Leartiker

MEMBER OF BASQUE RESEARCH
& TECHNOLOGY ALLIANCE

2024 ANNUAL REPORT

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MENSAJE

Iosu Ogiza Gerediaga
PRESIDENT

Jon Anakabe Onaindia
MANAGING DIRECTOR

We are living in decisive times. The need to transform our development models towards more sustainable, resilient and fair systems is now unquestionable. Science and innovation must be the pillars on which we build effective solutions to major global challenges: climate change, biodiversity loss, food security and human health. In this context, at leartiker we recognise that we have a growing responsibility:

> we must generate useful, transferable knowledge that is aligned with the Sustainable Development Goals.

At Leartiker, we remain steadfast in our founding purpose: to promote innovation that benefits both the planet and people, generating quality employment and economic value in our environment, without losing sight of our cooperative identity and culture. **Our R&D activity has been consolidated in 2024**, reinforcing our strategic lines in digital modelling of polymeric materials, development of sustainable polymers, organ-on-chip microfluidic devices, tissue engineering, process optimisation and food product development.

This year, we have **applied for two new patents**, one in the field of cell culturedevices suitable for organ-on-chip and the other in the field of polymer structuresfor battery cells. **New trade secrets have also been protected**, reinforcing our technological positioning. With this, Leartiker reinforces its **commitment to industrial research**, with the aim of continuing to increase revenue from licensing its protected assets in the future.

We have also produced nine scientific publications, five of which are scientific articles in first quartile (Q1) journals, reflecting the **quality and relevance of our scientific output**. Economically, we continue to meet the projected turnover trend in our strategic plan. It is worth highlighting the **increase in international turnover**, driven in particular by income from R&D projects in the field of digital modelling of polymeric materials and the use of digital twins for accelerated virtual product development.

In July, Leartiker was registered as a **base cooperative and integrated into MONDRAGON's new Knowledge Division**. This milestone will enable us to strengthen the cooperative group's inter-cooperation and positioning tools. In addition, thanks to the support of the Basque Government (AZPITEK programme) and the Provincial Council of Bizkaia (Technology Transfer programme), we have incorporated **new infrastructure** in advanced dynamic characterisation of polymers and tissue engineering and microfluidics, which will enable us to continue advancing our scientific and technological capabilities. At the same time, following the installation of photovoltaic panels for the generation of renewable electricity, we have improved the environmental impact of our headquarters in the Lea Artibai Berrikuntza Gunea building in Markina-Xemein.

> Increase in international turnover, driven in particular by revenue from R&D projects in the field of digital modelling of polymeric materials and the use of digital twins for accelerated virtual product development.

In addition, we have continued to focus on connecting with our environment. We organised a new edition of Esneki Azoka together with Elika and Tolosa Town Council, consolidating it as a benchmark event in the dairy sector in the Basque Country. In this vein, Leartiker, from its **Dairy Centre, continues to coordinate with HAZI Fundazioa and the Markina-Xemein Town Council to further promote the centre of reference for the Basque dairy sector**. This project aims to become a meeting point for dairy producers, offering tools and knowledge to address the current challenges facing the sector, such as digitalisation, innovation and the adoption of new technologies.

We would like to close this report by expressing our deepest gratitude to all the people and entities that form part of Leartiker: collaborating partners and shareholders, customers, institutions and, above all, our team. Their commitment, enthusiasm and daily efforts make it possible for us to continue moving forward. We are a cooperative, and cooperation continues to be our best tool for building knowledge and the future.

BAGOAZ!

MENSAJE

ABOUT US

TECHNOLOGY CENTRE SPECIALIZED IN FOOD TECHNOLOGY AND POLYMERS TECHNOLOGY

We are a technology centre located in MARKINA-XEMEIN (Bizkaia), specialising in Food Technology and Polymers Technology and our mission is to add value to the business sector through our R&D&I activities and the appropriate transfer of their results.

We belong to the Basque Science, Technology & Innovation Network (RVCTI) (as a multi-focus technology centre) and the Basque Research & Technology Allience (BRTA). We are also a non-profit cooperative that is part of the MONDRAGON Corporation, the foremost Basque business group and the largest cooperative in the world.

> The Leartiker project is based on a collaborative model, turning knowledge into added value, facilitating diversification processes and creating new jobs, mainly locally.

- **INVOLVEMENT**
- **CONFIDENCE**
- **SERVICE ORIENTATION**
- **POSITIVISM**
- **SCIENTIFIC RIGOR**

Trajectory

2000
R&D&I

Polymers Technology
and
Food Technology

2002
REGIONAL DEVELOPMENT MODEL

Training, R&D&I and business promotion

2005
RVCTI ACCREDITATION

Intermediate Innovation Organisation

2015
Leartiker, S.Coop.
RVCTI REACCREDITATION

Industry Technology Centre

2016
LTK 2020

Definition of the Strategic Plan

2020
LTK 2025

Objectives achieved and new Strategic Plan

2021
ESNEKI ZENTROA - DAIRY CENTRE

The first dairy centre in the Basque Country

RVCTI REACCREDITATION

Multifocalised Technology Centre

BRTA

Basque Research and Technology Alliance

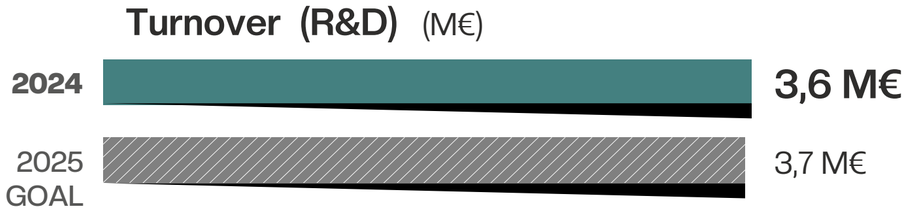
Leartiker
MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE

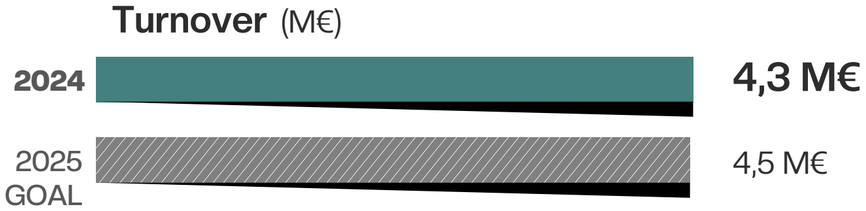
2024
MONDRAGON KNOWLEDGE DIVISION

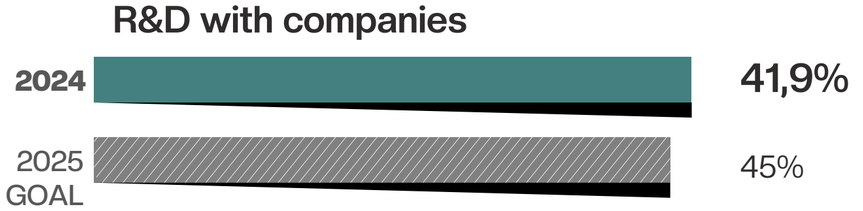
MONDRAGON grassroots cooperative and integration into the Knowledge Division

ABOUT US

Figures

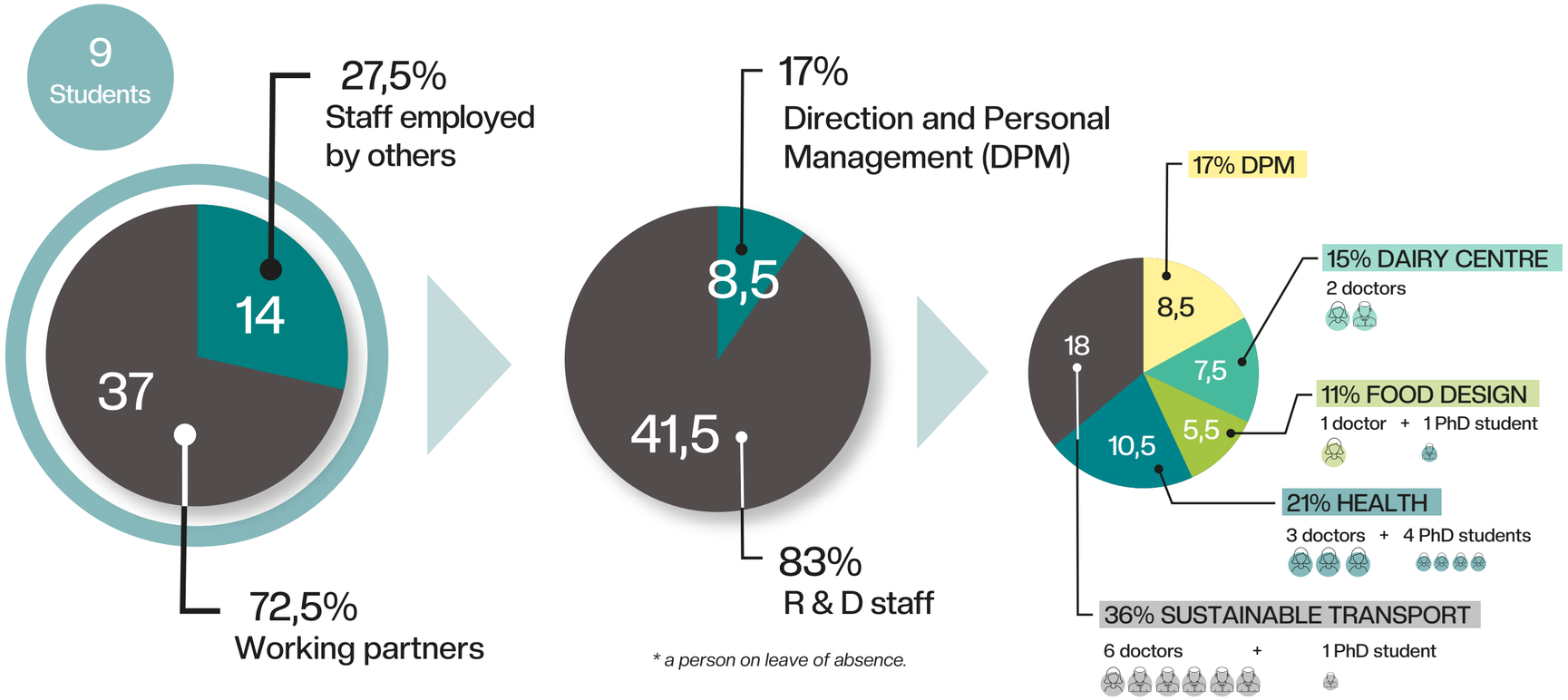




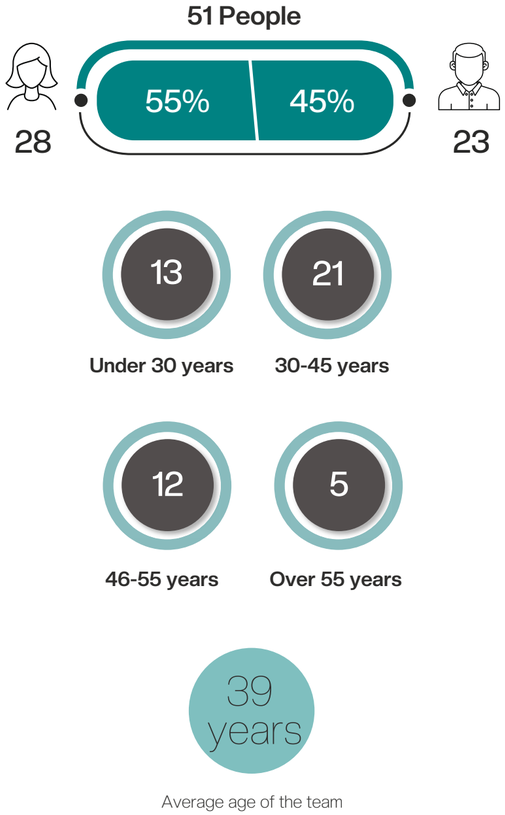


DATA

People



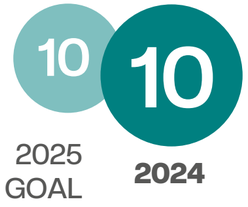
** a person on leave of absence.*



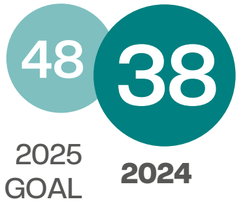
DATA

Scientific indicators

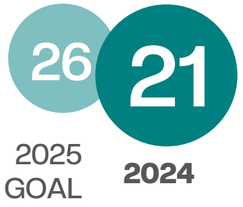
International projects



Scientific articles

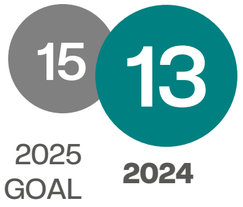


Q1 scientific articles



Patents applied for

Doctors



DATA

Collaborations

DATA

Partners and shareholders

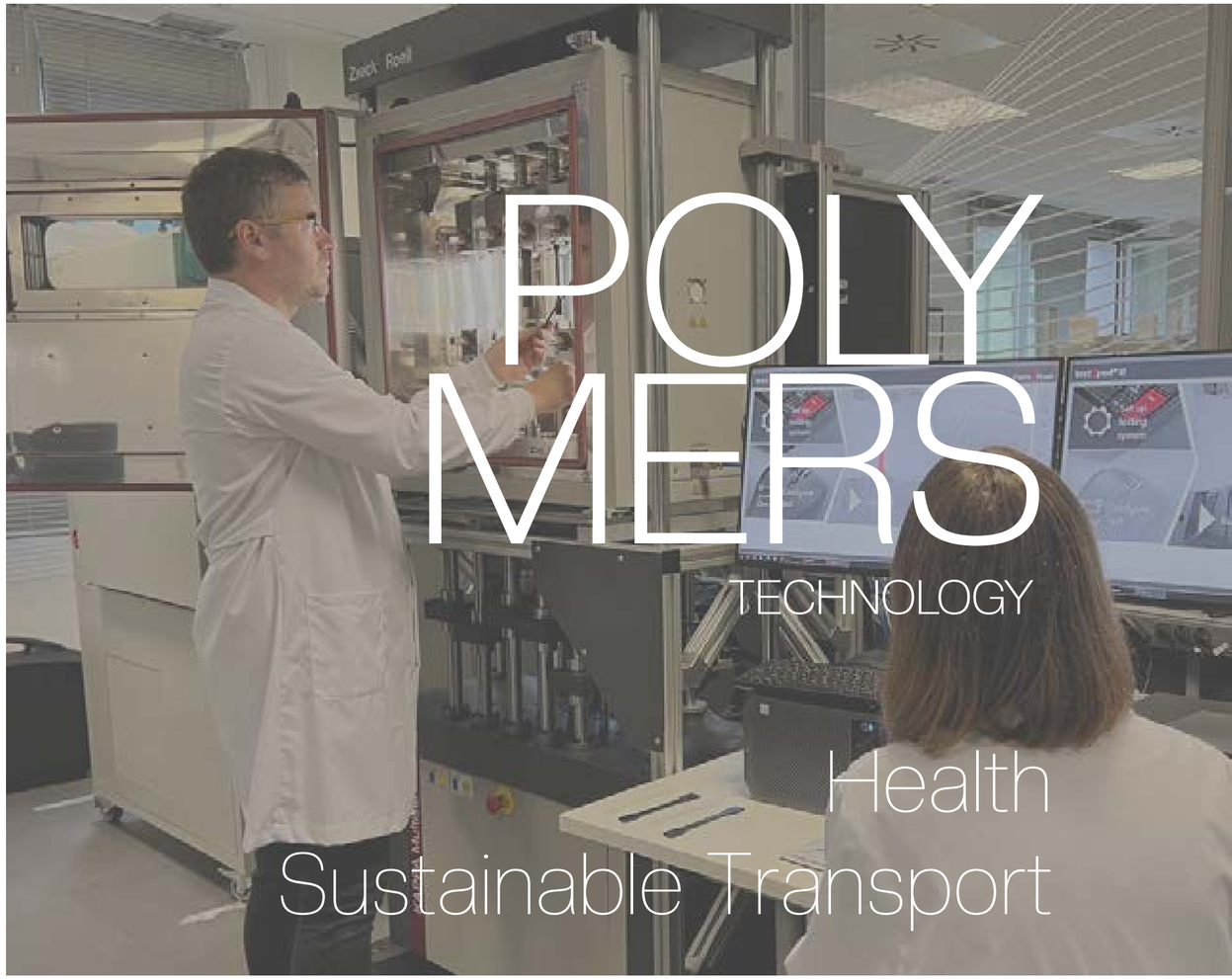
Public institutions

Universities, research centres and technology centres

Hospitals

Companies

Associations



TECHNOLOGICAL SPECIALIZATION PLAN

Food Technology

Leartiker Food Technology's main objective is to develop innovative, healthy and sustainable products by promoting the use of local raw materials and using natural (unprocessed) manufacturing processes. In the field of dairy products, we continuously strive to stand at the forefront of the Basque Country's artisan dairy sector.

FOOD DESIGN

DAIRY CENTRE

dairy centre Leartiker

TECHNOLOGICAL SPECIALIZATION PLAN

Food Design

We develop new healthy and sustainable products produced using local raw plant- or animal-based materials with added value.

Areas of research:

NEW PRODUCTS

FERMENTED PRODUCTS

FROM IDEA TO MARKET

We understand, design, develop and test.

FOOD DESIGN

PROJECTS

FROM IDEA TO MARKET

BARRUKI

Development of pre-cooked meals for maximising the processing of beef carcasses.

DELIFUNGUS

R&D into the production of soluble mushroom-based proteins as a source of protein in liquid vegan dishes.

FERVERG

Fermentation as an alternative for developing innovative new fruit and vegetable products.

JASON II

Promoting a healthy, sustainable diet.

FOOD DESIGN

PROJECTS

FROM IDEA TO MARKET

PATXAFERM

Raising the value of patxa, the by-product of cider production, by stabilising the by-product and developing new "NoLo" fermented beverages.

GERMILEK

Improving the nutritional quality of Basque Country native beans through germination.

MUSKA

Optimising the value of laying hens through the development of new products using local raw ingredients.

DELAC

Study of the effect of lactic acid as a method of decontaminating bovine carcasses in order to develop additive-free prepared meat products.

FOOD DESIGN

PROJECTS

FROM IDEA TO MARKET

LANDETXO SUKALBERRI

Production of local chicken products aimed at the culinary sector to offer high-quality, local and sustainably produced products.

BEHIKI RESTAURACION

Development of cooked meat products for new consumption patterns in the catering industry.

SUKALOZPIN

Development of apple vinegar-based sauces for the hotel and catering industry.

Dairy Centre

The Dairy Centre offers a range of services including the development of new cheeses and dairy products, research into raw materials and production technologies, advanced technical consulting, specialised training and much more.

Areas of research:

MILK Study of its composition and microbiological characteristics.

SAFETY Identification of risks and processes to guarantee safe dairy products.

TECHNOLOGY Key parameters for the production and maturing of cheeses and dairy products.

Our milk,
our farmers,
our health.

Our challenge is to promote the diversification and competitiveness of small farmers, and to pass along our passion for innovation.

ESNEKI ZENTROA / DAIRY CENTRE

PROJECTS

OUR MILK, OUR FARMERS,
OUR HEALTH.

ONDTEK

Validation of the production process of cured sheep cheese by parameterization of physicochemical reference values.

EZtaphTox

Regulatory genes and triggers of enterotoxin production of S. aureus in food.

GAZTANOLA

Research aimed at obtaining applicable evidence in the application process for the use of wooden shelves for cheese ripening.

KNOW N CHEESE

Increasing the competitive potential of SMEs in the traditional dairy and cheese sector in the POCTEFA territory through the transfer of knowledge on sustainability.

ESNEKI ZENTROA / DAIRY CENTRE

PROJECTS

OUR MILK, OUR FARMERS,
OUR HEALTH.

GAZTAGORRI

Development of innovative cheese aimed at the gastronomic sector.

2 BERRI

Development of two production processes for innovative Latxa sheep's milk cheeses.

BATZALDI

Investigation of the technological capacity of sheep's milk in a single milking.

ELAMINA2

Evaluation of different strategies for the elimination of biogenic amines present in cheeses that undergo high levels of proteolysis during processing and ripening – 2

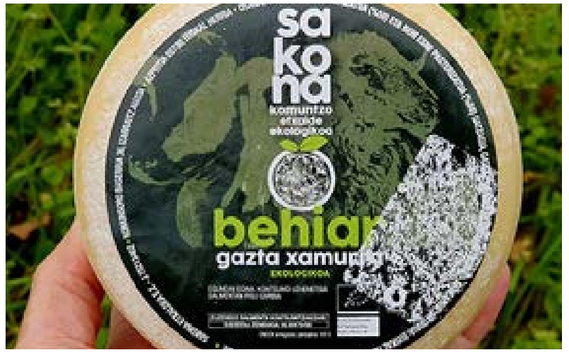
ESNEKI ZENTROA / DAIRY CENTRE

PROJECTS

OUR MILK, OUR FARMERS,
OUR HEALTH.

GAKE

Sustainable development of innovative fermented milk produced with milk obtained through regenerative livestock farming.



BEHIAR

Cheese diversification based on organic production.

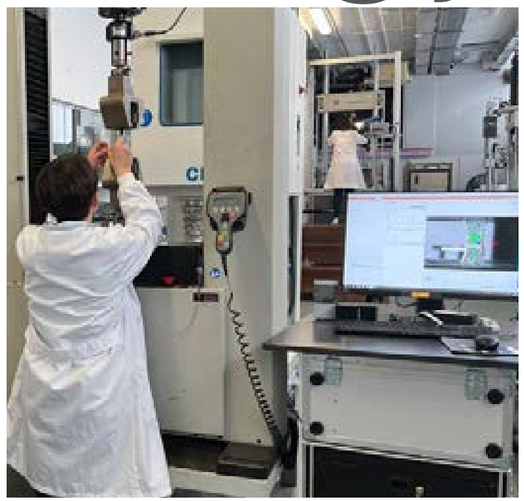
CAPRITXO

Valorization of goat milk through the development of a production process aimed at the production of liquor.

Polymers Technology

Leartiker Polymer Technology focuses on design concepts for manufacturing with polymeric materials, from the developmentof different materials to their manufacturing processes, including material and product characterisation and digital simulation (in silico).

HEALTH



SUSTAINABLE TRANSPORT

TECHNOLOGICAL SPECIALIZATION PLAN

Health

FROM IDEA, TO PATIENT

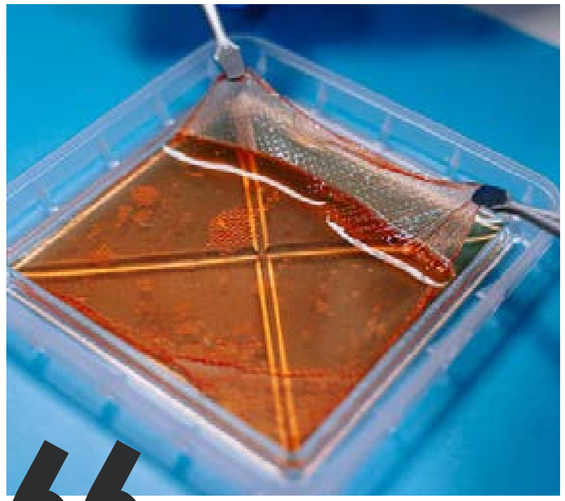
New biocompatible polymeric materials designed for the bio-health sector.

Areas of research:

MICROFLUIDICS PoC, LoC and OoC devices using injection moulding technologies.

TISSUE ENGINEERING Manufacture of 3D structures (hydrogels and thermoplastics) using (bio)printing technologies according to the target tissue, and development of microgels for cell therapies.

POLYMERIC DEVICES FOR MEDICAL APPLICATIONS Polymeric devices for medical professionals; medical imaging, patient personalisation.



Working closely with hospitals and health research institutes.

HEALTH

PROJECTS

FROM IDEA, TO PATIENT

LAIKA

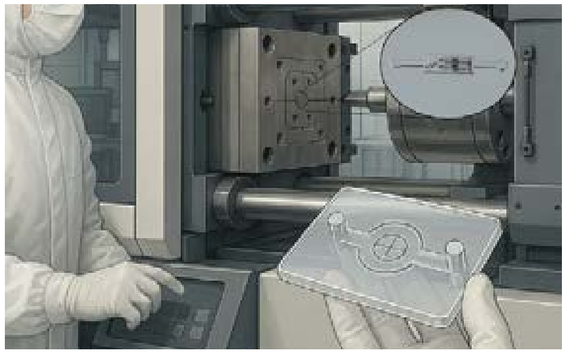
In vitro development of an articular cartilage based on interpenetrating networks of hyaluronic acid and alginate.

BihoBeat

Development of a new technology for improving the maturation of human scale therapeutic cardiac tissues by means of physiological stimuli.

imiTEM

Viscoelastic Properties of the Tumor Extracellular Matrix as a Potential Breast Cancer Biomarker.



LORHY

Combining micromachining technologies for the industrial production of microfluidic devices.

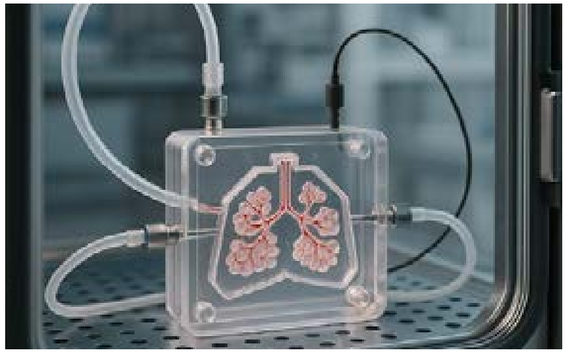
HEALTH

PROJECTS

FROM IDEA, TO PATIENT

BILCHIP

Development of a cholangiocarcinoma-on-chip model to study its biology and test new therapies.



bmG24

Collaborative research on biomarkers and alternative methods of diagnosis and therapeutic monitoring of fibrosis-associated pulmonary hypertension.

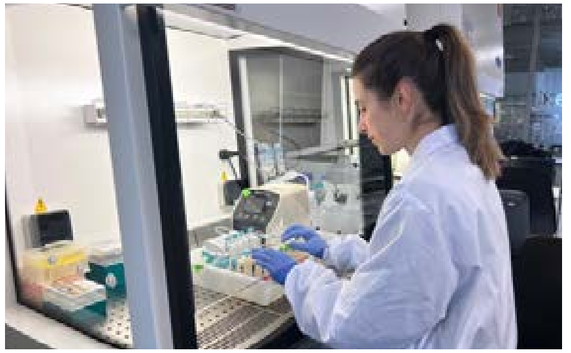
BRAV3

Computational biomimetics and bioengineering 3D printing to develop a personalized regenerative biological ventricular assist device to provide lasting functional support to damage hearts.

HEALTH

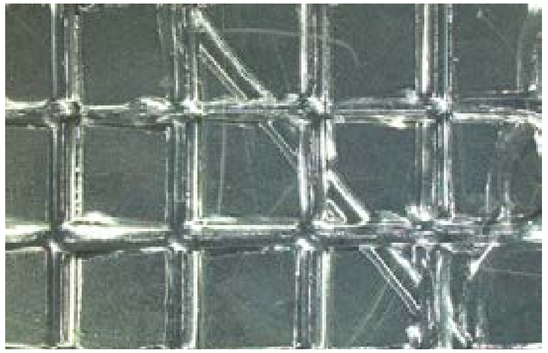
PROJECTS

FROM IDEA, TO PATIENT



LAMIPoC

Laser Assisted MIcrofabrication of POC diagnostic microfluidic devices.



CARDIOPRINT

Advanced multifunction 3D biofabrication for the generation of computationally modelled human-scale therapeutic cardiac tissues.

SIMINSITU

In-silico development- and clinical-trial-platform for testing in-situ tissue engineered vascular devices.

Sustainable Transport

Development of polymeric components for the transport sector; from material design to the end of its useful life.

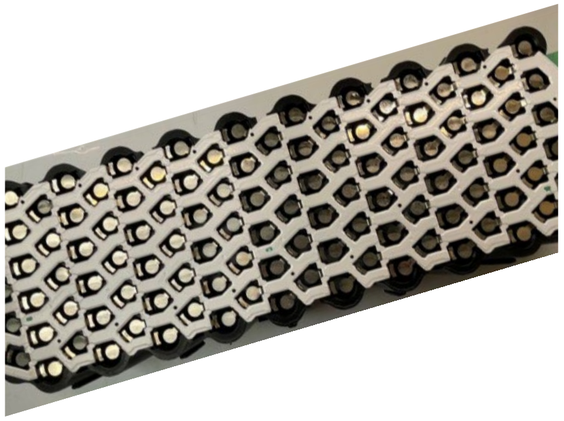
Areas of research:

DESIGN AND DEVELOPMENT OF NEW SUSTAINABLE POLYMERIC MATERIALS

PRODUCT AND PROCESS DEVELOPMENT

THERMO-MECHANICAL PERFORMANCE ASSESSMENT AND PREDICTION

TURNING CHALLENGES INTO OPPORTUNITIES FOR MOBILITY.



END-TO-END coverage of the value chain.

SUSTAINABLE TRANSPORT

PROJECTS

TURNING CHALLENGES INTO OPPORTUNITIES FOR MOBILITY

IMPLICIT

Recovery and reuse of auxiliary manufacturing raw materials.

ELASTBAT

Digitalisation and intelligent control for researching the use of TPE products in battery modules and their production process.

TICS-BONITO

Innovation for more sustainable bonito fishing.

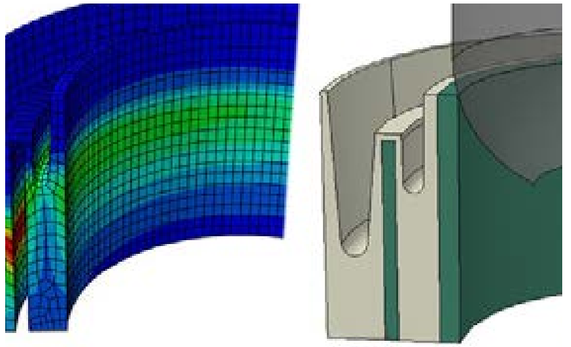
SUSTAINABLE TRANSPORT

PROJECTS

TURNING CHALLENGES INTO OPPORTUNITIES FOR MOBILITY

BIRSARE

Analysis and development of new circular value chains in the blue economy through the recycling of fishing nets.



F3 PERTE VEC

Accelerated design of advanced polymer products for automotive applications using digital twin methodologies.

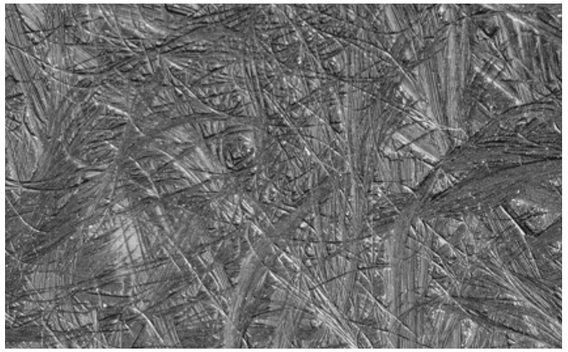
CRITERION

aCcelerate cReep lifeTimE pRedictiON.

SUSTAINABLE TRANSPORT

PROJECTS

TURNING CHALLENGES INTO OPPORTUNITIES FOR MOBILITY



CARBOBRAKE

Development of a Thick-walled Carbon Fibre Reinforced Brake Calliper for High Performance Automotive Applications.

CICE2023

Research into new materials for energy storage, processing and digitalisation.

COMBINE

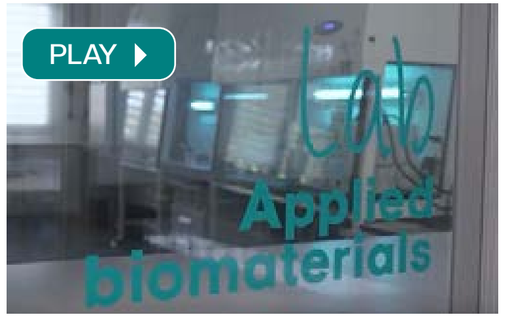
Development of Components for Electric Vehicles using Polymer Over-Injection and Welding Technologies.

INVESTMENTS IN NEW FACILITIES

METRAVIB DMA +2000

For research on dynamic properties of composite materials and Fatigue Crack growth of elastomeric materials..

AZPITEK 2023



BIOMATERIALS LAB

Manufacture of different biological tissues by 3D printing and compounding.

Development of 3D tumour models.

Development of microgels for cell therapies.

BFA TI 2023

PHOTOVOLTAIC SYSTEM INSTALATION

Next Generation EU Funds - Recovery, Transformation and Resilience Plan.

MICROFLUIDICS LAB

Development of diagnostic devices (PoC) or Organ-on-chip (OoC).

BFA TI 2023

CHALLENGES

NEW STRATEGIC PLAN.

Once the established challenges have been met and the Leartiker 2025 Strategic Plan has been successfully completed, a new and ambitious strategic plan will be agreed upon and approved, defining the roadmap towards the Leartiker of the future, reinforcing our commitment to innovation, excellence and social commitment, with a sustainable vision focused on the balanced development of our environment.

CREATION OF NEW TECHNOLOGY-BASED COMPANIES.

Based on Leartiker's portfolio of protected assets, the valuation of those prioritised assets will be promoted through their transfer to a new start-up, with the backing of public-private support. The creation of companies from a technology centre represents an exciting challenge for us, in line with our vocation to complete strategic value chains and actively contribute to the generation of quality employment in our environment.

NEW REFERENCE CENTRE FOR THE BASQUE DAIRY SECTOR.

Leartiker, from its Esneki Zentroa - Dairy Centre, continues to make determined progress in promoting the reference centre for the Basque dairy sector, in close coordination with HAZI Fundazioa and Markina-Xemein Town Council. This strategic project aims to become a meeting and collaboration space for dairy producers, offering tools, specialised knowledge and support to successfully tackle the current challenges facing the sector, such as digitalisation, innovation and the incorporation of new technologies. This initiative reinforces our commitment to the sustainable development of the agri-food sector and to strengthening the local productive fabric.

PEOPLE AT THE CENTRE.

ATTRACTING AND RETAINING TALENT WITH AN EXCITING PROJECT.

We aspire to make Leartiker the best place in the world to work in research and development, creating a stimulating and enriching environment both for the people who form part of the team and for our immediate surroundings. We want to attract and retain talent by cultivating an authentic organisational culture that is consistent with our identity, essence and distinctive values. An exciting project that puts people at the centre and reinforces our commitment to a sustainable, unique and transformative model of professional and human development.

SOCIAL COMMITMENT

At Leartiker, we understand that economic development must go hand in hand with a genuine commitment to **People**, the **Community** and the **Environment**. That is why, throughout the year, we promote various initiatives that reflect our involvement in education, equality, inclusion, sustainability and the well-being of the people who form part of our ecosystem.

To bring the world of work closer to the younger generations, we have welcomed several groups of students to our facilities, giving them the opportunity to learn about our activity first-hand and sparking an early interest in the field. Along the same lines, we participate in the **TALENTATU** programme, which seeks to connect young people with the local business community by showcasing the professional profiles that exist in their immediate environment.

In the field of **equality and the visibility of women in science and technology**, we have taken part in activities such as a round table with female scientists and technologists, as well as in the campaign to decorate shop windows with posters of leading women, in which one of our researchers also participated.

Our commitment to **inclusion** has been reinforced by our collaboration with **Izarbidean**, an association of people with functional diversity in our area, with whom we have been able to collaborate on the Christmas hamper, which included handicrafts created by its users. An enriching initiative that touches us all.

SOCIAL COMMITMENT

We firmly believe in the role of companies as agents of change and sustainable development. That is why we integrate the principles of the **2030 Agenda** into our activities and actively work towards several **Sustainable Development Goals (SDGs)**.

Leartiker is located in Markina-Xemein, in the Lea-Artibai region, an area where **Basque** language is spoken. We feel actively involved in promoting the language, participating in both **Korrika** and **Euskaraldia**, initiatives that are fundamental to the promotion and normalisation of our language.

We also believe that well-being and internal cohesion are fundamental to a healthy organisation. That is why we organise annual activities that have become an unmissable event for our team: **LTKONKIS** – a fun day where we overcome challenges as a team and have fun like children – as well as our traditional **Christmas meals** and the celebration of **Santa Eufemi**, with a mountain route and paella included. In addition, we have launched **Pilates** classes, available to all staff, thus promoting self-care and physical and mental health.

All these actions are part of our daily commitment to a fairer, more equal, inclusive and healthy environment.

ODS OBJETIVOS DE DESARROLLO SOSTENIBLE

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Izarbidean ein jerie distiraril

Governing Board:

President:
Iosu Ogiza Gerediaga
Fundación MONDRAGON

Vice-President:
Mikel Isasi Iriondo
Leartiker

Secretary:
Naiara Andonegi Mendizabal
Leartiker

Board Members:
Xabier Ozerinjauregi Ozerinjauregi
BATZ

Mikel Larrea Azpeitia
Eroski

Imanol Pérez Beristain
Lea Artibai Ikastetxea

Executive Board:

Managing Director:
Jon Anakabe Onaindia

Borja Angulo Zubizarreta

Idoia Egaña Uranga

Jose Javier Egurrola Beitia

Pablo Larreategi Makatzaga

Iratxe Olazaran De La Peña

Malen Sarasua Aranberri

Ane Miren Zaldua Huici

Collaborating Partners:

Ausolan

Batz

Cikautxo

Eika

Eroski

Kautenik

Maier

Mondragon

Shareholders:

Lea Artibai Ikastetxea

GENERAL ORGANISATION

ANNUAL REPORT 2024

Leartiker

MEMBER OF BASQUE RESEARCH
& TECHNOLOGY ALLIANCE

#TechnologyforPeople

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POLYMERS TECHNOLOGY
Health | Sustainable Transport
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leartiker.com

BRTA BASQUE RESEARCH & TECHNOLOGY ALLIANCE

HUMANITY AT WORK MONDRAGON