospital Universitari de Girona Doctor Josep Trueta

Hospital Universitari Arnau de Vilanova Lleida · HJ23 Hospital Universitari Joan XXIII ICS Camp de Tarragona · Hospital de Viladecans · HTVC Hospital de Tortosa Verge de la Cinta · IDIAP Jordi Gol

MútuaTerrassa · Parc Taulí Hospital Universitari · CST Consorci Sanitari de Terrassa · Fundació Hospital d'Olot Comarcal de la Garrotxa · Germanes Hospitalàries · Son Espases hospital universitari · Fundació Launi · Fundació Salut Empordà

Hospital de Figueres Fundació Salut Empordà · Fundació Privada Hospital Asil de Granollers · Hospital del Mar · Parc de Salut MAR Barcelona · Hospital Universitari General de Catalunya Grupo Quirónsalud · Hospital Universitari Sagrat Cor · Hospital Quirónsalud del Vallès · Clúster Salut Mental Catalunya · Xarxa Santa Tecla Sanitària i Social

In addition, the HCLLC has the seal of the European Network of Living Labs (ENoLL) and collaborates with EIT Health and the Centre for the Integration of Medicine and Innovative Technologies (CIMTI).

HCLLC SERVICES

CO-CREATION ACTIVITIES

In order to engage end-users from the start and help innovators design solutions that solve real problems, HCLLC organises and executes co-creation activities of innovative solutions where collaboration of all parties is facilitated:

citizens (patients or healthy population), professionals in the health and social fields, universities and companies.

Types of co-creation activities organised:

- Individual interviews.
- Focus groups.
- Ideation of solutions with stakeholders.

The HCLLC has its own methodology to carry out these activities by involving the necessary people and obtaining high-value information.

PROTOTYPING SERVICES

In order to develop design or functional prototypes of innovative solutions, the HCLLC uses Leitat's prototyping capabilities in the areas of Health and Biomedicine, Applied Chemistry and Materials, Advanced Engineering and Robotics.

Through prototyping, you can demonstrate the key functions of products or services, gather feedback from end-users, and guide subsequent design and development.

Methodology based on Leitat's experience.

DISSEMINATION, COMMUNICATION AND TRAINING

In the field of European consortium projects, the HCLLC also acts as a key partner in the development and implementation of the communication strategy for the dissemination of project activities and results among stakeholders and citizens. Furthermore, it leads the formation of interest groups to ensure the involvement of, studies allow for the efficient and rapid end users from the outset in each project. The target audience of this service includes professionals in the health and social fields, researchers citizens and the administración.

PILOT STUDIES AND CLINICAL VALIDATIONS

In order to validate the effectiveness and efficiency in real environments of the developed solution, the HCLLC organises and executes pilot studies and clinical validations with the collaboration of health and social entities validation of solutions, with a statistical sample size that generates evidence with significant results and within a minimal budget. This information is essential to focus investment rounds and regulatory processes

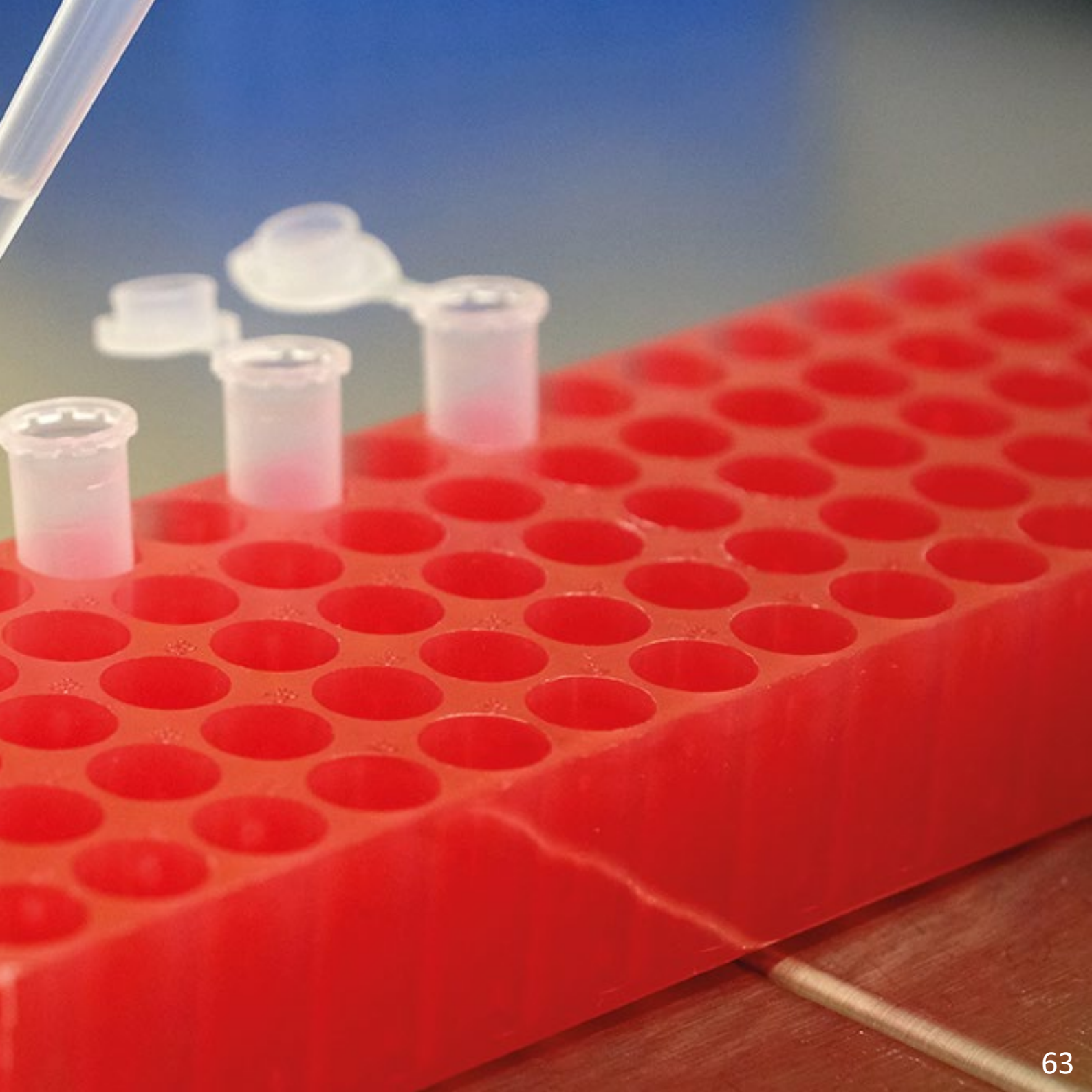
USABILITY STUDIES

In order to evaluate the ergonomics, design, usability and function of a solution, the HCLLC organises and executes usability studies where end users test and evaluate innovative solutions. The end users involved include citizens (patients or healthy population) and professionals in the health and social fields. The HCLLC has its own methodology to execute the entire process, from the definition of the necessary indicators, to the execution of the study, the analysis of the data and the drafting of the final report.

FUNDING SEARCH

Search, orientation and presentation of national and international competitive calls for financing for the development of innovative projects. Through our expert team in the search for national and international competitive financing, we advise SMEs and start-ups on the most appropriate ways to apply for competitive financing according to their characteristics and needs. We guide them throughout the entire grant application process: from identifying the call for proposals and selecting partners, to drafting and presenting the competitive proposal.

5 | COMMERCIAL COMPANIES



WWW.GENEVECTORBCN.COM

Founded in 2021, Gene Vector Barcelona is a 100% subsidiary of the Leitat Technological Center organisation, which was launched as an SPC to comply with all the regulatory and legal requirements set by the Spanish Medicines Agency (AEMPS) to manufacture and export the viral vector used for second generation CAR-T Therapy (CAR-T ARI-00001).

Its main objective is to contribute to greater equity in accessibility to the most innovative gene therapies for patients around the world.

Gene Vector Barcelona's lentiviral production is the result of technological transfer from the Hospital Clinic de Barcelona, and therefore acts as a bridge between the hospital and the potential user abroad.

Gene Vector Barcelona has obtained the Manufacturing and Import Authorisation (MIA) from the AEMPS, which allows the distribution of the product throughout Europe, and sets the standards for its approval abroad.

WWW.AMIRATX.COM

Amira Therapeutics emerged in 2023 as a spin-off of Leitat and is dedicated to the development of new drugs to fight childhood cancer.

Its pipeline is composed of two compounds that emerged from the Drug Discovery process and that are currently advancing in their preclinical development.

Amira is a name inspired by the love we feel for our children, our princes and princesses (Amira in various cultures), and how cancer becomes a life-changing even. We exist to dramatically change the perspectives of families who receive the devastating news of a diagnosis of cancer or another life-threatening disease.

Amira Therapeutics' goal is to reach patients by developing innovative compounds, collaborating with leading bodies following a rapid development strategy. This collaboration is exemplified by the one they've maintained with the Vall d'Hebron University Hospital Foundation (VHIR), with whom they have worked together since the beginning of the project and have been able to develop a family of patents that protects the compound and its indication in different territories, including Europe, the USA and Japan. Their most advanced compound, AMI463, has received several distinctions from regulatory authorities in Europe and the United States.

Currently, Amira is associated with the MGC Foundation, with whom it shares the goal of redefining treatments for children by developing targeted therapies and reducing the use of conventional cytotoxic chemotherapy.

ABAC Therapeutics

Precision antimicrobial agents

WWW.ABACTHERAPEUTICS.COM

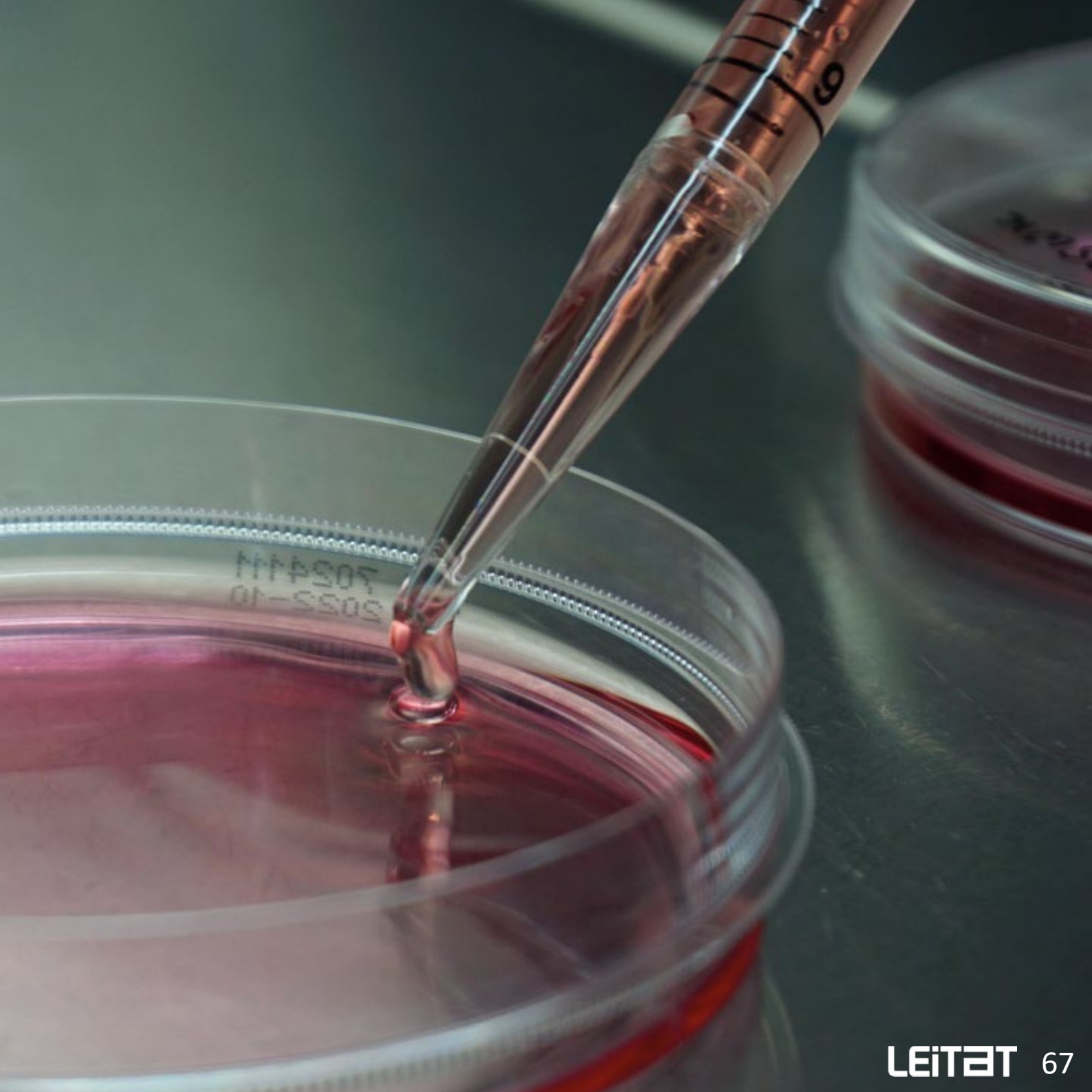
ABAC Therapeutics is a biotechnology company established in Barcelona in 2014 that focuses on the discovery and development of first-class antimicrobial drugs with new action mechanisms. ABAC focuses mainly on the treatment of infections caused by multi and extremely resistant organisms.

ABAC has extensive expertise in projects developing new drugs in the field of new antimicrobials and researching new active molecules against bacteria and fungi for the development of new antibiotics against infectious diseases caused by multi-resistant organisms.

ABAC has carried out several projects over the years, both on its own and in collaboration, as well as with third parties: the ABAC team has more than 80 years of combined experience in the search for new antimicrobials, and they have coordinated projects from the initial screening phase to their commercialisation. They have been pioneers in proposing the use of precision medicine for the treatment of infectious diseases and have been working on this approach for more than 10 years.

ABAC, initially established in 2014 as a spin-off of the Ferrer International Group and subsequently financed through financing rounds, became part of Leitat (Acondicionamiento Tarrasense) in 2019.

6 | FEATURED PROJECTS



RAADICAL

The objective of the project is to research and develop intelligent robotics systems that improve the physical and mental health of the elderly or disabled. Among other functions, the intelligent robotic system will help its users foster social relationships, maintain healthy eating habits and execute daily physical and mental exercise routines. On the other hand, the results of the project will also result in an improvement of the benefits offered by caregivers, since it will allow them to intervene in risk situations remotely and in real time.

Funded by: Ministry of Science and Innovation - State Research Agency/ Project PLEC2021-007817.

REGENERA

The REGENERA project, formed by a consortium of eight companies composed of the DAM Group, ENGIE, Sorigué, Hidroquimia, TyrisAI, H2B2, AIGUASOL and Exolum, seeks to develop innovative technologies to efficiently and economically store surplus renewable energies and their use in industrial processes for the production of green fuels, such as hydrogen, methane and hythane.

These can be used to generate heat and electricity, used as precursors to other chemicals and/or used in transport to boost sustainable mobility. All this, using Artificial Intelligence models to optimise the use of energy resources.

The research, which spans 40 months, is based on the perspective that energy from renewable sources will increase from the current 25% to 86% by 2050. “The main characteristic of renewable energies (wind, solar) is that their production is not constant, they have both daily and monthly fluctuations. This fact requires strengthening their security of supply not only with fossil fuels but with energy storage systems that are key to the development and enhancement of this sustainable energy, “explain the companies participating in the project. In this context, the integration of storage systems to balance energy generation and demand, both in the short and long term, is essential to accelerate the decarbonisation of the energy system to comply with the Paris Agreements and achieve the objectives set by the European Commission in the Green Deal.

Funded by: Centre for Industrial Technological Development (CDTI) / MIG-20211040 Project.

INTES

The INTES project will research and develop sustainable and durable garments with multiple functionalities for technical use in industry and state security services, promoting the development of new fibres and fabrics that are more environmentally friendly both in their manufacture and at the end of their lifecycle. This range will consist of technical fabrics, with viral and pathogenic protection, as well as highly functional fabrics adapted to the demands of the state and industrial security forces.

Leitat’s action will be focused on the research of new

textile materials (new natural, synthetic or bio-based fibres), finishes to confer functionality (for example, water repellency, flame retardants, antimicrobials, anti-insects and insect repellents), and the necessary resources to develop the new sustainable and functional fabrics as well as other processes.

Funded by: Centre for Industrial Technological Development (CDTI) / Project IDI-20210526.

ECLIPSE

The general objective of SYNTHESIA at ECLIPSE is the generation of new technologies for the chemical recycling of polyurethane waste and the optimisation of existing technologies, which entail very significant improvements in terms of energy cost, the reduction of emissions or waste generated in the process, the percentage of use and/or the quality of the material obtained. To achieve this, SYNTHESIA will focus its efforts on:

- Optimising its own chemical recycling processes.

- Simplifying current formulations to facilitate recycling

- Validating raw materials obtained through new technologies developed by Leitat.

Fundedby:CentreforTechnologicalDevelopment

SESA

Applied in nine African countries, the European SESA project will develop and test solutions to accelerate the green transition and energy access in Africa. Exploring innovative technologies and services in urban and rural environments to support their implementation, while examining technical, financial, and political aspects.

Specifically, SESA will co-develop innovations with local partners. The first phase will start in Kenya, where solutions include the use of water reservoirs in Lake Victoria to produce biogas. In a second phase, SESA will test energy solutions in Ghana, Malawi, Morocco and South Africa. The results, included in a scalable toolbox for advanced implementation and management strategies will facilitate the applicability and replicability of the technologies.

This project has received funding from the horizon 2020 research and innovation of the European Union under grant agreement No 101037141. This publication reflects only the views of the author and the European Union is not responsible for any use that may be made of the information contained therein.

BATRAW

The main objective of BATRAW is to develop and demonstrate two innovative pilot systems for sustainable recycling and management of EV batteries, household batteries and, battery waste that contributes to the

generation of secondary flows of raw materials and critical raw materials of strategic importance. The first pilot will offer innovative technologies and processes for the dismantling of battery packs that will achieve the recovery of 95% of the components of the battery pack by separating waste streams, including cells and modules through semi-automated processes for recycling.

Funded by the European Union. However, the views and opinions expressed belong solely to the authors and do not necessarily reflect those of the European Union or the European Health and Digital Executive Agency (HADEA). Neither the European Union nor the granting authority can be held responsible for them.

REDWINE

Motivated by the urgent need to mitigate climate change and, in particular, to reduce greenhouse gas emissions from food chains, REDWine focuses on the use of biogenic carbon dioxide (CO2) from the wine fermentation process for the production and recovery of microalgae biomass.

REDWine's innovative circular business model is made possible thanks to a strong synergy between bio-industries. This will allow wine manufacturers to effectively treat their liquid and gaseous effluents, while profitably diversifying their revenues by valorising Chlorella biomass into multiple high-value ingredients.

This project has received funding from: Bio Based Industries Joint Undertaking (JU) under grant agreement n.º 101023567. The JU receives support from the European Union's Horizon 2020 research and innovation programme and the Bio-Based Industries Consortium.

ILIAD

ILIAD builds on the assets resulting from two decades of policy and infrastructure investments for the blue economy and aims to establish an interoperable, data-intensive and cost-effective Digital Twin of the Ocean (DTO). It leverages the explosion of new data provided by many different terrestrial sources, advanced computing infrastructures (cloud computing, HPC, Internet of Things, Big Data, social media, and more) in an inclusive, virtual/augmented, and engaging way to address all Earth Data challenges. It will contribute to a sustainable ocean economy as defined by the Centre for the Fourth Industrial Revolution and the Ocean, a hub for global multi-stakeholder cooperation.

ILIAD will merge a large volume of diverse data in a semantically rich and data agnostic approach to enable simultaneous communication with real-world systems and models. Ontologies and a standard style-layered descriptor will facilitate semantic information and intuitive discovery of the underlying information and knowledge to provide a seamless experience. The combination of geo-visualisation, immersive visualisation and virtual or augmented reality allows users to explore, synthesise, present, and analyse the underlying geospatial data interactively. ILIAD DTO's enabling technology will contribute to the implementation of the EU Green Deal and Digital Strategy and the achievement of the outcomes of the UN Decade of the Oceans and the Sustainable Development Goals. To realise

its potential, ILIAD DTO will follow the Systems System approach, integrating all existing digital Earth observation and modelling infrastructures and facilities in the EU. To promote additional applications through ILIAD DTO, partners will create the ILIAD Marketplace. Like an app store, vendors will use ILIAD Marketplace to distribute apps, add-ons, interfaces, raw data, citizen science data, synthesized information, and value-added services derived from ILIAD DTO.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101037643 This publication reflects only the views of the author and the European Union is not responsible for any use that may be made of the information contained therein.

SURPASS

Plastic waste remains on our planet for a long time, as it takes centuries to decompose. Endocrine disruption and pollution of soil, air and water are just some of the adverse effects of plastic waste on public and environmental health. So, 70% of the plastic waste collected in Europe are sent to landfill or incinerated. The overall objective of the SURPASS project is to lead by example on the transition to safer, sustainable and recyclable polymeric materials by design (SSRbD). The SURPASS consortium, made up of 14 partners including technology and research centres and industries, will be responsible for:

1. Developing SSRbD alternatives without potentially hazardous additives through industry-relevant case studies.

2. Optimising reprocessing technologies adapted to new SSRbD systems to support the achievement of ambitious recyclability targets.

3. Developing a score-based assessment to guide material designers, formulators, and recyclers in designing SSRbD polymeric materials.

4. Bringing together all the data and methodologies in an open digital infrastructure, offering an easily accessible interface.

SURPASS will target its results, in particular, at SMEs, which represent more than 99% of companies, so it has great potential to contribute to the transition to the green economy.

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VIBES

The VIBES project presents an innovative solution to solve the end-of-life problems of thermoset compounds based on the development of a new ecological technology focused on the separation and controlled recovery of material components through the development of custom degradable bio-based materials (BBM).

BBMs are bio-based chemicals that decompose under certain external stimuli (temperature, UV rays or electrical impulses), allowing separation between the matrix and the reinforcement. The VIBES project will directly contribute to achieving the SIRA targets in KPI1, KPI2, KPI5 and KPI8 and demonstrate the solution by reducing the amount of non-biodegradable polymers sent to waste or discharged into the environment by at least 40%.

This project has received funding from Bio Based Industries Joint Undertaking (JU) under grant agreement n.º 101023567. The JU receives support from the European Union's Horizon 2020 research and innovation programme and the Bio-Based Industries Consortium.

OXIPRO

The general objective of OXIPRO is the research of new enzymes, especially oxidoreductases, and their application in obtaining environmentally friendly consumer products.

Applying cutting-edge technologies such as bioinformatics and biotechnology, OXIPRO investigates new sustainable and efficient production processes for consumer products that will benefit the environment and also consumers, industry, researchers and society in general. OXIPRO will enable the production of more environmentally friendly sunscreens, textiles, nutraceuticals and detergents, contributing to the sustainability and global competitiveness of the bioeconomy at the European level.

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement 101000607.

NINFA

The NINFA project aims to develop a holistic aquifer control strategy based on a decision-making system (DSS) and a knowledge platform (NINFA platform) that will feed on the results of the monitoring, prevention and reduction modelling technologies applied to the project.

Specifically, NINFA generates a series of innovative and cost-effective monitoring, modelling and treatment solutions, taking into account several pollutants: nutrients (Nitrates, phosphates), pesticides, salinity, emerging pollutants (ECWCs), low antibiotic resistance (ARG) and micro plastics (MP). It also considers the synergistic effects in relation to climate-related stressors and global changes, with the aim of preventing pollution of aquifers, protecting their quality and improving their resilience.

This project has received funding from the European Union's Horizon Europe Research and Innovation Programme under grant agreement No. 101081865.

SAbyNA

The SAbyNA project will develop an online platform that helps manage risks associated with human and environmental safety, nanomaterials and nanotechnology products for industry throughout the product life cycle.

Thus, the platform will provide the industry with clear and design-safe solutions to minimise risks as quickly as possible in the innovation process of nanomaterial and nanoproduct development, integrating all currently available resources (methods, models, frameworks and tools) to reduce complexity and costs.

This project has received funding from the European Union's Horizon Europe Research and Innovation Programme under grant agreement No 862419.

GH2

This research project, coordinated by Leitat and funded by the European Union, aims to generate green hydrogen using only solar energy, water that is abundant on Earth, biomass and non-critical raw materials.

The central axis is the creation of a pioneering hydrogen production process that does not use or produce CO_2 or methane, which are harmful to the environment. Thanks to this, the GH2 project could play an important role in reducing emissions generated during the hydrogen production process.

This project has received funding from the Programme of Horizon Europe Research and Innovation of the European Union under Grant Agreement No. 101070721.

SOILGUARD

The aim of SOILGUARD is to boost the sustainable use of

soil biodiversity to protect soil multifunctionality from land degradation, unsustainable soil management and climate change. Thus, increasing economic, social & environmental well-being.

To reach this ambitious aim, SOILGUARD will co-create an experimental design focused on understanding the region-specific benefits of sustainable soil management (SSM) to conserve soil biodiversity and the delivery of soil-mediated in present and future environmental conditions. The SOILGUARD Network of Knowledge and the connectivity enabled by SOILGUARDIANS app will create an ecosystem of innovation for users to showcase, learn and share experiences.

The research leading to these results has received funding from the European Union Horizon 2020 Research & Innovation programme under the Grant Agreement no. 101000371.

Soils SOLO for Europe

SOLO will identify current knowledge gaps, drivers, bottlenecks, and novel research and innovation approaches to be considered in the European Soil Mission research and innovation roadmap. The project aims to create a knowledge hub for soil health research and innovation that will last beyond the project's lifespan by establishing strategic partnerships and by implementing a participatory and transparent process.

To this end, at the core of SOLO will be the implementation of Think Tanks, one for each Soil Mission objective. Together with an open digital platform, the Think Tanks will function as an operational tool for implementing a participatory process that will last beyond SOLO's lifespan.

SOLO receives funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101091115.

IN-ARMOR

THERAPEUTIC EPIGENETIC ENHANCEMENT OF INNATE IMMUNITY TO EFFECTIVELY COMBAT ANTIMICROBIAL RESISTANCE

Antimicrobial resistance (AMR) and multi-drug resistance, whereby pathogens evolve to resist antibiotic drugs, is designated by the World Health Organization (WHO) as a top 10 health threat of our time.

IN-ARMOR's main objective is to introduce a novel class of immune system inducers able to enhance the body's own innate microbial defense mechanisms to combat antimicrobial resistance (AMR) and reduce the incidence of the 13 listed most dangerous infections (including 2 of the top 3 priority-1 infections).

This project has received funding from the European Union´s Horizon Europe research and innovation programme under grant agreement No 101080889.

Upstream

FOR WASTE-FREE EUROPEAN RIVERS

Upstream aims to improve the cleanliness and water quality of the European rivers run through several major European capital cities and feed into 5 sea basins. The project is going to deploy and demonstrate into 5 demonstration sites a suite of 15 advanced solutions that address the serious issues of pollution from litter (L), plastics (P), and microplastics (MP) in 7 European rivers along 5 pillars: MONITORING, PREVENTION, ELIMINATION at wastewater treatment plants (WTTP), ELIMINATION from rivers, and VALORISATION of collected plastic.

The 7 rivers connected to the demo sites – Stoke-on-Trent and Redditch (UK), Ebro (Spain), Ticino and Olona (Italy), Queich (Germany), and the Danube (Serbia) – run through several major European capital cities and feed into 5 sea basins (Celtic, Mediterranean, Adriatic, Black and North Seas).

Co-Funded by the European Union under Grant Agreement no 101112877. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them. This work was also co-funded by UK Research and Innovation (UKRI) under the UK government's Horizon Europe funding guarantee grant numbers 10082527, 10066959, 10089056, 10087702, and 10066963.

ZABAT

ZINC-AIR BATTERIES

ZABAT is a European project with national funding that will develop and validate a rechargeable Zinc-Air battery to store renewable energy for later use in industry and homes.

The implementation of this technology will make it possible to have a safe, durable, less expensive and clean alternative compared to current batteries.

This result is part of the PCI2022-13299 project, funded by MCIN/AEI/10.13039/501100011033 and by the European Union "NextGenerationEU"/PRTR. In addition, this project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 958174.

AM4BAT

The rise of electric mobility and renewable energy is pushing the lithium-ion battery market to a new level.

The AM4BAT project is dedicated to developing a solid state battery without 3D printed anodes, with a higher energy

density, specially designed for electric vehicle applications and safer than current batteries.

Funded by the European Union. This project has received funding from the European Union's Horizon Europe research and innovation programme. Grant agreement No 10106975. However, the views and opinions expressed are solely those of the author(s) and do not necessarily reflect those of the European Union or the European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor the granting authority can be held responsible for them.

Nautilus

The objective of NAUTILUS is to develop and verify the behaviour of new biobased and biodegradable anti-fouling paints for marine applications and evaluate their environmental impact at the ecosystem level. NAUTILUS will contribute to the mitigation of marine pollution and the recognition of marine biodiversity as a key factor for the future.

Project CPP2021-008466 funded by:

GOBIERNO DE ESPAÑA
MINISTERIO DE CIENCIA E INNOVACIÓN

The result of the project will be the manufacture of at least seven different types of food products, designed for children, athletes and the elderly. In this way, the research aims to obtain customised food cartridges for 3D printers, which are viable in the B2B market, as a key part of a strategy for precision nutrition applications.

Project CPP2021-008939 funded by:

The main objective of the SERHA project is to study the effect of ageing on patients with Rheumatoid Arthritis (RA) and its impact on the disease's pathophysiology to improve the healthy life expectancy of the ageing population. In addition, it aims to develop "in vitro" models that reproduce the joint pathophysiology of these patients to test a new autologous therapy, based on the patients' plasma, enriched in cytokines.

SERha project funded by MCIN/AEI /10.13039/501100011033 and by the European Union NextGenerationEU/ PRTR

Nanomaterials to drive the development of new generations of lithium batteries. The BATSAFE project works, on the one hand, on the development of nanomaterials and, on the other, on their incorporation into the new batteries, known as Generation 3 (GEN 3) and Generation 4 (GEN 4), in order to achieve final batteries that are more efficient and safer than those currently in existence.

Project PLEC2022-009472 funded by:

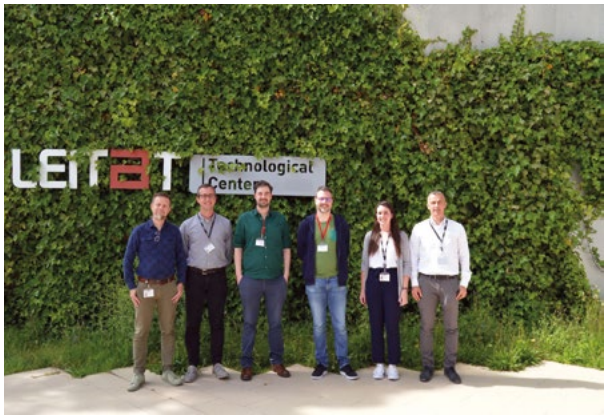
7 | SUMMARY OF ACTIVITIES 2023


LEITAT

FEATURED VISITS TO LEITAT 'S CORPORATE **HEADQUARTERS IN TERRASSA**

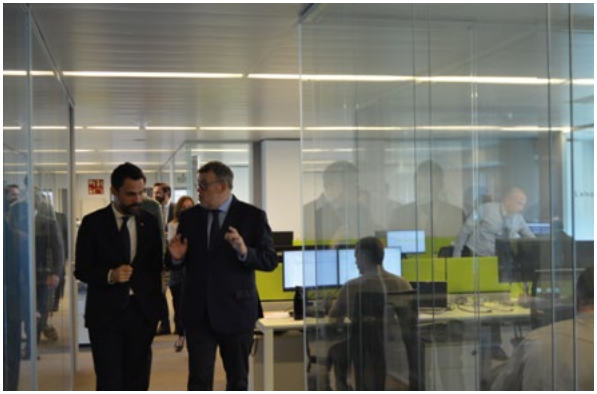
In 2023 we received 2,163 visits to Leitat Terrassa, among which we highlight the visit of the winners of Despega USACH and Innovo USACH and the Catalan Business Federation of the Chemical Sector (FEDEQUIM) in January. During the meeting, the laboratories were visited and the activities linked to the departments of chemistry, advanced materials and circular economy were presented.

In March, we received Oriol Sagrera, general secretary of the Department of Business and Labour, who visited Leitat's facilities in Terrassa and allowed us to share impressions and visions on technology transfer and innovation as tools of competitiveness for companies.



In May, we welcomed the lab Crigen team at the Leitat Terrassa facilities, collaborating partners with whom we are developing new projects and working together on electro methanogenesis technology to improve the anaerobic digestion of agricultural digests with the support of Aeris Tecnologías Ambientales SL.

Also in May, the president of Leitat, Jordi William Carnes, accompanied by Joan Parra, Executive Vice President and CEO of Leitat; and Jordi Rodríguez Ripollès, General Director of Assets and Institutional Relations, welcomed Roger Torrent i Ramió, Director of Business and Labor; Jordi Aguasca, Director of the Technological Transformation and Disruption Unit and Lidia Frías, Director of Territorial Services of Barcelona to the facilities of Leitat. They were presented with the technological and research lines in which we are working, the success cases and the implementation of the National Pact for Industry and the role of the technological centres as key agents of the Catalan innovation ecosystem.



In July, we received a visit from Mr. Philippe Jacques, CEO of EMIRI, the Energy Materials Industrial Research Initiative, an association of which Leitat is a member. During the visit, he had the opportunity to see Leitat's laboratories at DFactory Barcelona and finally visit the headquarters in Terrassa, to learn more about Leitat's activities in the fields of batteries, hydrogen, electrochemistry and solar photovoltaics, among other things.

In September, we welcomed Atlántica Agrícola, a company specialising in bionutrition, biostimulation and plant bioprotection, to our facilities, in the company of Iván Navarro, director of R&D, Ernesto Zavala, head of microbiology, Rafael Torres Ibáñez-Algarra, director of Purchasing, and Marcelo Montilla Velasco, director of Strategy of the Atlántica Group. The purpose of the visit was to search for synergies in this area and commit to a healthier and more sustainable agriculture.

In October, we had the pleasure of receiving Mrs. Marta Morera, director of ICAEN - the Catalan Energy Institute, with whom we shared skills and reflections on the energy transition, sustainability and economies that have a neutral environmental impact in Catalonia. In the same month we also received the representatives of the Alianza Circular project from Medellín, Colombia, Pablo Andres Maya Duque, scientific director of Alianza Circular, Natalia Osorio Sierra, director of R&D at INCYCLO SA and talked about technology, materials and finishes for packaging. Again in October, the president of Leitat Jordi William Carnes together with Jordi Rodríguez Ripollès, General Manager of Assets and Institutional Relations at Leitat, Jordi Cabrafiga, Director of Strategic Growth and Government Affairs and Sergi Artigas, General Manager of Innovation Strategy at Leitat, welcomed at the facilities of Leitat in Terrassa Ms. Alicia Romero Llano, deputy and spokesperson of the Socialists and United to Advance group and Eva Candela Lopez, deputy and spokesperson of the municipal Socialists of Terrassa group to share the importance of technology transfer to promote innovation and business sustainability.de Terrassa, van compartir la importància de la transferència tecnològica per impulsar la innovació i la sostenibilitat empresarial.


chnological services
digital in
robotics lab
LEiTAT
LEiTAT
managing technologies

FEATURED VISITS TO **LEITAT LABORATORIES IN DFACTORY**

Throughout 2023 we also received multiple visits to our Industry 4.0 laboratories located at DFactory Barcelona. Among them, we highlight the visit of an institutional delegation of the Government of Chile together with legislative authorities and members of the Digital Country Foundation, promoted by ACCIÓ's External Action office in Santiago de Chile in February.

In September, the Peruvian embassy visited the facilities of DFactory Barcelona, represented by Mr. Walter Francisco Gutiérrez. Sergi Artigas, Leitat's general manager of innovation strategy, and Sergio Ibáñez Pérez, director of new markets, were in charge of guiding the visit through the various Leitat laboratories and sharing Leitat's success stories.

From Chile we went to Colombia and throughout the month of March we received a delegation of Colombian companies, led by PROCOLOMBIA within the framework of its participation in MWC Barcelona and a delegation of Colombian companies as part of a commercial mission of the Low Carbon Business Action Latam platform.

LEITAT PARTICIPATES IN THE TRANSFER FORUM AT FYCMA MALAGA

15-17 February 2023

Dirk Saseta Krieg, Business and Operations Director, Jordi Velasco Pérez, National Projects Manager and Alba Caparrós Pérez, Business Development Manager at Leitat, participated in the Transfiere Forum, which was held in Malaga. Leitat had its own stand at the forum and participated in a session in which the promotion of the Spanish R&D&I ecosystem in the international arena was discussed. The meeting aimed to enhance the exchange of experiences and establish new collaboration opportunities to promote the convergence of the Spanish innovation ecosystem on the global scene.

LEITAT ORGANISES AN AWARENESS DAY WITH THE RANDSTAD FOUNDATION

08 March 2023

In commemoration of International Women's Day, Leitat organised, together with the Randstad Foundation, an awareness day based on Miriam Fernández's testimony of self-improvement and motivation. Miriam is a singer and actress, lecturer and winner of the Randstad Foundation Award in the category of Honourable Mention for her desire for constant improvement and sportsmanship. The conference was held at the facilities of Leitat in Terrassa, by the Department of Development and People Management of Leitat and Raquel Heredia Expósito, Project Development Technician at the Randstad Foundation.

LEITAT PARTICIPATES IN THE THIRD EDITION OF BARCELONA WOMEN ACCELERATION WEEK (BWAW)

13 March 2023

Pablo Valderrama Sánchez, director of the Logistics Incubator 4.0, was part of the round table: What challenges do women entrepreneurs face? The talk was held within the framework of the third edition of Barcelona Women Acceleration Week (BWAW) organised by the Consorci de la Zona Franca de Barcelona and the INCYDE Foundation, at the facilities of DFactory Barcelona, where they heard the opinions of experts on progress towards gender equality.

LEITAT PARTICIPATES IN THE THIRD "WAKE UP, SPAIN!"

04 April 2023

Dirk Saseta, Business and Operations Director at Leitat, participated in the round table "Technological Centers"; in the fourth day of the third edition of Wake Up, Spain! under the slogan "Driving change in times of uncertainty", an event organized by EL ESPAÑOL, Invertia and D+I. During the event, the importance of accompanying companies in their internationalization process was highlighted, especially with regard to SMEs. At the same time, they agreed on the importance of working in the opposite direction, attracting talent and foreign investment to the region.

THE IAM 3D HUB ORGANISES ADDITIVE MEDICAL SPAIN TOGETHER WITH 3DNATIVES

05 April 2023

The medical sector gathered to share knowledge on the advances in additive manufacturing and 3D printing at Additiv Medical Spain, which took place at DFactory Barcelona. The third ADDITIV MEDICAL congress was promoted by the specialised journal 3D natives, with the collaboration of IAM3DHUB. On this occasion, Leitat had the opportunity to moderate two panels, the first was led by Pamela Lustig, principal investigator, entitled: “The role of 3D printing in the fight against cancer”, and the second was led by Magí Galindo Anguera, head of innovation and technology at Leitat and scientific director and iAM3DHUB technician, called: “What is the regulatory framework for medical 3D printing in Spain? The hybrid event also included the exhibition of 3D printed pieces and the presentation of success stories for attendees.

LEITAT WINS THE IBERQUIMIA TARRAGONA AWARD

27 April 2023

Leitat received the Iberquimia Tarragona award, in the Industrial Innovation category, for the industrial technological impact made on Catalan companies through the management of R&D&I proposals on an ongoing basis for more than 100 years. Aintzane Arbide, General Manager of Organisation and Communication at Leitat, was in charge of collecting the award on behalf of Leitat.

JORDI WILLIAMS CARNES PARTICIPATES IN THE WAKE UP BCN! FORUM

04 May 2023

Leitat participated in the last day of the Awake BCN! forum, organised by Crónica Global, Metrópoli Abierta and El Español. The meeting addressed the need to expand the Josep Tarradellas Barcelona-El Prat Airport to open the door not only to direct flights with Asia and America but also to a new economy and industry 4.0. Jordi William Carnes, President of Leitat, explained that the association between tourism and the expansion of the airport is “an incomplete axiom”, since its improvement would also mean bringing a new model of economy and industry closer.

LEITAT PARTICIPATES IN the 28th PLENARY MEETING OF THE EUROPEAN ORGAN TRANSPLANT COMMITTEE (CD-P-TO)

16 May 2023

Esteve Trias i Adroher, Executive Medical Director at Leitat and Technical Director of the Advanced Therapies Unit of Hospital Clínic de Barcelona, participated in the 28th Plenary Meeting of the European Organ Transplant Committee (CD-P-TO). The common objective of the European Committee was to promote and protect quality, safety and ethical principles in the field of substances of human origin (SoHO).

LEITAT PARTICIPATES IN MEETECH SPAIN 2023

22 May 2023

Leitat was present with its own stand and as a jury in the technological challenge meetechSpain 2023, led by Dirk Saseta Krieg, General Manager of the Promotion and Management area at Leitat, in which it awarded the prize to the team formed by four researchers from the technological centres, TECNALIA Research &

Innovation, ITENE, CIRCE - Technological Centre and University of León, for proposing the H2Coat solution, a self-repairing coating for gas transport.

The award was presented together with Javier Ponce, General Manager of CDTI Innovation and Pilar Gonzalez Gotor, Director of Promotion of CDTI, Laura Olcina Puerto, President of FEDIT, Spanish Federation of Technological Centres, Aureo Diaz-Carrasco, General Manager of FEDIT and Emilio Martinez Gavira, director of entrepreneurship and open innovation at Enagás.

The competition featured nearly 100 researchers and technologists who worked in twelve multidisciplinary teams to develop an innovative solution for the detection, mitigation and quantification of emissions from the structures through which natural gas is transported.

LEITAT PARTICIPATES IN EXPOQUIMIA 2023

30 May-2 June 2023

The 2023 edition of the EXPOQUIMIA congress highlighted the strategic importance of the chemical sector in the transformation of the industry towards more energy-efficient production models and with circular economy criteria.

Leitat, in addition to being present with its own stand, also participated in different talks: Dirk Saseta Krieg, General Manager of the Promotion and Management area at Leitat, participated in the round table: “Smart Chemistry Smart Future”; David Gutierrez Tauste, PhD, MBA, director of the Department of Digital Industry of Leitat, participated in the Industry 4.0 Solutions Marketplace in the chemical and plastic sectors of ACCIÓ; and Marta Escamilla, Sustainability Area Manager at Leitat participated in the round table: “Keys to circularity on materials used in packaging”.

LEITAT PARTICIPATES IN THE AMAZON WEB SERVICES (AWS) EVENT

23 June 2023

Leitat participated in the Amazon Web Services (AWS) event, with the collaboration of the Advanced Clinical Technologies Initiative (CATI), promoted by Leitat and Hospital Clínic de Barcelona, at DFactory Barcelona. The participating start-ups learned about Leitat's capabilities in Digital Health with Marc Masa, head of the Department of Health and Biomedicine, Jordi Ricart Campos, head of the Advanced Engineering Area and Sergi Artigas, Innovation Board Strategic Manager at Leitat.

In addition, they had the opportunity to listen to David Vidal, CIO of Hospital Clínic and Carlos Jouve Alonso, Head of Healthcare at Amazon Web Services (AWS), talk about Hospital Digital Transformation and healthcare technological innovation.

LEITAT PARTICIPATES IN THE TECHNOLOGY AND INNOVATION FORUM

23 June 2023

Sergi Artigas, general director of Innovation Strategy at Leitat, participated in the Technology and Innovation Forum organised by Sabadell City Council and Sabadell Economic Promotion | Vapor Llonch. The meeting shared Leitat's vision for technology transfer driven by 4.0 technologies: Artificial Intelligence, 3D Printing, Robotics, Augmented Reality and Big Data.

LEITAT PARTICIPATES IN THE FIRST 'CIRCULAR CATALONIA' CONGRESS

26 June 2023

Marta Escamilla, Sustainability Area Manager at Leitat, participated as moderator in the round table of the first 'Catalunya Circular' Congress, in the company of Pablo R. Outón, Founder and CEO of INDRESMAT®, Axel Plaza, head of technologies and COLEO operations, David de los Santos, QHSE director of Provital and Carles Sanz, Retail Area Manager at Cafès Novell. At the meeting, participants had the opportunity to explain the different initiatives and projects that promote the circular economy in the textile, food and construction sectors.

LEITAT HOSTS THE KNOWLEDGE AND TECHNOLOGY TRANSFER CONFERENCE

27 September 2023

Leitat opened its doors to celebrate the Knowledge and Technology Transfer Conference, organised by Terrassa City Council, Patronal Cecot, Terrassa Chamber of Commerce ESEIAAT-UPC, and Leitat, with the aim of bringing visibility to the region's collaborative innovation.

The President of Leitat, Jordi William Carnes, together with Sergi Artigas, General Manager of Innovation Strategy at Leitat, welcomed the attendees, among whom was Mr. Josep Forn, Councillor for Innovation, Universities and Knowledge Transfer; Ms. Ona Martínez Viñas, Deputy Mayor for Projection of the City; Mr. Ramon Talamàs Jofresa, President of the Chamber of Commerce of Terrassa; Mr. Oriol Alba, Secretary General of Patronal Cecot; and Mr. Xavier Roca Ramon, Director of ESEIAAT-UPC.

During the day, an open dialogue was established on the innovation and transfer assets existing in Terrassa and how the industrial and business fabric of the regions can access them to gain competitiveness.

LEITAT RECEIVES THE 6th VITALY AWARD GROUP PREVING HEALTHY COMPANY

27 October 2023

During the 28th Company Night celebration, organised by Patronal Cecot, Leitat was recognised with the 6th VITALY GRUPO PREVING Empresa Saludable (Healthy Company) award, highlighting the work of the entire team in the technology centre in the field of prevention and occupational health integrating ODS and EFQM. At the meeting, we had the opportunity to share good practices with companies, professionals, administrations and society, as well as innovation and technology issues.

OTHER HIGHLIGHTS

In 2023, Leitat participated in several activities to generate knowledge about innovation and technology:

In January, Leitat was part of the annual assembly of partners of the SECPHO cluster, during which potential collaborations on innovation projects with new partners were discussed. Leitat also participated in networking dynamics to carry out Industry 4.0 projects.

That month, the Catalonia Waste Cluster was officially launched with the aim of boosting the competitiveness of companies in the sector, boosting internationalisation and promoting innovation and R&D in this area. Leitat is one of the founding partners of the cluster.

In February, we attended the signing of the National Agreement for the 2030 Agenda and the first working meeting on behalf of the EMAS Club. The creation of the Catalonia 2030 Alliance responds to the mandate of the Parliament of Catalonia to promote an alliance of public and private actors that, having signed the National Agreement for the 2030 Agenda in Catalonia, contribute to the localisation in Catalonia of the SDGs through concrete commitments.

That month, we also participated in the Tech Meeting organised by ACCIÓ at the IoT Solutions World Congress. The Digital Innovation Hub of Catalonia (DIH4CAT) was presented at the event, in which Leitat participated as coordinator of the additive manufacturing area.

Again in February, Jordi William Carnes, President of Leitat, together with Jordi Rodríguez Ripollès, General Manager, and Aintzane Arbide, General Manager of Organization and Communication at Leitat, attended the “Strategic Action on innovation” session organised by the 22@Network Barcelona, with the aim of joining the strategies that drive innovation in the territory. The session also included the participation of Teresa Riesgo, Secretary of Innovation of the State Ministry of Science and Innovation.

In March, we hosted the colloquium "The role of the company today", in the framework of the 'Vicens Vives' programme. Values, Commitment and Leadership,' organised by ESADE. During the session we had the opportunity to take in different points of view about the current values of the company. There was also a space reserved for networking and exchange of opinions and experiences.

That month, also, Dirk Saseta Krieg, General Manager of the Promotion and Management Area of Leitat and Second Vice President of WAITRO participated in the Building Globally Competitive Businesses conference, organized by the Caribbean Industrial Research Institute (CARIRI), which aims to offer the opportunity for attendees to understand how companies can think globally, but act locally.

In April, Ana Escobar Romero, Head Researcher in Coatings and Inks at Leitat, had the opportunity to participate in the European Coatings Conference 2023 in Nuremberg, as a speaker on "New biocompatible conductive ink to sensorise bone regeneration" presenting the Smart Bone Regeneration project.

In May, Magí Galindo Anguera, head of Innovation and Technology, and Òscar Alonso, Head of Additive Manufacturing and 3D Printing at Leitat, participated in the Tech Meeting of the ADVANCED FACTORIES congress promoted by Catalonia Digital Innovation Hub - DIH4CAT. During the session, they shared knowledge with 3D industry experts to showcase Leitat's technological capabilities and the benefits of 3D printing at the ACCIÓ Open Innovation Arena stand.

In June, Leitat, as a member of the Board of Directors of the Packaging Cluster, participated in its annual assembly and in the Packaging Talks, led by Sergi Artigas, General Manager of Innovation Strategy at Leitat. During the meeting, several presentations on innovation and trends in the future of packaging were given by industry experts.

In September, Leitat participated in the Global Entrepreneurship Network, the most important event in the global entrepreneurial ecosystem held in Melbourne, Australia. It brought together more than 4,000

entrepreneurs and experts from more than 200 countries, with the aim of creating a single global entrepreneur ecosystem, share new business models and promote the connection of leaders.

In October, Jordi Ricart Campos, Area Manager of Advanced Engineering at Leitat, participated as a speaker in the session "Artificial Intelligence, Present and Future in our society" at the BNEW - Barcelona New Economy Week event held at the facilities of DFactory Barcelona. On the day, he shared the different points of view on artificial intelligence (AI) and the new opportunities it's generating in society.

Also that month, David Gutierrez Tauste, director of Leitat's Digital Industry department, participated as a speaker in the conference "Technological Innovation 4.0 as a factor in Industrial competitiveness" on the 50th anniversary of the Alava Group. At the meeting, he had the opportunity to share success stories and examples of how Leitat is helping companies innovate and become more competitive through R&D and technology transfer.

In November, Leitat was part of the Salou Congress 2023, in which Sergi Artigas, Director of Innovation at Leitat, participated as a speaker in the debate on the tourism sector as a driver of new food production technologies.

At the conference, he shared Leitat's vision on the generation of technological knowledge and its application for the development of food technologies.

That month, Joan Roig Targa, Business Development Manager at Leitat, participated as a speaker in the round table "Knowledge transfer and cooperation" at the innovative companies event at the 2nd Clusters Day 2023, held in the Parc BIT auditorium.

Also in November, Daniele Molognoni, Senior Researcher at Leitat, participated in the conference "Challenges and opportunities in the production and use of biomethane", organised by Cetaqua - Water Technology Centre, held in AGBAR, Barcelona. At the event, she had the opportunity to make a presentation about the Biomethaverse project on which Leitat is working.

Finally, that month, Leitat participated in the 6th edition of MarkerFest 2023, in which it organised a Hackathon for teachers, held at DFactory Barcelona in conjunction with the Department of Education of the Generalitat of Catalonia. The meeting was attended by more than 90 VET teachers from Catalonia to enjoy the technological challenges through case studies on Virtual Reality, Augmented Reality, Artificial Intelligence and Additive Industry.

In December, Leitat participated in the XaRFA 2MaRKET conference “Challenges and Opportunities in the World of 3D Printing”, led by Óscar Alonso, Head of Additive Manufacturing and 3D Printing at Leitat, where he shared the different points of view and challenges that 3D printing currently faces.

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