

Terrassa, 16<sup>th</sup> November 2017

Dear Mr Secretary-General,

I am pleased to inform you that Leitat Technological Center (Acondicionamiento Tarrasense) gives support to the *Ten Principles of the Global Compact* with regard to human rights, labour rights, environment and the fight against corruption. I hereby express our intention to keep on supporting and implementing these Principles within the framework of our professional activity and responsibility. Further, our interest groups and general public will be punctually informed about this commitment. .

I also inform you that we are involved in the United Nations Global Compact, strengthening our commitment with the Corporate Social Responsibility through initiatives aimed at providing social and technological value to our interest agents: clients, partners, associated, people and society.

I emphasize the following initiatives:

### **With Society**

- Firm aim to dual training as basic tool of the business network and the education community, in the creation of new professional profiles linked to the industrial sector and R+D+i. Leitat not only actively and jointly participates in the training curricular definition of these new professional profiles together with Institutes, but also participates in Workshops and with entities prepared for this purpose.
- Collaboration in mentoring programs with youths for their insertion into the labour market by the collaboration with organizations as Barcelona Activa.
- Collaboration with non-profit founding foundations for the promotion of campaigns and actions of corporate volunteering as well as the promotion and commitment to cultural, age and genre diversity.
- Collaboration in awards to young entrepreneurs as projects evaluators in the institutional and technical jury.
- Promotion and dissemination of scientific careers among students, the workers of the future of the knowledge and innovation society through the collaboration of public and private entities in specific projects.
- Realization of workshops and welcome programs to trainee students in the different areas of Research and Technology Solutions of Leitat, both at national and international level, receiving students awarded with Leonardo grants, Erasmus programs, etc.
- Collaboration with the territory agents (Consorti per l'Ocupació del Vallès Occidental) in strategy policies linked to entrepreneurship, environmental sustainability and attraction of the business economic activity which generates great direct impact on the creation of job vacancies related to industry.
- Participation in the "Week of the Science" by offering our facilities to visits interested in the thematic and future technology lines.
- Workshops on Vocational and Business Orientation aimed at Institutes, Private Schools and Universities for talent recruitment.

- Participation in working groups with the different public representatives that form the political scenario by formulating possible proposals turning into executive actions and legal measures that allow a positive impact on the reactivation and economic growth mainly based on Research, Development and Innovation (R+D+i) and, in particular, on the real transfer of knowledge towards the SME business fabric.

### **With our employees**

- Investment in training plans adapted to the needs of our employees, according to their performance and career plans, applying an annual budget appropriate to the needs of each one of the organization structures of Leitat.
- Grants and promotion of doctorates degrees.
- Ease so that Leitat employees give and receive internal/external training.
- Promotion and development of our employees in the mentoring and management of trainees.
- Welcoming plans facilitating the integration of trainees from different cultures into Leitat and the cities of Terrassa and Barcelona.
- Strengthening of our corporate culture through channels facilitating internal communication.
- Realization of extra work activities to encourage a satisfaction and conciliation climate for all our staff.
- Specific campaigns for the promotion of healthy habits in the daily life, environment, labour risk and security prevention for the benefit of all people.
- Visibility of the figure of the Equality Agent through the welcoming plans and formative actions aimed at our employees.
- Reconciliation between family and work and flexibility measures for our employees.

I acknowledge a key requirement to participate in the Global Compact the reporting every two years of an Involvement Communication (COE) describing the efforts by our company to support the implementation of the ten principles and the implication in the Global Compact. Leitat favours transparency and accountability and, therefore, I commit to report all this every two years from that date, as stated in the policy of the COE of the Global Compact.

Yours faithfully,



Mr Joan Parra  
Managing Director



# LEITAT

managing technologies

2017 Corporate Report

# FAQ

In Leitat, innovation means meeting industrial technology challenges with efficiency and efficacy.

## 1 What is Leitat?

Leitat is a Technological Institute with the mission of collaborating with companies and other entities to create economic, social and sustainable value by R&D+2i projects and technology processes from innovation and creativity. Leitat is the brand of the private entity Acondicionamiento Tarrasense and is recognized by the Catalan Government (TECNIO) and by the Spanish Ministry of Science and Innovation

## 2 Who does Leitat belong to?

Leitat is a private non-profit association of industrials with own legal and patrimonial capacity established in 1906. Leitat performs its activity according to the current legislation, its articles of association and its Internal Regime Rules.

## 3 What does Leitat contribute?

Leitat, from dynamism and proximity, provides flexible management in an open innovation environment as collaboration and cooperation driving force for technology transfer and promoting the principles of professionalism, respect for people and environmental care, at the same time.

## 4 Why does Leitat improve competitiveness at industrial level?

Because Leitat promotes the implementation of industrial innovation strengthening modernization of the productive structures and the development of new high technology value products and meets the changing needs of the global market.

## 5 How can Leitat solve the technological needs?

Thanks to its technology solvency, Leitat keeps creating knowledge, developing talent and acquiring high technology equipment and facilities, so that the specific and technology needs of our customers can be met.

## 6 Why does Leitat perform in many different sectors?

Because this allows that many technologies are applicable in different sectors obtaining more profitability of technology, generating and broadening new opportunities even in sectors never before interconnected and focusing its activity on these sectors: Transport, Building, Packaging, Textile, Energy, Environment, Food, Cosmetics, Detergency, Sport, Health, Pharmacy, Chemistry and Materials, Security and Sea sector.

## 7 How does Leitat collaborate with companies and institutions?

Leitat from experience and flexibility, by signing collaboration agreements to join efforts to meet the industrial technology challenges set out and promoting enterprising capacity and technology transfer.

## 8 Which is Leitat experience in industrial cooperation?

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

## 9 Which is the geographical ambit of action?

As well as acting at domestic level, Leitat actively leads and participates in many projects and international collaboration nets including European partners and others from other areas with convergent interests.

## 10 How become part of Leitat?

Any individual or corporation may become partner of Leitat by making a formal request on the webpage:

[www.leitat.org/socio](http://www.leitat.org/socio)





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**LEITAT**  
managing technologies



## Origin

In 1906, a group of industrialists concerned about quality, certification and research in the wool textile sector decided to found a supporting association for competitiveness of companies named Acondicionamiento Tarrasense. Those industrialists knew how to anticipate needs for business collective solutions and laid the foundations of the current concept of Leitat.

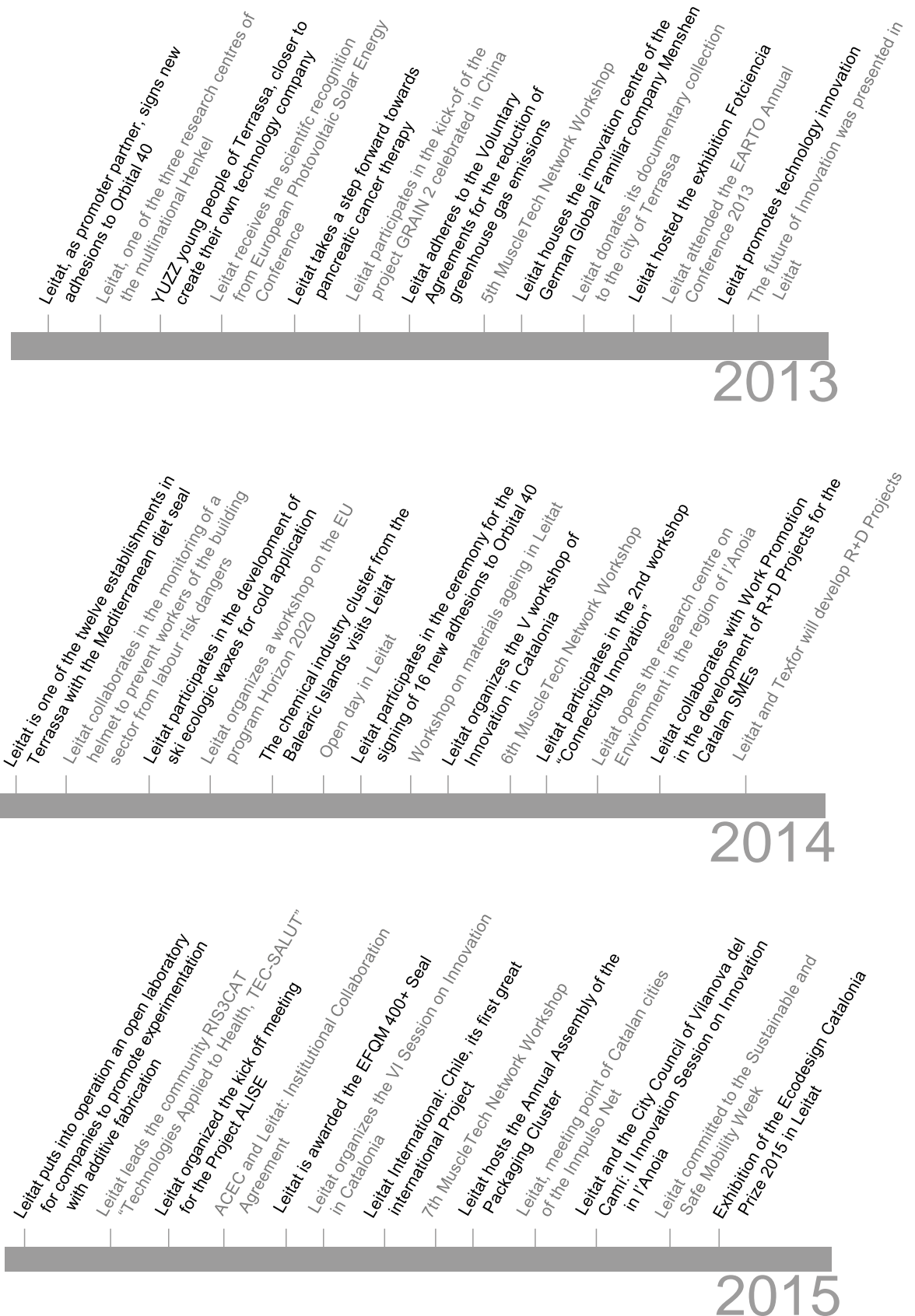
Over the years and thanks to the work performed, the entity evolved both to the extension of its activities and to the name that is currently identified with the brand known as Leitat.

During these years, our vocation in offering services to companies and entities has remained unchanged, whereas the activities developed, the organization and our internal work system have changed significantly specializing in different knowledge areas allowing the search for the best technology solutions for companies.

The results obtained lately show that the bet developed by Leitat towards knowledge generation and transfer to the productive fabric is an effective model for economic growth in a fast, efficient and sustainable way, creating at the same time new areas and models for talent development and personal performance for all employees.

## RECENT HISTORY

### SUMMARY OF THE MOST OUTSTANDING EVENTS OF RECENT YEARS





## ORGANIZATION

Acondicionamiento Tarrasense is a non-profit entity, with legal status and own assets, incorporated in 1906. The company governs its activities according to Law 4 / 2008, dated on April 24, of the third book of the Spanish Civil Code on legal persons (DOGC number 5123, May 2), the Organic Law 1 / 2002 of March 22, regulating the right of association (BOE 73, March 26) and its Articles

## GOVERNING BODIES

The Association consists of 8 associate members coming from several complementary industrial sectors and business associations.

The General Assembly is the major and sovereign body of the entity in which all members are represented.

The Board has the authority to represent, lead and manage the Association. This body also implements the decisions taken by the General Assembly, in accordance with the regulations, instructions and guidelines established.

### Board of Directors

**The Board of Directors on 10 March 2017, was comprised by the following members:**

President:

**Mr. Jordi William Carnes Ayats**

Vice-president:

**Mr. Josep Armengol Giralt**

*On behalf of the INSTITUTO INDUSTRIAL OF TERRASSA*

Executive Vice-president:

**Sr. Joan Parra Farré**

Secretary:

**Mrs. Ana M. Santaulària Muxí**

Member:

**Sr. Salvador Maluquer Trepas**

*Representative of COTTON PROCESSING TEXTILE INDUSTRIES ASSOCIATION*

Member:

**Sr. Francesc Roca i Llongueras**

*Representative of FINISH, S.A.*

Member:

**Sra. Dolors Puig Gasol**

*Representative of EUNCET FORMACIÓ, S.L.*

Member::

**Sr. Xavier Torra Balcells**

*Representative of FUNDACIÓ EURECAT*

## Organization chart

From a traditional structure to a flexible and dynamic organization. We focus on work teams and projects based on cross-communication and definition of responsibilities with the goal of meeting the technological expectations of customers and society.

### BUSINESS UNITS

- Health & Biomedicine (H&B)
- Applied Chemistry & Materials (ACM)
- Energy & Engineering (E+E)
- Circular Economy (CE)

### ADVANCED TECHNOLOGY SOLUTIONS SCIENTIFIC AND TECHNICAL SERVICES

- Characterization of materials

### SINGULAR INITIATIVES

- HEHScenter
- BIP

### PROMOTED PROJECTS

- IAM 3D Hub
- Centro de Excelencia en Nanotecnología (CEN). Chile

### NOTIFIED BODY

- Certifications of personal protective equipment (PPE) and building materials

### INNOVATION

- Innovation and New Technologies

### STRATEGIC AND SUPPORTING STRUCTURE

- Finance and Administration
- Corporate Development
- Organization and Strategic Planning
- Project Management
- Industrial Cooperation
- People Development and Management
- Integrated Management Systems (Quality, Environment and Occupational Hazards Control)
- General Services
- Information Systems



# CURRENT TIME

## MANAGING TECHNOLOGIES

From the strength of our experience, **we manage technologies to transform technology challenges into high Social, Environmental Economic and Industrial value**. In collaboration with companies and entities, we are collaborating with more than 38 countries and developing more than 215 projects, gathering effort to research and conquer even more a global and competitive market with **Creativity, Innovation and Learning**.

With the flexibility and agility required by our clients, we get adapted to the market and stimulate changes **to promote technology entrepreneurship, support open innovation with large and SMEs companies, lead singular projects and consolidate the international collaboration as value of the technology networking**, acting, therefore, as cohesive vehicle between the market and research.

With our entrepreneurial and proactive attitude, we promote leadership, constantly challenge the status quo and search for technology solutions providing competitive advantage and growth for companies. We focus our commitment on strengthening specialized teams in **Technology Transfer**, which allow generating collaborative and reliable business environments to achieve an economy based on knowledge and talent development.

We would like to share and express on this Corporate Report the activities developed during the year 2016. These are results obtained from the strength of all the Collaborators that are part of Leitat with our attitudes and capabilities, commitment, implication and responsibility.

Thanks to our work and care with our agents of interest (clients, associated, collaborators, Suppliers, public administration, partnerships and society), we keep on enhancing our institutional vocation towards companies, entities and society, by always respecting our principles and values from the **Excellence in management**.

Wishing to keep on working forward together, we remain at your disposal.

Our warmest greetings,



Sr. Jordi William Carnes  
*President*

[presidencia@leitat.org](mailto:presidencia@leitat.org)



Dr. Joan Parra  
*General Manager*

[info@leitat.org](mailto:info@leitat.org)

# WE GIVE ANSWER

## With our value proposal:

## MANAGING TECHNOLOGIES

From Flexibility and Agility, we manage technologies to transform technology challenges into high Social, Environmental, Economic and Industrial value.

## Mission

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

## Vision

**Be a referent at global level** in managing innovative technologies and reinforcing people creativity and talent.

### Decalogue of the *Principles of the Management Policy of Leitat:*

1. ESTRATEGY
2. CORPORATE CULTURE
3. LIDESHIP
4. CUSTOMER'S SATISFACCION
5. COMUNICATION
6. PARTICIPATION
7. TRAINING
8. SECURITY
9. ENVIRONMENT
10. LAW

### ++ Dynamism

We have a good organizational structure to be able to offer fast and efficient solutions that are adaptable, responsible and transparent.

### ++ Proximity

We establish good communication with our environment with a global perspective, confidentiality and Commitment.

### ++ Colaboration

Participation in R+D+2i projects by providing knowledge and experience, with economical and social return.

### ++ Cooperation

We cooperate to create sustainable and innovative value and globally respond with competitiveness.

### Corporate Culture

#### PRINCIPLES:

Our bases are sustained on 3 Strategic Pillars to face challenges and achieve successful opportunities:

- TECHNOLOGY
- TALENT
- EXCELLENCE

#### VALUES:

We integrate our customs, behavior, thinking and attitudes in 3 Dimensions of the Corporate Culture that generate competitive value:

- RESPECT
- OVERCOMING
- ENTHUSIASM

## CONECTED TO KNOWLEDGE NETWORKS

Recognizing that intellectual property is universal and it is developed and strengthened anywhere in the world, Leitat strongly believes and promotes the concept of "Open Innovation" as force of collaboration to provide an effective response to the technology challenges posed by customers.

### ORGANIZATIONS AND PLATFORMS

SPANISH: 68

INTERNATIONAL: 49

#### MAIN SPANISH TECHNOLOGY PLATFORMS

3NEO	Plataforma Tecnológica Española de Nuevos Materiales, Nuevas Propiedades y Nuevos Procesos de Tecnologías de Impresión e Industrias Afnes
FFL-SPAIN	Fundación Food for Life España
FOTONICA 21	Plataforma Tecnológica Española de Fotónica
FOTOPLAT	Plataforma Tecnológica Española de Fotovoltaica
HISPAROB	Plataforma Tecnológica Española de Robótica
MANU-KET	Plataforma Tecnológica de Fabricación Avanzada MANU-KET
MATERPLAT	Plataforma Tecnológica Española de Materiales Avanzados y Nanomateriales
NANOMED	Plataforma Española de Nanomedicina
PLANETIC	Plataforma Tecnológica Española de los Sistemas con Inteligencia Integrada (Embedded Systems)
PTE - HPC	Plataforma Tecnológica Española de Hidrógeno y Pilas de Combustible
SUSCHEM-ES	La Plataforma Tecnológica Española de Química Sostenible

#### MAIN EUROPEAN TECHNOLOGY PLATFORMS

AM PLATFORM	Additive Manufacturing Platform
EBN	European-Biotechnology Network
EPoSS	European Technology Platform on Smart Systems Integration
ETP- NANOMEDICINE	The European Technology Platform on Nanomedicine
EUMAT	European Technology Platform on Advanced Engineering Materials and Technologies
NANOFUTURES	European initiative for sustainable development by Nanotechnologies
NET!WORKS	eMobility European Technology Platform
PHOTONICS 21	European Technology Platform for photonics
SMARTGRIDS	Smart Grids European Technology Platform
SUSCHEM	European Technology Platform for Sustainable Chemistry
TEXTRANET	European Technology Platform for the future of textiles and clothing
WSSTP	Water Supply and Sanitation Technology Platform

#### MAIN SPANISH ORGANIZATIONS

ASEBIO	Asociación Española de Bioempresas
ASERM	Asociación Española de Rapid Manufacturing
SecPhO	Southern European Cluster of Photonics and Optics

#### MAIN INTERNATIONAL ORGANIZATIONS

AENEAS	Association for European NanoElectronics Activities
ARTEMIS	ARTEMIS Industry Association
BBI	Biobased Industries Consortium
CLEANSKY	Clean Sky Joint Undertaking
EARPA	European Automotive Research Partners Association
EARTO	European Association of Research and Technological Organization
EASN	European Aeronautics Science Network
EFFRA	European Factories of the Future Research Association
EMIRI AISBL	Energy Materials Industrial Research Initiative
ERRIN	European Regions Research and Innovation Network
EU ROBOTICS	European Robotics Coordination Action
NANOSAFETY CLUSTER	European Nanosafety Cluster
SETAC	Society of Environmental Toxicology and Chemistry
SPIRE	Sustainable Process Industry through Resource and Energy Efficiency
VISION2020	Vision2020: The Horizon Network



Ciudad de la Ciencia  
y la Innovación  
Ministerio de Ciencia e Innovación  
Terrassa  
Vilanova del camí

orbital.40  
Parc Científic i Tecnològic de Terrassa



## + TRANSPORT SECTOR

Industrial design and development of components and products

Advanced Materials (polymers, adhesives, coating, nanomaterials, micro and nanocapsules)

Advanced fabrication: IoT, collaborative/mobile robotics and additive manufacturing /3D Printing

Tribology and tribochemistry

Connected vehicle

Treatment, disinfection and quality control of interior air

## + BUILDING

Advanced Materials (asphalts, cement, nanomaterials, micro and nanocapsules, smart materials)

Smart integration of renewable energy

Energy Efficiency

## + PACKAGING

Development of Packaging projects

Prototyping through additive manufacturing

Inks and printed electronics

Global support to industrialization, testing and products validation

Advanced materials (polymers, nanomaterials, barrier materials, coatings, electronic inks, sensor inks, micro and nanocapsules)

Packaging ecodesign

Active packaging

## + TEXTILE SECTOR

Technical / smart textiles, support to industrialization and testing

New materials for technical textiles (biomaterials, polymeric materials)

Design and development of products based on textile solutions

Development of inks, finishing and application of nanotechnology

Textile finishing with advanced functionalities (coatings, inks, dyes, nanomaterials, micro and nanocapsules)

Spinning, weaving and finishing processes to pilot processes

## + ENERGY

Emerging solar technology photovoltaic / concentration

Design and development of components and products for the photovoltaic industry and energy

Energy harvesting & management

Studies on energy efficiency, measurement and savings verification

Energetic valorisation of wastes

New materials for batteries and energy collection (polymers, nanomaterials, coating, inks)

## + ENVIRONMENT

Treatment, reuse and efficient management of water and liquid flows

Soil restoration

Treatment and control of air quality

Treatment and valorisation of waste/subproducts

Sensing of emerging pollutants

Advanced materials (nanomaterials, nanofibres) for filtration and decontamination of water and air

Studies on ecotoxicity and nanosecurity

Sensors and biosensors for the detection of micropollutants

Design and development of components and products for the Environment industries

Life cycle assessment and ecodesign

## + FOOD

Screening and new alternative sources of ingredients (microalgae, insects, subproducts)

Development and validation of active ingredients, functional food

Microencapsulation of new active principles

Cellular models for studies on efficiency and bioavailability of actives

Models in vivo/in vitro mix (cellular-microbiota) and models of humanized animals

Study on microbiota

Energetic metabolism and nutrition

Formulation of new food products

Quality control, allergens and intolerances: detection by fast sensors and cellular characterization

Food security

Sensorial assessment on aliments and studies on useful life

Design and development of components, products and equipment for the food industry



## to the technology needs of companies

### + COSMETICS

Advanced materials (micro and nanocapsules and nanomaterials)

Formulation of cosmetics

Test on consumers

Eco labelling for cosmetic products

Effectiveness studies and innovative claim support

Security profile of ingredients and cosmetic formulations

Screening, bioproduction of characterization of new cosmetic actives

Models in vitro mix (cellular-microbiota)

Design and development of components, products and equipment for the cosmetic industry

### + DETERGENCY

Study and development of new active ingredients

Formulation and efficiency tests of products

Test on consumers

Eco labelling for detergency products

Applied microbiology, enzymatic activity

### + HEALTH

Advanced materials (polymers and biopolymers, bioadhesives, matching adhesives)

Biosensors

Microbiota as biomarker of wellbeing / disorders

Biomarkers in blood, urine and saliva

Design and development of products and diagnostic and prognostic tools, monitoring of illnesses, treatment and vaccines

### + PHARMACY AND VETERINARY

Assessment of therapeutic targets

Mechanisms of action and drugs efficiency studies

ADMETox

Cellular models and animal models

Oncologic, inflammatory, autoimmune and dermatologic indications

Generation and production of monoclonal and recombinant antibodies

Biomedicine

Nanomedicine

Drug discovery and development

Design and development of components, products and equipment for the pharmaceutical industry

### + CHEMISTRY AND MATERIALS

Synthesis of nanomaterials and polymers

Formulation of polymers, paints, inks, coating and building materials)

Surfaces treatment

Nanosecurity, REACH

Testing, analytic chemistry and accompanying to industrialization

Tribology and tribochemistry (cutting fluids, emulsions, oils, lubricants and fats)

### + SECURITY

Design and assessment of personal protective equipment

Nanosecurity

Sensors and actuators

Study on efficiency and security

Biosecurity: fast detection of toxic and infectious agents

Advanced materials (smart inks, nanomaterials)

### + SEA SECTOR

Prevention and mitigation of emergent pollutants in the sea (microplastics)

Recycling of materials of the sea sector (boats, etc.)

Sea pollution reduction

Management and valorisation of fishing and port waste

Screening of microorganisms and bioproduction of natural products



- 
- + PROCESS IMPROVEMENT
  - + PRODUCTS IMPROVEMENT
  - + CHANGE ADPATATION
  - + INNOVATION CAPACITY
  - + COMPETITIVE IMPACT
  - + SOCIAL IMPACT
  - + INTERNATIONALIZATION
  - + ECONOMIC RETURN

Industrial research adding value, differentiation and innovation opportunities in the global markets.

Multidisciplinary teams with know-how and experience in different knowledge areas and disciplines.

#### **BUSINESS UNITS**

- + HEALTH & BIOMEDICINE (H&B)
- + APPLIED CHEMISTRY & MATERIALS (ACM)
- + ENERGY & ENGINEERING (E+E)
- + CIRCULAR ECONOMY (CE)

#### **SINGULAR INITIATIVES**

- + HEHScenter – Human & Environmental Health & Safety Center
- + BIP - Barcelona Institute of Packaging  
[www.barcelonapackaging.org](http://www.barcelonapackaging.org)

#### **PROMOTED PROJECTS**

- + IAM 3D Hub
- + Center of Excellence in Nanotechnology (CEN)





+ Photo\_Cell\_Culture\_Archives\_Leitat

## HEALTH & BIOMEDICINE (H&B)

### Research lines:

- Generation of polyclonal and monoclonal antibodies (mAb) on demand for basic research, diagnosis and therapeutic treatments.
- Genetic engineering of proteins and monoclonal antibodies: Recombinant Proteins, Antibody Drug Conjugates (ADC), VHH single domain (nano) antibodies, Bispecific Antibodies, Chimerization, Humanization, Fusion Proteins, Antibody fragments (Fab, scFv), and Biosimilars.
- In vitro cellular models to study efficacy, security, action mechanisms, screening, synergies, bioanalytic, metabolomics, etc. of drugs, cosmetics healthy products, food regenerative and supplements.
- In vivo animal models to study efficacy, biodistribution, pre-Tox and Maximum Tolerated Dose, pre-PK, histology, etc. (oncology, inflammation, dermatology, sports, cellular and tissue regeneration, angiogenesis).
- In vivo animal models to study microbioma, disbiosis and human microbiota transplant. Collaboration in the development of probiotics and prebiotics for nutrition and treatment of illnesses.
- Design of biogenetic tools for the validation of therapeutic targets and diagnostic biomarkers: siRNA, hairpins of DNA, arrays analysis, etc.

We focus on therapy and diagnosis in areas and sectors as oncology, inflammation, dermatology, sports cellular and tissue regeneration, angiogenesis, etc, with activities in:

- Analysis of the therapeutic efficacy in new drugs: chemical, biologic, cellular or genetic, at molecular, biochemical, immunochemical, cellular and in animals of laboratory.
- Projects on drug-targeting and drug-delivery to improve drugs and other therapeutic applications.
- Development of new biologic drugs (antibodies, monoclonal and recombinant proteins) and improvement of them (chimerization, humanization, biosimilar, conjugation).
- Identification, validation and characterization of new therapeutic targets and diagnostic biomarkers.
- Determination of new indications for commercialized drugs and in clinical phase (refilling).
- Development of new and innovative tool for the diagnosis, prognostic and monitoring of the illnesses evolution and their treatment (monoclonal antibodies, kits ELISA, kits immunohistological).
- Development of devices for clinics (lateral flow devices, biosensors). Our diagnostic solutions and the specific biosensors are applicable in different industrial sectors as sports health, veterinary, food and environment.
- Bioanalytic and metabolomic services for in vitro and in vivo studies, using high resolution analytic techniques (chromatography, combined with mass spectrometry)



+ Photo\_Addition\_of\_Polymers\_Source\_Archives\_Leitat

## APPLIED CHEMISTRY & MATERIALS (ACM)

### Research lines:

- **Raw Materials.** Study and synthesis of polymers and biopolymers, Resins, organic compounds, surfactants and oils. Synthesis and surface modification of metallic and ceramic nanomaterials, nanofibres and carbonaceous structures. Study and modification of surfactants, oils and fats.
- **Design and Formulation.** Formulation of paints, inks and functional coating. Processes of mixing of asphalt, concrete and cement. Formulation of products of detergency and cosmetics. Development of polymeric composites (nanocomposites, biocomposites) through extrusion and reactive extrusion. Electrospinning of nanofibres and hollow fibres. Formulation of cutting fluids, oils and fats.
- **Processing and Application.** Transformation of polymers through conventional techniques (injection, extrusion, blowing and blowing injection). Spinning processes. Plasma treatments and coating and paints application (spray, spin, coating, padding, wiper). Ink printing (screen printing, inkjet, pad printing). Textile and surface washing processes. Application of tribochemical products on metallic surfaces. Sol-gel treatments and application of nanofibres by electrospinning on substrates.
- **Validation.** Characterization of materials (mechanic properties, impact, barrier, antimicrobial, hardness, scratching resistance, adherence, fire resistance), validation tests in detergency and cleaning products, studies on stability of formulations, lubricity and corrosion studies for tribochemical products, consumers tests, smelling evaluations and ecolabel. Accelerated ageing tests.

Global and optimized projects for the development of new materials aimed at the main industrial sectors as transport, aeronautic, energy, textile, detergency, packaging and environment.

- We carry on integral projects in the sector of applied chemistry and materials encompassing the entire scale of values and different phases of the productive processes: phases of synthesis, formulation of raw materials with pilot processes and performances of technology demonstrators that apply the developed materials to the new ones, as well as recyclability studies and useful life. We try to help industry to develop its projects from any stage of the value chain of applied chemistry and the materials with the aim of providing knowledge and innovation and generating a strong and powerful industrial tissue from the new products and processes developed.



+ Photo\_Electronics\_Lab\_Source\_Archives\_Leitat



+ Photo\_Fermentation\_in\_Bioreactor\_Source\_Archives\_Leitat

## CIRCULAR ECONOMY (CE)

Innovative technologies and strategies for a sustainable production, efficient management of the natural sources, optimum treatment and valorization of waste fluids.

### Research lines:

- **Specific elimination of pollutants**, reuse of water and/or recuperation of high added value products or energy: separation or purification technologies, (membrane processes, electrochemical processes), oxidative technologies and disinfection (oxidation advanced processes, electrogeneration of oxidant species), and biotechnologies (bioelectrochemical systems, Nature Based Solutions).
- **Valorisation and recycling of urban, biomass, mix or complex waste**: pre-treatment technologies, transformation of waste into product (bioprocesses, hydrolysis/extraction), transformation of waste into energy (bioelectrochemical systems, thermal processes, anaerobic digestion).
- **Treatment and indoor / outdoor air quality control**. Field of altimetry, chemical and microbiologic control, dispersion models, treatment and disinfection technologies (photocatalysis, adsorption, phytoremediation).
- **Soil remediation**. Studies on soil biodiversity, interaction plant-microbioma, phytoremediation, bioremediation.
- **Bioresources and agro-food technologies**: new alternative sources of active ingredients, development and validation of ingredients (extraction, functionalization, separation/purification), formulation and sensory validation of new food products, food security.
- **Industrial biotechnology and Applied microbiology** in the industrial and environmental sector. New microbial consortium, new natural actives, bioprocesses, biocatalysis and bioelectrochemical systems for the obtention of bioproducts, antimicrobial and antibiofilm products/technology/models, complex microbita models, multi-omic models.
- **Ecodesign and Life Cycle Assessment**. Life Cycle Assessment (LCA) of products, services and processes, ecodesign of products and ecoinnovation of services and processes.
- **Ecologic Labelling and Environment Communication**: Ecologic Label (EU Ecolabel) for products and services, Environment Management Systems (EMAS, ISO 14.001), Energy Management UNE-EN 16.001, Ecodesign Management ISO 14.006, environmental communication strategies and social responsibility.
- **Sustainable production**: sustainable combination of technology, environment and competitiveness through business models based on circular economy, industrial symbiosis strategies and efficiency of processes.

## ENERGY & ENGINEERING (E+E)

### Research lines:

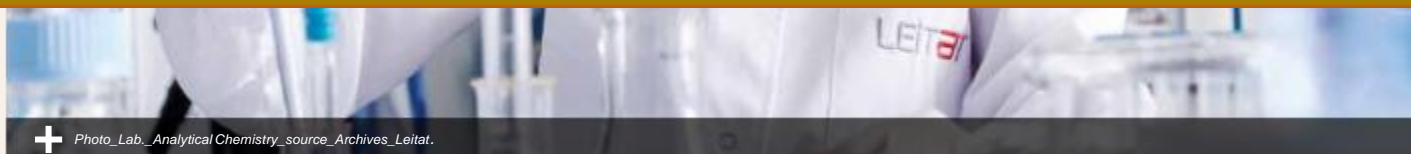
- **Energy technologies of low carbon footprint**: Design, assembling and characterization, control and integration of devices and energy systems (solar, power storage, bioelectrochemical systems, conversion of energy carriers).
- **Smart Systems**. Sensors, optical/electrochemistry biosensors, printed electronic components, Internet-of-Things industrial and communication.
- **Robotics / manufacturing advanced processes**. Collaborative, mobile and automatized robotics.
- **Design and development of products and processes** thanks to industrial design, simulation and multiphysic modeling tools.

Our activities meet the great challenges of the industry such as clean energy, industry 4.0-digitalization, transport of future and healthy life. We provide technology innovation for the industrial sector with impact on new products, productive processes and/or business models. The activity is based on:

- Technology research
- Industrial design and development

A multidisciplinary team formed by physicists, chemists, electrochemists and engineers allows developing innovative projects from different perspectives provided with different laboratories specialized in their activity:

- Laboratory of electronics
- Laboratory of robotics
- Laboratory of energy
- Equipment of manufacturing, assembling and printing of devices
- Equipment of solar simulation and electrochemistry characterization
- Equipment of processing and characterization of composites
- Design tools CAD/CAE/CAM
- Software of simulation, multiphysics
- Useful life and pre-homologation tests, accelerated ageing



+ Photo\_Lab\_Analytical Chemistry\_source\_Archives\_Leitat.

## HEHScenter

### Human & Environmental Health & Safety Center www.hehscenter.com

It offers two platforms with tools promoting the competitiveness of the industries that use nanotechnology:

- Through the implementation of more safety solutions during the design and development of their products
- Developing the chances offered by nanotechnology in the medicine sector to improve life quality of people

#### NANOSAFETY PLATFORM

HEHScenter is formed by a multidisciplinary team working in these research lines:

##### Consulting Services

- Identification and transfer of the regulatory exigencies/demands in the field of nanosecurity
- Technical-legal advice on environmental law and industrial security. REACH Regulation, CLP, biocides...Diagnostics, action plans, registration files
- Mapping of exposure assessment and characterization of the risk of the product life cycle
- Advice on the use of tools for the nanomaterials risk analysis

##### R&D activities:

- Assessment of the exposure (human and environmental) to nanomaterials and development of technology solutions for the mitigation associated to nanotechnology (safe-by-design)
- Assessment on (Eco)toxicology: in vitro toxicology studies; studies on ADME in vitro; cellular internalization and sublocalization of nanomaterials; studies on toxicity; ecotoxicology studies in organisms of land and aqueous compartments according to the standardized tests by the OECD
- Risk assessment: Assessment on nanomaterials risks: development of methodologies/models according to the characteristics/specific behaviour of the nanomaterials for their implementation in tools of risk assessment

##### Testing Services:

- Physical-chemical characterization of nanomaterials and nanostructured materials
- Identification and monitoring of nanoparticles and complex matrix
- Monitoring and characterization of exposure (human and environmental) to nanomaterials

##### Training & Education:

- Training courses: Tools for risk analysis and models applied in the nanosecurity field: courses on the progress in the regulatory framework and its future application in nanotechnology

#### PLATFORM FOR NANOTECHNOLOGY IN HEALTHCARE (R&D)

##### Nanomedicine

- Design and manufacture of nanocapsules to carry out active principles via derma and oral
- Design and synthesis of smart nanoparticle systems targeted and/or localized
- Physical and chemical characterization of the nanoparticle systems
- Functionalization of the surface of the nanoparticles systems with small molecules and biomolecules
- Studies on stability of the nanoparticles systems: temperature, storage time, formulation
- Studies on security
- Studies on efficiency (in vitro and in vivo models)

##### Nanobiosensors

- Design and manufacture of inorganic nanoparticles to be applied in biosensors
- Physical and chemical characterization of the nanoparticles
- Functionalization of the surface of the nanoparticles with small molecules and biomolecules

## BIP - Barcelona Institute of Packaging www.barcelonapackaging.org

Program supporting companies on innovation and development projects on Packaging and offering technical accompaniment in industrial implementation, looking for the best synergies between RD equipment and Leitat product engineering.

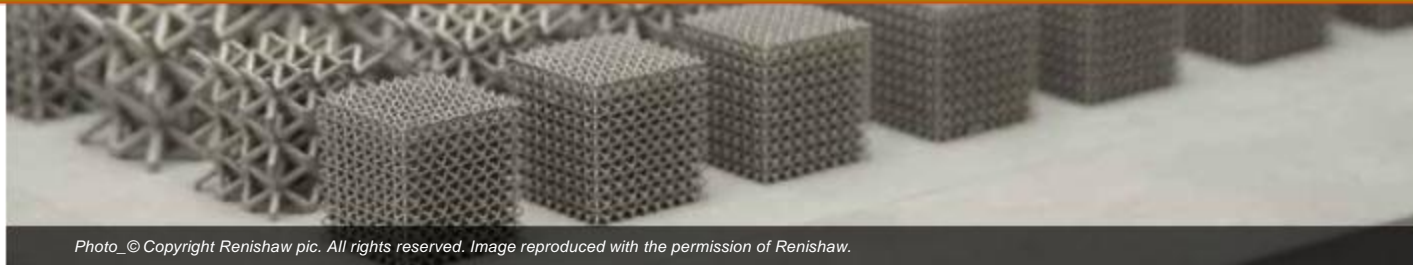
Service:

- **Product Packaging Engineering.** Development of new packaging projects from the design to manufacture. BIP software tools as CAM / CAD / CAE for the development of the new packaging projects embracing the product design and engineering.
- **Validation and technical tests:** The validation of new designs, materials, compatibility in the environment product-package and environment. BIP has testing equipment to analyze and evaluate the mechanical, chemical and physical-chemical parameters for all kind of packages.

- **Packaging and reengineering.** Re-design projects, optimization and standardization to improve the efficiency and performance of the production lines. Cost reduction program OCB (Optimums Cost Balance)
- **Packaging and Logistics.** Projects on logistics efficiency and validation, tests and assessment on storage and transport. Codification and Identification
- **Packaging and Ecodesign:** Projects proposals for the design of sustainable packages, life cycle assessment and environmental re-engineering.
- **Support to training.** The program is supported by the University Politècnica of Catalonia for training and recycling of engineers and technicians capable of leading the new challenges of the sector of package engineering, packaging and conditioning of products within the current framework of the post graduate course Packaging Engineering: packages and packaging technology and specialization courses.







Photo\_© Copyright Renishaw pic. All rights reserved. Image reproduced with the permission of Renishaw.

## IAM 3DHub

IAM3D arises with the aim of making it easier for companies the adoption of additive manufacture as an alternative way of producing. It is a common initiative by Leitatz, HP and Renishaw, to which other technology actors-suppliers of software, materials, post processed, validation, certification and research organizations- as well as training entities –institutes and universities- and economic actors.

The center offers single window services to all kind of companies, SMEs, large companies and of new creation, as well as non technology companies wishing to experience and try end to end integrated solutions of additive manufacture.

- **Experimenting and testing:** Generation of knowledge and trust. Advising, knowing the expert, Lab-day, use AM / 3DP, benchmark and tests for the Product Development, DAFO additive manufacture, materials and processes selection. Practical workshop / Lab-Day.
- **End to end solutions:** With the aim of developing end to end solutions, the center offers "Living-Lab" for design, explore, experience and redefine new products in real scenarios. The center also has an incubator for final applications and pilot lines for the manufacture of components for the whole additive manufacturing chain and 3D printing on an industrial scale. The validation and certification labs closet he solution cycle.
- **Business & mentoring:** The services offered to the new companies are the following: technology assessment, identification of emerging technologies, adoption acceleration, market research, commercial viability studies, identification of routes to market, definition and

evaluation of business models, backup financing to new business, identification of partners and collaborators, IP protection, IP licenses, market introduction and sales strategies. The services offered for the adoption of AM solutions in an existing company are: evaluation of the maturity level of the company for the adoption of AM/3DP, analysis of the adoption potential, identification and facing of technical challenges allowing production on an industrial scale, development of operation procedures, specifications and standards, design and execution strategies, simulation and validation of AM integration into factory level, development of the supplying chain, support on purchase-sale decisions and simulation and validation of AM integration at enterprise level.

- **Training and education:** Theoretical and practical programs on industrial and professional training for companies during the whole value chain. Training courses for trainers and ideal environment for academic training – official master, industrial PhD- and implementation of STEAM programs.
- **R&D:** R+D collaborative environment with the most powerful and proper resources to promote, strengthen and advice the technology suppliers to search the specific during the whole value chain of the industry: design, materials, AM/3DP processes, post-processes and validation, creation and share of a research atmosphere to innovate and search into the additive manufacture technologies. It is defined as a collaborative, transparent, open and reliable with proposals and shared resources.

## CEN

**THE CENTER OF EXCELLENCE IN NANOTECHNOLOGY** is a project supported by CORFO under the call for proposals for Attracting International Centers of Excellence2.0, with the aim of creating a research canter applied in the field of nanotechnology to transfer know-how and technology to the main industrial sectors in Chile. This promotes the economic growth and competitiveness to provide added value to products and processes.

The CEN is the Technology Partner of reference in Advanced Materials, Sustainability and Renewable Energies in South America for companies and institutions.

### STRATEGIC SECTORS OF MAIN IMPACT

- Mining and environment
- Aquaculture
- Agri-food
- Forest
- Personal Protective Equipment

### Participants:



# R+D+2i OUTSTANDING PROJECTS ON INDUSTRIAL RESEARCH

+ Industrial  
Innovation

+ Competitiveness

## BREEZE



HYBRID PHOTOCATALYTIC AIR FILTER FOR REMOVING POLLUTANTS  
AND ODOURS FROM AIRCRAFT CABIN ZONE

BREEZE project develops an alternative air purification filter based on combined adsorption and photocatalytic oxidation using UVA-LEDs as irradiation source. The efficiency of BREEZE technology will be validated for the elimination of volatile organic compounds, specific types of ethers, ozone and bio-contaminants such as bacteria and viruses. Ageing tests will be carried out in order to validate under real pressure and humidity conditions the air filter durability. The optimised BREEZE device will be finally for a final validation in a real environment.

Leitat is the leader and the only participant in the project.



- This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 755563
- Total Budget: 708.347€
- EC Contribution: 708.347€
- Budget Leitat: 708.347€



## CONNECT

INNOVATIVE SMART COMPONENTS, MODULES AND APPLIANCES  
FOR A TRULY CONNECTED, EFFICIENT AND SECURE SMART GRID

CONNECT aims to provide concepts, technologies and components that support enhanced integration of renewable and storage energy combined with intelligent control of the power flow. This will reduce the demand for primary energy and the carbon dioxide emissions. The project will develop solutions for high interoperable, high data rate local and wide area communication in the grid with enhanced security in order to protect this critical infrastructure against attacks. Particular effort is spent to minimize the power consumption of the developed solutions. Selected results of CONNECT are planned to be demonstrated in close to real life scenarios.

The consortium is formed by 19 partners from 5 different countries (6 industries, 5 SMEs and 8 research centers / universities).



- This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 737434
- Total Budget: 17.351.806€
- EC Contribution: 5.146.307€
- Budget Leitat: 487.500€

## ALTERCOM

DEVELOPMENT OF COATING TECHNOLOGIES DECORATIVE PVD ALTERNATIVES TO ELECTROPLATING CHROME FOR THE AUTOMOTIVE SECTOR

Through this project Continental aims to develop an alternative method for the production of chrome parts that is environmentally clean and based on physical vapor deposition (PVD). The current technology is characterized by high consumption of water, energy and generates a large amount of contaminated liquid effluents with heavy metals. In addition, technology has risks for both the environment and human health. Now, environmental legislation requires the removal of this technology.

<http://proyecto-altercom.eu>



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Tecnológico  
Industrial



- Contract number: IDI-20140962
- CDTI Funding: 288.573,71€
- Donor countries funding: 72.143,43€  
(Liechtenstein, Islandia y Noruega)
- Budget Leitatz: 31.150€

## NANONAFRES

PRECLINICAL AND CLINICAL STUDIES OF THE APPLICATION OF NANOVESICLES (QUATSOMES) WITH EGF CHRONIC VENOUS ULCERS

The project will carry out preclinical studies and clinical trials on the application of epidermal growth factor nerve vesicles (EGF) by topical way in patients with ulcers due to long-term chronic venous insufficiency to facilitate epithelialization and closure of the ulcer.

The consortium is formed by 3 companies from the Health and nanobiotechnology sectors, two important hospitals and two centers of scientific excellence.

<http://healthcarelivinglab.cat/tec-salut>



- Contract number: COMRD15-1-0023-03
- FEDER Funding: 1.013.609,93€
- Global Budget: 2.294.451,28€
- Budget Leitatz: 169.189€



## R3BORN

DEVELOPMENT OF AN INNOVATIVE PLASTIC WASTE COMPATIBILISATION AND RECYCLING SYSTEM

R3BORN develops and implements a viable technology for the recycling of plastic waste from two different families: polyolefins and plastic mix from urban waste management. New recycled materials will be obtained that can be applied to highly functional products in the sector of plastic furniture manufacturing and pieces for the services sector. The project will also include the development of an innovative family of compatibilizers developed from controlled polymerization technologies.

Leitat collaborates with the consortium led by Ferrovial and formed by: Cromogenia, Figueras and Galloplast.



Centro para el  
Desarrollo  
Tecnológico  
Industrial



- Global Budget: 1.317.281€
- CDTI Funding: 896.657€
- Budget Leitatz: 158.000€

## METASTASIS

ANTI-TUMOR AND ANTI-METASTATIC ACTIVITY OF MONOCLONAL ANTIBODIES IN ANIMAL MODELS OF HUMAN CANCERS

METASTASIS aims to improve the efficacy of metastatic treatments for tumors in the breast or pancreas. During the project, IMMED will participate in pre-clinical and functional validation of the leads antibodies. FIBHULP will carry out in vitro assays to test binding antibodies. LEITAT will be involved in determining the efficacy of antibody activity in cell lines and the determination of antiangiogenic and antimetastatic activity in animal models in vivo.



Unión Europea

Fondo Europeo  
de Desarrollo Regional  
"Una manera de hacer Europa"

- Contract number: RTC-2015-3318-1
- Funding: 534.932€
- Global Budget: 573.680€
- Budget Leitatz: 144.994€



## NANO4DERM

NANOCAPSULES CONTAINING ACTIVITIES FOR THE TOPICAL TREATMENT OF DERMATOLOGICAL DISEASES

Nano4Derm focuses on the development of innovative formulations containing nanoencapsulated active ingredients for the treatment of inflammatory skin diseases such as acne and psoriasis. Nano4Derm will allow the development of new innovative formulations that will solve some problems associated with topically administered active ingredients such as increasing microbial resistance to certain antibiotics, chemical instability, poor skin penetration and adverse effects of certain principles commonly used in dermatology.

The consortium is formed by the pharmaceutical ALMIRALL S.A., the Institute Sciences of Materials of Barcelona (ICMAB) and the Technological Center Acondicionamiento Tarrasense-Leitat.



- Grant agreement: RTC-2016-4567-1
- Global Budget: 1.021.575€
- Public Contribution: 308.533€
- Budget Leitat: 210.197€



## TEC-SALUT

TECHNOLOGIES APPLIED TO HEALTH

The objective of TEC-SALUT is to create a space for collaborative work in the field of health to provide innovative responses to the needs and growing challenges of the health system. In order to meet the challenges of the health sector, the community has identified priority areas of expertise through which the action plan is organised and defined. Four projects will be executed in the field of imported technologies in the health sector and sustainable healthcare ecosystem.

The consortium is formed by 15 companies from the biotechnology sector, the Catalan Institute of Technology, Hospitals, research Centers and Universities.

<http://healthcarelivinglab.cat/tec-salut>



- Contract number: COM15-1-0006
- FEDER Funding: 139.168€
- Total Budget: 278.000€
- Budget Leitat: 278.000€

## SWITCH

NEW DEVICES BASED ON ELECTRO-ACTIVE OPTICAL MATERIALS TECHNOLOGY FOR MULTI-SECTOR SEGMENTS

The main objective of SWITCH is the creation of knowledge and technological development in the field of electro-active optical devices using electrowetting on dielectric (EWOD) technology. The devices to be developed by EWOD change their visual appearance: transparent, opaque, reflective, and colors, allowing the creation of new products in different industrially relevant sectors at national and international level (automotive, construction, intensive agriculture and consumption).

The consortium SWITCH is formed by three large companies: FICOMIRRORS, Grupo Vias and Torrecid; and five SMEs: MACSA ID; INTERCOMET, IPAGSA, RUFEP and FAMA SOFAS. In addition, the following research bodies also participate: Leitat, Universidad Politécnica of Catalonia, CETIM, AIMEN, ITMA, CEBAS-CSIC, Universidad Politécnica of Cartagena and CETEM, which broadly cover the Spanish map.



- Global Budget: 8.439.582€
- CDTI Funding: 6.329.686€
- Budget Leitat: 587.000€

## BPA-FREE

DEVELOPMENT OF NEW BISFENOL A –FREE VAMISHES FOR METALIC FOOD PACKAGING

The project develops new coating technologies for metals used in food packaging that are able to substitute the current epoxy varnishes derived from BPA. This new technology should fulfill the technical requirements derived from its application as well as the ones of economic and environmental viability. In addition, it should fulfill the entire existing legislation in the field of food packaging to assure its commercialisation. The final objective is the industrialisation of new resins that will be used as a raw material for the industrial formulation of new varnishes for the metallographic industry.

The consortium is formed by Cromogenia and Leitat.



- Grant agreement number: RTC-2014-2336-2
- MEIC Funding: 590.605€
- Total Budget: 751.323,10€
- Budget Leitat: 183.267€

## IGNICOAT

DEVELOPMENT OF FLAME-RETARDANTS COATINGS THANKS TO INNOVATIVE TECHNOLOGIES WITH REDUCED ENVIRONMENTAL IMPACT AND IMPROVED TECHNICAL PERFORMANCE

The main objective of IGNICOAT is to develop new flame-retardant coatings for textiles with improved properties thanks to innovative technologies that respect the environment, scalable at industrial level and at an acceptable cost.

The consortium is composed of Marina Textil and Leitat.



- Grant agreement number: RTC-2016-5708-5
- MEIC Funding: 211.426,35€
- Total Budget: 543.078,68€
- Budget Leitat: 189.085,34€

## ODYSSEA

OPERATING A NETWORK OF INTEGRATED OBSERVATORY SYSTEMS IN THE MEDITERRANEAN SEA

ODYSSEA will develop, operate and demonstrate an interoperable and cost-effective platform that fully integrates networks of observing and forecasting systems across the Mediterranean basin, addressing both the open sea and the coastal zone. The platform will collect its data from the many databases maintained by agencies, public authorities, and institutions of Mediterranean EU and non-EU countries, integrating existing earth observation facilities and networks in the Mediterranean Sea building on key initiatives.

The consortium is formed by 28 partners from 14 different countries (6 not UE)



- This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 727277
- EC Contribution: 8.398.716€
- Total Budget: 8.398.716€
- Budget Leitat: 310.093€

## SURCAR

TECHNOLOGICAL DEVELOPMENTS FOR NEW AUTOMOTIVE COMPONENTS WITH ADVANCED FINISHING

The main objective of SURCAR is the development of new automotive products of high quality with anti-fingerprint, anti-corrosion and anti-condensation properties. Also, the products should be easy to clean for astonishing cars thanks to new technologies, new materials and next generation coatings.

The consortium consists of 8 companies, Atotech, Cromogenia Units, Elix, Ficosa, Monocrom, Mugape and Promaut, and led by Maier.



- Budget Leitat: 436.500€

## IN-POWER

ADVANCED MATERIALS TECHNOLOGIES TO QUADRUPLE THE CONCENTRATED SOLAR THERMAL CURRENT POWER GENERATION

IN-POWER project develops highly efficient concentrated solar power architectures. This consists in developing and integrating new innovative material solutions into concentrated solar technology to increase the efficiency while simultaneously decreasing the energy production cost. This project guarantees up to three-time increase in thermal capacity respect to standard thermal storage materials and a decrease in levelised cost of electricity.

The consortium is composed of 10 partners from 4 different countries (2 industrial companies, 4 SMEs and 4 research centers).

<http://in-power-project.eu>



- This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 720749
- EC Contribution: 4.998.928€
- Total Budget: 5.821.903€
- Budget Leitat: 784.787€



## HYPOSENS

### NANO-CONFINED PHOTONIC SYSTEM FOR DETECTION OF BREAST CANCER SPREAD TO THE LYMPH NODES

HypoSens focuses on the development, pre-clinical and clinical validation, and industrial demonstration of a unique all optical cancer prognostic system that will determine the presence of cancer cells in the breast lymph nodes and characterize them. HypoSens will develop an imaging system to offer a non-invasive alternative to the sentinel lymph node biopsy process. The device aims to be affordable and easy to use. Clinicians will have a more accurate and faster diagnosis method in order to offer a personalised treatment solution.

The consortium is formed by 9 partners from 5 different countries (among them, 2 Universities and 3 Research Centers) from Spain, Germany, Bulgaria, Belgium and Israel.

<http://hyposens.eu>



- This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 732794
- Total Budget: 3.998.646€
- EC Contribution: 3.998.646€
- Budget Leitat: 672.083€

## MIDES

### MICROBIAL DESALINATION FOR LOW ENERGY DRINKING WATER

MIDES aims to develop the World's largest demonstrator of an innovative and low-energy technology for drinking water production, using microbial desalination cells (MDC) technology either as stand-alone or as pre-treatment step for reverse osmosis. The project will focus on overcoming the current limitations of MDC technology such as low desalination rate, high manufacturing cost, biofouling and scaling problems on membranes, optimization of the microbial-electrochemical process, system scaling up and economic feasibility of the technology. This will be achieved via innovation in nanostructured electrodes, antifouling membranes, electrochemical reactor design and optimization, microbial electrochemistry and physiology expertise, and process engineering and control.

The consortium is formed by 10 partners from 7 different countries (3 industrial companies, 3 SMEs and 4 Technology Centers).



## POROUS4APP

### PILOT PLANT PRODUCTION OF CONTROLLED DOPED NANOPOROUS CARBONACEOUS MATERIALS FOR ENERGY AND CATALYSIS APPLICATIONS

POROUS4APP project is based on the fabrication of functional nanoporous carbonaceous materials at pilot plant scale from natural resources. The process for nanoporous carbon fabrication is already well known as one of the POROUS4APP partner has developed the STARBON® technology which consist of swelling, drying and pyrolysis of natural resources and in this case Starch. POROUS4APP will bring the development of new metal/metal-oxide doped-nanoporous carbonaceous materials based on a known technology. This technology needs to be upscaled and modified to enable a full flexibility of the material characteristics to be applied to various industrial applications.

The consortium is formed by 11 partners from 7 different countries (1 industrial company, 4 SMEs and 6 Research Centers).

<http://www.porous-4app.eu>



- This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 686163
- Total Budget: 7.949.754€
- EC Contribution: 6.328.164€
- Budget Leitat: 648.817€



<http://midesh2020.eu>

- This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 685793
- Total Budget: 8.069.593€
- EC Contribution: 6.328.164€
- Budget Leitat: 835.581€



## CALIBRATE



PERFORMANCE TESTING, CALIBRATION AND IMPLEMENTATION OF A NEXT GENERATION SYSTEM-OF SYSTEMS. RISK GOVERNANCE FRAMEWORK FOR NANOMATERIALS

The objective of the caLIBRAte project is to establish a state-of-the-art versatile risk governance framework for assessment and management of human and environmental risks of nano-enabled products. The framework will be a web-based "system-of-systems" linking different models and methods. The selected models will be subjected to sensitivity analysis and performance testing followed by a revision. The models will then be analysed by sensitivity testing, calibration, and performance to establish uncertainties. Real case studies will finally demonstrate the application of the models. Stakeholders will be involved for defining the user requirements of the framework and will receive training.

The consortium is formed by 24 partners from 13 different countries, 10 from EU and 3 no-EU (8 Technology Centers, 7 Public Entities, 4 Universities, 3 Companies and 2 Associations)

<http://www.nanocalibrate.eu>



- This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 686239
- EC Contribution: 7.999.687€
- Total Budget: 9.828.106€
- Budget Leitat: 363.425€

## HAIRD

HYBRID AIRCRAFT SEATING REQUIREMENT SPECIFICATION AND DESIGN

HAIRD project aims to deliver a new design for a next generation aircraft seating which is comfortable, light-weight, fast to disassemble, easy to dismantle, cost efficient to produce, highly recyclable and reliable in structural integrity. A new mono-materials cushions will be developed to improve the easy-recyclability and the cost production. Topological and geometrical optimization techniques will be applied by means of computational tools to ensure weight reduction without compromising the structural reliability. The direct impact is expected in terms of sustainability, economic viability, novel attractive, cost reduction in maintenance and material, fuel consumption and CO2 emissions.

Leitat is the leader and the only participant in the project.



## RUN4LIFE

RECOVERY AND UTILIZATION OF NUTRIENTS FOR LOW IMPACT FERTILIZER

Run4Life proposes an alternative strategy for improving nutrient recovery rates and material qualities, based on a decentralised treatment of segregated black water, kitchen waste and grey water. It combines existing wastewater treatments with innovative ultra-low water flushing vacuum toilets for concentrating black water, hyper-thermophilic anaerobic digestion as one-step process for fertilisers production and bio-electrochemical systems for nitrogen recovery. It is foreseen up to 100% nutrient recovery and >90% water reuse.

The consortium is formed by 15 partners from 7 different countries (2 Industrial Companies, 4 SMEs, 4 Research Centers and 2 Public Entities).



- This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 730285
- EC Contribution: 6.239.340€
- Total Budget: 7.720.900€
- Budget Leitat: 532.787€



- This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 738076
- Total Budget: 207.362€
- EC Contribution: 207.362€
- Budget Leitat: 207.362€

# Leitat UNDERTAKES

## **Entrepreneurship**

Creation, development and technology transfer with social implication in the new markets by identified needs of the markets or sectors.

Financial and competitive support in the development of the project/product to guarantee its impact in the market and capitalizing technology development.

## **TECH MENTORING**

Technology transfer from knowledge generating cores. Complete use of technology and knowledge obtained from research.

Creation of actives and abilities to customers (technology, brand and systems).

## **ADVANCED MANAGEMENT**

Global-market oriented strategic administration.

Directive competences and abilities. Flexibility and adaptability.

## **GROWING BUSINESS AREA**

Access to multisectorial equipment, using synergies with the Centre and in an Open Innovation environment to broaden the initiatives reach. Acceleration platform for internationalization. Complementarily with other already existing projects.

## **FFF COMMUNITY**

Relationship with financial funds and partners to facilitate and improve the company plans and the first stages of the Technology Based Companies (TBC) projects.

Generation of critical mass for business development by promoting and developing projects focused on growth and business consolidation oriented to market success.

# Leitat INNOVATION

## **CONCEPTLAB**

Definition of concepts for products, services, processes and business models that are authentically and aimed at the market.

## **REORIENTATION**

Search of new activities allowing an approach to new management models.

## **IIINFORMATION ON TECHNOLOGY**

Improve the technology level of products, services and processes. Use mechanisms to be able to find, evaluate and transfer external technological knowledge.

## **TRAINING AND TRANSFER**

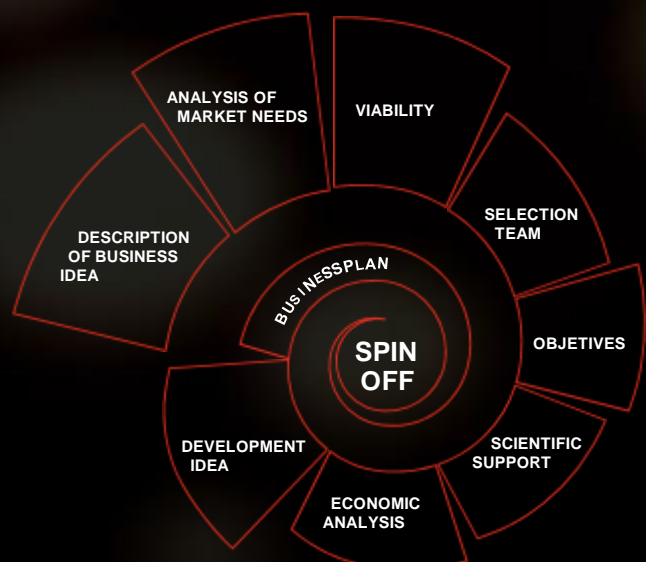
Development of generic training actions that are specified on technological topics and innovation management.

## **INNOVATION MANAGEMENT**

Implementation of a personalized model to improve innovative capacity.

## **PROCESS IMPROVEMENT SYSTEMS**

Improvement of processes by using more efficient techniques and management





## Leitat Notified body

Leitat is the Notified Inspection Body no. 0162, authorized by the Ministry of Industry, Commerce and Tourism for the performance of the Conformity Assessment (Marking EC) of Personal Protective Equipment according to the regulation 89/686/EEC, as well as quality control assessment of finished products (Article 11A) for personal protective equipment of category III, which offer protection against serious risk or danger. Also for building materials, according to the European directive 305/2011 system 3.

- Recognized laboratory by the International Automobile Federation to perform testing on protective clothing and gloves for pilots according to standard FIA 8856-2000.
- Recognized laboratory by CIK-FUI for the homologation of karting suits.



# ADVANCED TECHNOLOGY SOLUTIONS

## SCIENTIFIC AND TECHNICAL SERVICES

### TECHNICAL CAPACITY

Because of its vocation to multisector service, Leitat constantly updates to provide latest technology in order to perform characterization and behavior of materials, targeted at a wide range of sectors.

#### Characterization of materials

##### Materials behaviour

- Physical, mechanical, thermal, chemical and microbiological
- Microscopic characterization (optical, SEM) and colorimetric
- Climate ageing by radiation and corrosion

##### Analytical chemistry

- Identification and characterization of polymers and additives
- Determination of the molecular weight in polymers (GPC)
- Total and migration analysis of metals in polymers
- Identification and characterization of loads and reinforcements
- Identification and characterization of volatile and waste substances (VOC's, formaldehyde, etc.)
- Carbon emission (automotive industry)
- Formaldehyde emission (automotive industry)
- Phthalates analysis
- Fogging of condensable components (automotive industry)
- Global and specific Migration studies
- Nanoparticles analysis
- Elemental analysis (N,C, O, H y S)
- Traces of water analysis (Karl Fisher)
- Analysis of encapsulated products

##### EU-Ecolabel

Tests and verification of assessment reports of environmental criteria for:

- Textile products
- Cleaning products in general
- Laundry detergent
- Detergents for industrial washing
- Detergents for dishwashing
- Detergents for industrial dishwashing
- Detergents for hand dishwashing
- Cosmetics (rinse needed)
- Soap and shampoo
- Paints and varnishes
- Furniture
- Lubricants
- Paper
- Tourist accommodations
- Camping

##### Environment

- Analysis of waste water (DQO, DBO5, NTK, SSD, SSV, etc.)
- Analysis of anions and fatty volatile acids
- Analysis of metal son soil and water
- Analysis of emerging pollutants
- Test son biodegradability
- Analysis of biogas
- Analysis of pollutants in air
- Analysis of fertilizers( NPK)

##### Food

- Analysis of fatty acids (GC-FID)
- Analysis of proteins
- Analysis of total polyphenols and antioxidant power
- Analysis of total protein
- Analysis of fibre
- Analysis of sugar
- Analysis of metals (Hg, As, Cr, etc.)

##### Validation of prototypes

- Materials
- Finished products
- Industrial processes

##### Application of new technologies

- Plasma
- Polymer extrusion
- Rapid Prototipe – 3D Impression

##### Three-dimensional metrology (in laboratory or in situ)

- Metrology of pieces: homologation reports of moulds and dies
- Measurement and reports with the CAD comparative method
- Dimensional study on assembling faults
- Measurement of samples, statistic reports and process control
- Automatic measurement programs for measurement equipment by coordinates
- Digitalization and reverse enginery

##### Fire behavior

- Tests for materials aimed at textile architecture
- Tests for protective equipment against heat and fame
- Recognition by the Ministry of Public Works for the certification of security products against fire (aviation)
- Recognition by Iberia for the certification of products for security against fire (aviation)

##### Bioanalysis and health

- Antibacterial and antifungal activity of actives, materials and formulations
- Models of formation and elimination of biofilms
- Studies on microtoxicity and water microbiological control
- Tests on enzyme activity
- Studies on cosmetics security and efficacy (BPL)
- Efficacy test of preservatives in cosmetics (Challenge Test)
- Studies on security for detergency products
- Studies on security for medical devices
- Studies on biodisponibility and alimentary allergenicity
- Studies on absorption, distribution, metabolism, excretion and toxicity of medicaments (ADMEtox)
- Bioequivalences (BPL)
- Metabolomic analysis in vitro/ in vivo (GLP)
- Studies on the efficiency of antitumor compounds (in vitro and in vivo)
- Studies on the efficiency of potential drugs against autoimmune diseases causing infammation (in vitro and in vivo)
- Generation of poli and monoclonal antibodies to be used in research, diagnosis, prognosis and therapy.
- Design and development of biosensors diagnoses
- Antibodies engineering: humanization and chimerization nanobodies, scFv, bi-specific, ADCs, fusion proteins, Biosimilars
- Drug reprofiling

## SUMMARY OF ACTIVITIES 2016

- + Creativity
- + Innovation
- + Learning

### LEITAT ORGANIZED THE VII CONFERENCE ON INNOVATION IN CATALONIA ON HEALTH



Leitat organized the seventh edition of the Innovation Conference in Catalonia, where the role of Leitat was demonstrated as innovation infrastructure to transform technologies into value both for private and public initiatives. The conference, under the title "Technologies and Innovation: Their impact on the Health sector" gathered national and international renowned authorities and was divided into two parts: the first one was focused on "Health as engine for industrial and territorial innovation. National and European strategy". The second part was about "Health and Technology Innovation. The appearance of a new paradigm".

The event was opened by Joan Parra, Managing Director of Leitat, who stated that "knowledge is no longer enough and we must be able to transform technology into value". On the other hand, Núria Betriu, Managing Director of Industry and CEO of Acció, highlighted the ambition of making Catalonia a reference in innovation, strengthening technology transfer from the innovation infrastructures. Finally, the mayor of Terrassa, Jordi Ballart, remarked the strategy place occupied by Leitat as partner in the triangle formed by the administration, universities and companies.

During the closing of the conference, the President of the Catalan Government, Carles Puigdemont, focused on Catalonia as European strength in knowledge and established four important goals to position Catalonia as a leading and referent country in innovation: improve the innovation measures in Catalonia; promote innovative companies, specially SMEs; increase the technology transfer tools; promote international innovation.

## LEITAT AND EURECAT SIGN A PERMANENT BINDING AGREEMENT TO PROMOTE A STRATEGIC AND DIFFERENTIAL PROJECT OF CATALAN TECHNOLOGY



The technology centers Leitat and Eurecat signed a permanent binding agreement with the aim of exploiting the synergies between both entities, improve efficiency and increase their critical mass. By doing so, the agreement –promoted by the Catalan Government through ACCIÓ– means a step further in the creation of a strategic project for Catalonia.

The signing act gathered the minister of Business and Knowledge, Jordi Baiget, the president of Eurecat, Xavier Torra, and the president of Leitat, Eusebi Cima. This act strengthens common business and technology activities with the aim of obtaining more efficiency, critical mass and international competitiveness. Furthermore, they also agreed the strategy investment on new equipment and a technology proposal for companies highly competitive, differential and specialized.

## 8TH MUSCLETECH NETWORK: THE BEST WORLD SPECIALISTS DISCUSSED ON RESEARCH IN MUSCULAR INJURIES OF QUADRICEPS



The 8th MuscleTech Network Workshop, organized by FC Barcelona, Fundación Leitat and Aspetar, gathered once again world-renowned researchers, doctors, physiotherapists and physical trainers to interchange and talk about the latest tendencies and innovations in the muscle and tendon injuries.

This year, Dr. Jordi Monçes, manager and commissioner of FCB Universitat, Dr. Joan Parra, managing director of Leitat, and Dr. Scott Gillogly, Chief Medical Officer of Aspetar, opened the most important international meeting on muscle injuries. The forum Muscle and Tendon, “Inspiring Clinical Excellence” was attended by world prestigious researchers, as he doctors Richard Lieber (United States), George Koulouris (Australia) and Per Aagaard (Denmark), among others. Different members of the medical team of FC Barcelona and Aspetar, researchers of Leitat and in total, more than 300 worldwide professionals actively participated in this edition.

## LEITAT STRENGTHENS ITS COMMITMENT WITH DUAL VOCATIONAL TRAINING AND JOINS THE ALLIANCE

Leitat adhered to the Alliance for Dual Vocational Training in an act celebrated in its corporative building in Terrassa. This alliance is an initiative promoted by the Foundation Bertelsmann together with the Foundation Princesa de Girona, the Chamber of Commerce of Spain and the CEOE, with the goal of improving employment conditions for Spanish youngsters. One of the most important goals for Leitat is recruiting students to learn in the company and implement their knowledge. Therefore, there are talent programs so that the potential profiles can develop and get integrated in the Spanish labor market. With this adhesion, Leitat takes a step further to the collaboration in the integration of young people and the promotion of vocational training of quality, facilitating their integration in the labor market and technology innovation.

## LEITAT PROVIDES KNOWLEDGE TO CENTRAL CATALUNYA



In the framework of action carried out in the Centre Innovació Anoia, Leitat undertook several actions to boost the business fabric in this Catalan region. The visit of the delegated authority of the Catalan Government, Laura Vilagrà, made it easier a new approach between the government and this region, through the visit to the labs of



the waste valorisation unit and recycling technologies. Leitat explained its experience and aim of keeping and strengthening a territorial strategic positioning, following the own model of business competitiveness and social technology. Leitat and the Council of Vilanova del Camí detailed the public-private collaboration formula established by both entities and how to promote the valorisation and competitiveness from recycling and circular economy.

## CHILE: UNAB JOINS “CEN LEITAT” TO DEVELOP PROJECTS ON BIONANOTECHNOLOGY



The University Andrés Bello, through the Center for Integrative Medicine and Innovative Science (CIMIS) signed a collaboration agreement with the Center of Excellence in Nanotechnology (CEN) Leitat with the aim of developing common research projects by the creation of the hub of bionanotechnology UNAB-Leitat. This union is made under the shared interest of carrying out scientific research under a multidisciplinary and applied view and transferring knowledge and results obtained. All this maximizes the impact and benefits for society thanks to the human talent from both centers and the use of border teams.

## LEITAT HOSTS WITH GREAT SUCCESS THE CONFERENCE OF INFAIMON ON ARTIFICIAL VISION APPLIED TO INDUSTRY



The company INFAIMON coordinated, together with Leitat, a technical workshop to make known the artificial vision and its application in the industry to improve productiveness of the companies.

In the last years, there has been a remarkable increase in the development of applications based on

the treatment of images and other technologies of artificial vision in industry, all them related to the quality of the products, improvement in the productive processes, industrial automatization, and cost reduction by reducing faulty products and increasing productivity.

They explained the basic functioning principles of a vision system, as optical, illumination, cameras, 3D systems y associated software. During the workshop, some examples of application of artificial systems applied in industrial robotics by Infaimon were presented, as well as examples of application in the advanced production systems by Leitat.

More than 100 people attended the event and showed their satisfaction during de networking space sharing experiences and concern regarding the field of the artificial vision.

## LEITAT AND INDULLEIDA MANAGE TO IMPROVE THE QUALITY OF JUICES AND ALSO REDUCE POWER CONSUMPTION

With the aim of improving quality and stability of liquid food, it was created the project OSMODIR. It was born because the constant interest of the RD department of Indulleida, S.A. to improve their products and productive processes in close collaboration with the environmental and biotechnology divisions of Leitat. The project OSMODIR intends the concentration of liquid food through direct osmosis using reusable osmotic solutions that do not require additional concentration. The results obtained confirm the technical and environmental viability of the process, by slashing the power consumption and improving the organoleptic quality of the concentrated products up to 35% in comparison to the products produced by the current technologies. By doing so, society is provided with higher quality products obtained from more environmentally sustainable processes.

## IN(3D)USTRY AND LEITAT CREATE A BUSINESS ACCELERATOR OF 3D PROJECTS

The creation of this accelerator aims to promote technology projects to transform the market needs into commercialized products and services in the sector of 3D, taking as starting point the first edition of IN(3D)USTRY From Needs to Solutions. This initiative is open to top industrial users and professionals of this sector wishing their projects to come true. The collaboration between IN(3D)USTRY From Needs to Solutions and Leitat is materialized the launching of a business technology accelerator strengthening innovative and singular projects to promote collaboration and team training, prototyping of the project and short launching in production. Fira de Barcelona and Leitat are the founding members of a platform that will host all those institutions, bodies and companies wishing to promote this kind of projects.



## OUR CUSTOMERS' OPINION

+ Satisfacció

+ Compromiso

+ Innovation

BIOIBERICA S.A.U.

Sra. Elisabet Borda Casas

R&D Animal Nutrition Manager



Bioibérica is a biotechnology company of the life sciences sector, specialized in the identification and extraction of biomolecules of high biologic and therapeutic value from tissues of animal origin.

We are the first occidental producer of heparin, the most used anticoagulant and antithrombotic worldwide. One in five doses dispensed are from Bioibérica.

We are also leaders in arthrosis and Health of articulations, both of humans and animals. Fifteen million patients and more than hundred thousand pets are treated every year with our chondroprotective molecules: chondroitin sulphate, glucosamine and hyaluronic acid.

We also have products for diarrhea, cystitis and hepatic and immunologic diseases of pets. We are specialists in the development and production of high quality ingredients for feed of farm animals and pets. These are products specially designed to improve their appetite, digestibility and intestinal health. We feed a hundred million of pigs per year.

In Bioibérica, we have large experience in the management of vegetal stress and we have developed a specific range of natural products favouring biostimulation, nutrition and vegetal protection. We labour more than one million and a half hectares of cultivation worldwide. In addition, we have the mass-trapping technology for the fruit flies, which have become a world referent.

Bioibérica started its collaboration with Leitat in 2015. Both companies consider of vital importance innovation and development. We are grateful for having the support of a technology center as Leitat, which provides us scientific and technical support besides being a close partner meeting our needs by offering the most suitable resources at any time. The collaboration time with Leitat is short, but we have always treated different people and departments providing high level of commitment. We hope to keep on collaborating and growing together with new collaboration opportunities with them.

AJUNTAMENT  
DE SABADELL

Sra. Eva Berruezo

Media Officer

Promoció Econòmica de Sabadell S.L



Ajuntament  
de Sabadell

The City Council of Sabadell (through the Company and Freelance Service Office) and Leitat has a collaboration agreement from 2009 with the goal of working together to promote the competitiveness of the local productive system. During these years, several companies made of Leitat their researching and innovation agent they needed to develop their market-oriented products.

## ALGAENERGY

Sra. María Segura Fornieles  
Technical Manager



AlgaEnergy, a biotechnology-based company founded in 2007, has consolidated the in-depth knowledge generated in Spain with regard to microalgae by universities and research centers along the last 4 decades. This knowledge then has been implemented to design, build and operate the most probably advanced cropping facilities of microalgae worldwide. The products derived from the microalgal biomass produced are commercialized by AlgaEnergy and are currently aimed at the agriculture sectors (AgriAlgae®), aquiculture (AlgaePiscis®), human nutrition (AlgaeFood®), animal nutrition (AlgaeFeed®) and cosmetics (AlgaeCare®).

AlgaEnergy has the participation of Iberdrola as reference shareholder and collaborates with more than 120 companies and research centers from different sectors and different countries. The EC has selected AlgaEnergy as one of the SMEs of greatest potential growth of Europe and its activity and development have positioned it as an international referent in this sector.

AlgaEnergy considers that its experience consolidated, findings, technologies and products derived from microalgae contribute to increase wellbeing and progress worldwide, preserving environment, nature and life in our planet.

Given the technology level with which we operate and our global strategy value, AlgaEnergy only collaborates with companies and research and technology centers offering the greatest solvency and security. In this sense, the company has found in Leitat a reliable and efficient partner with which it is developing projects of science magnitude obtaining full satisfaction.

## CONSELL COMARCAL DEL VALLÈS

Vallès Occidental is a dynamic territory that has adapted to the socioeconomic changes that have been taking place throughout recent history, benefiting from wealth of entities and building collaboration frameworks. Currently, our region has its own challenges within the global challenges presented by horizon 2020: move forward to a smart, inclusive and sustainable Europe. Therefore, from the Regional Action Program, we emphasise on what must be done and also how to act. The collaboration with the close agents is a key factor for the local economic development of policies opting for a growth based on a more stable foundation, in the articulation of greater impact concertation models, stimulating and benefiting from the territorial value.

In this sense, we have the support and implication of Leitat: with the responsibility and collaboration of the professionals from the entity to promote projects and proposals to active the competitiveness of the territory, sharing with other agents the identification of opportunities. We focus on the active participation in the impulse of the region circular economy –and signing the agreement Vallès circular- as well as the integration into the Innovation and knowledge nets.

We must also emphasize the participation initiatives in specific and complementary projects that have been articulated in the nets framework, increasing in this way the capitation of resources and opening the opportunity of obtaining greater quantitative and qualitative benefits for the region. We also focus on the preparation of European projects as Vallès Circular Food for the call Urban Innovative Actions and the leadership by the project O-Need for the call Horizon2020 in 2017.

The collaborative work between entities as Leitat will allow us going further, building a context with greater resilience to face the changes and recuperate the stability from external interferences that may occur. Having the support of entities committed to the territory, the organizations and people as Leitat does is a differential value and a competitive advantage that we want to recognize and appreciate.

## OXIRIS CHEMICALS, S.A.

Sra. Yolanda Perlado  
Technical Manager



Oxiris Chemicals, S.A, is a company dedicated to the manufacturing and commercialization of antioxidants for different industrial sectors, such as fuels, lubricants, plastics and food. With a clear international vision, Oxiris has a wide portfolio of clients in more than 70 countries worldwide.

With the aim of offering the best solution to our clients, in the need of stabilizing its products against oxidation, Oxiris opts for innovation as the best way to add value to its products as well as for the development of other new products that may mean a competitive advantage against potential competitors.

In this sense, there is innovation, where Leitat as collaborating partner helps us in the development of R+D+i development projects. The scientific knowledge of their researchers, their professionalism and methodology provide rigours and security in the progress of the project and strengthening the relationship of trust and communication needed for its development.

The collaboration with Leitat as technology center allow us keep on innovating in the design of new products and helps us facing growth current and future needs that Oxiris has planned for its positioning as referent in the antioxidant global market.



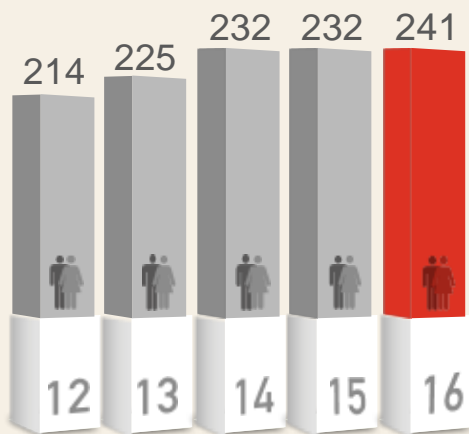
# 2016 ACTIVITY REPORT



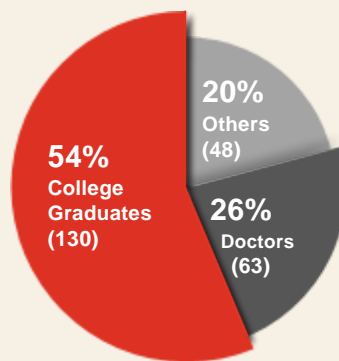
### STAFF

Leitat Technological Center has opted for an increase in the number of employees, which currently consists of a team of specialists in different areas of knowledge, and investment in talent management policy to offer high added value technology response.

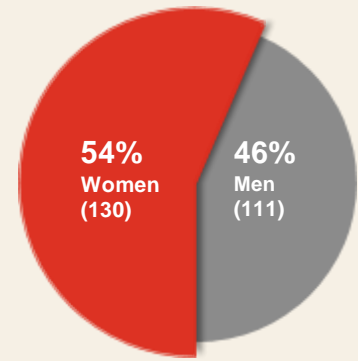
- Number of collaborators (average)
- Distribution 2016 – Average 35 years



Numbers of collaborators (average)



College Graduates 2016



Distribution 2016  
Average age 35 years

### OUTPUTS 2016

63	R&D +2i ongoing European projects*
116	R&D +2i ongoing National projects
24	Projects led
280	Industrial projects
3.355	Advanced Technology Solutions

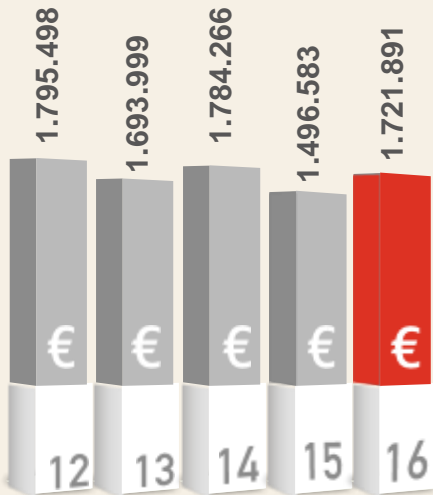
\*We are participating in European projects with a total of 544 partners, overall budget of **346M €**, and collaborating with **38 countries**



## 2016 ACTIVITY REPORT

### INCOME:

In recent years, the evolution of Leitat has been focused on creating sustainable and lasting value technology, aligned with the needs and expectations of the market, with an economic return for companies and institutions.

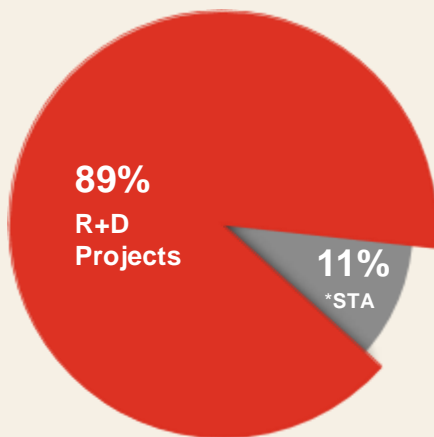


EBITDA (Euros)

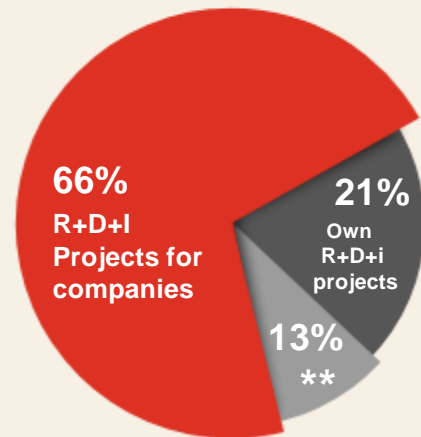


Income in thousand Euros

■ Projects with non competitiveness public funding  
■ Own and Company R+D+I projects



Distribution of total revenues by activity  
\*STA, Advanced Technology Solutions



Income distribution by type of R&D+I project  
\*\* Projects with non competitiveness public funding

### 2016 BALANCE

thousand Euros

Fixed assets:	16.233
Debtors:	16.913
Financial assets:	2.103
Total	35.249

Shareholders' equity:	11.321
Non-current assets:	10.251
Current assets:	13.677
Total	35.249

# OUR COMMITMENT

WE KEEP ON STRENGTHEN  
OUR COMMITMENT WITH  
THE CORPORATE SOCIAL  
RESPONSABILITY  
THROUGH INITIATIVES  
AIMED AT PROVIDING  
SOCIAL AND TECHNOLOGY  
VALUE TO OUR  
STAKEHOLDERS:  
CLIENTS, PARTNERS,  
ASSOCIATED, PEOPLE  
AND SOCIETY.

## WITH SOCIETY

- Decisive commitment for dual training as basic tool of the business fabric and the educative community for the creation of new professional profiles linked to the industrial sector and R+D. Leitat does not only actively and jointly participate in the creation of these new professional profiles but it also participates and with entities aimed at this purpose.
- Collaboration in mentoring programs to insert young people into the labor market, through the collaboration with Barcelona Activa.
- Collaboration with non-profit founding foundations for the promotion of campaigns and actions of corporate volunteering as well as the promotion and commitment to cultural, age and genre diversity.
- Collaboration with awards to young enterprisers as evaluation part in the institutional and technical jury.
- Promotion and diffusion of scientific studies among students, who are the knowledge and innovation future workers by collaborating with public and private entities in specific projects.
- Series of conferences and welcome programs for internship students working in the different research and technology solution areas in Leitat, both at national level and with international associations, by hosting students with Leonardo grants, Erasmus programs, etc.
- Collaboration with the local agents (Consortium for the Occupation of Vallès Occidental) in strategic policies linked to the entrepreneurship and environmental sustainability and the attraction of business economic activity generating direct impact on the creation of job offers linked to industry.
- Participation in the "Week of the Science", by offering our facilities to visits specialized in the future technology thematic and lines.
- Conference on Professional and Business Orientation aimed at Institutes, private schools and universities.
- Participation in working groups with the different public representatives, in the formulation of possible proposals that develop into executive actions and legal measures that facilitate positive impact on the reactivation and economic growth mainly based on Research, Development and Innovation (R+D+i), and in particular on the real transfer of knowledge towards the SME business fabric.

## WITH OUR EMPLOYEES

- Investment in training plans according to the needs of our employees, their performance and career, applying an annual estimate depending on the needs of each organization department of Leitat.
- Subsidy and promotion of doctoral degrees
- Offering our employees the chance to give and receive inner/external training.
- Promotion and development of our employees in the following and management of students in internship.
- Welcome actions to facilitate the adaptation of internship students of different cultures for their integration in Leitat and in the cities of Terrassa and Barcelona.
- Reinforcement of the corporative culture through different channels to facilitate inner communication.
- Realization of after-work activities to encourage a satisfactory and conciliatory atmosphere among the staff.
- Specific campaigns on the promotion of healthy habits in the daily life, environment, risk prevention and security for all.
- Existence of the Agent for Equality in the welcome programs and training actions aimed at our personnel.
- Reconciliation measures and flexibility for our staff.

# LEITAT

managing technologies

LEITAT

TECHNOLOGY AND MANAGEMENT SOLVENCY



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