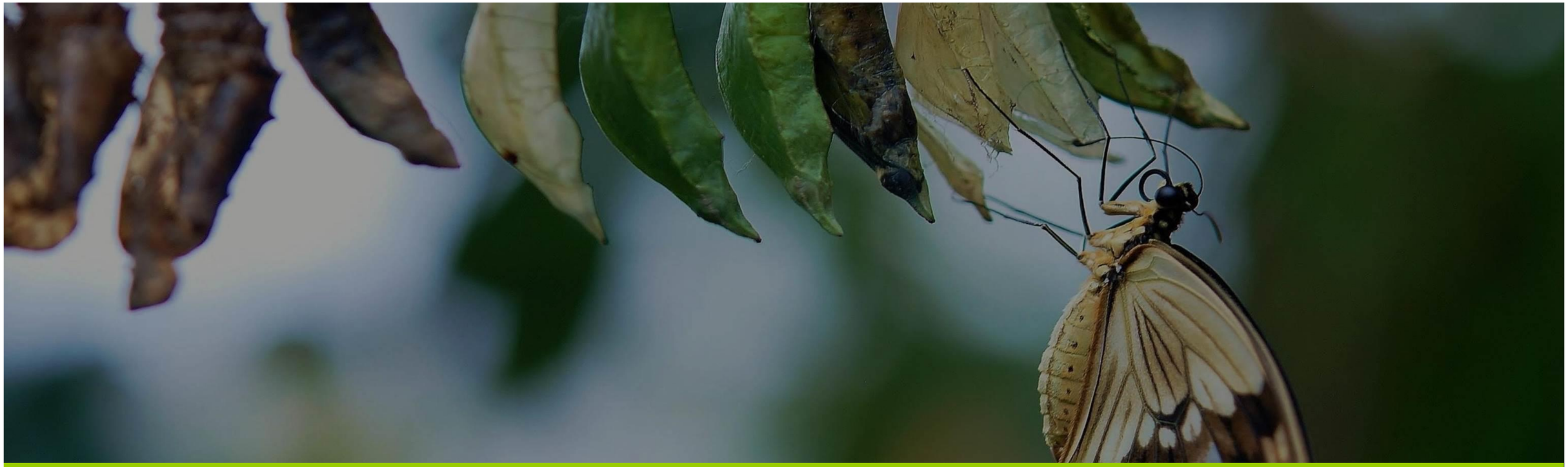


CIRCULAR NAVARRE CATALOGUE

BUSINESSES IN THE GREEN DEAL

A booklet of organisations located in Navarre region that are based on circular business models looking for international cooperation

September 2021

Developed by ain

Gobierno de Navarra
Nafarroako Gobernua

00. Contents

01.

Navarre and the circular economy

NAFARROAKO EKONOMIA ZIRKULARRA

S³

ECONOMÍA CIRCULAR NAVARRA

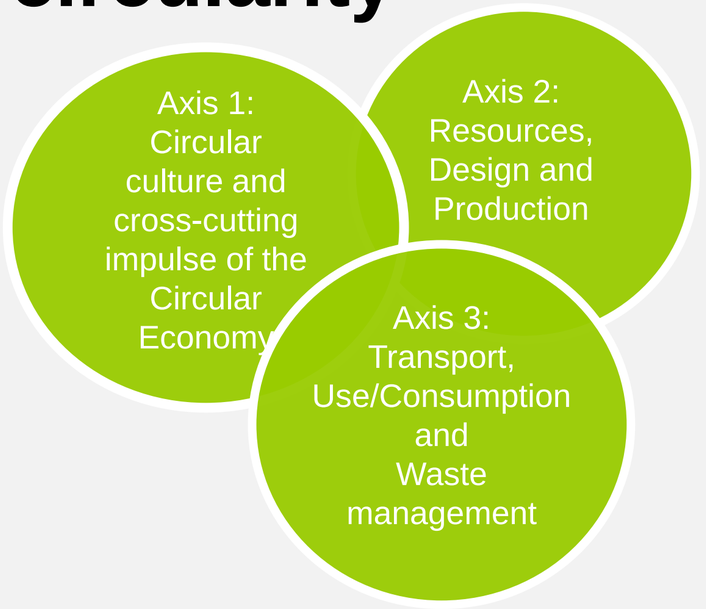
Gobierno de Navarra
Nafarroako Gobernua

ECNA2030

The Navarrese Circular Economy Agenda 2030

Includes 4 key strategies:
(1) Acting in more strategic and relevant key areas/products.
(2) Adopting Circular Economy principles under a broad approach.
(3) Aligning policies and economic resources.
(4) Advancing in an inclusive governance.

Three key strategic axis for circularity



6 OBJECTIVES:

- Sustainable and efficient natural resources management.
- Substitution of fossil energy by renewable energy sources.
- Reduction of waste generation and increase of valorisation.
- Increase of responsible consumption by public and private sectors.
- Extending sustainability culture and enhancing capabilities.
- Contributing to a social sustainability and cohesion

Key regulatory and policies framework supporting CE:

- Fiscal instruments Green vouchers-taxation on landfilling goes to CE projects (Waste Law)
- KLINA Climate Change Roadmap and the new Climate Change and Energy Transition Law
- Regional Industry Plan 2020
- Regional Energy Plan 2020
- Science, Technology and Innovation Plan 2030
- Rural development programme
- Social Economy Plan
- Water Strategy in Navarre
- Forestry Plan
- Sustainable Mobility Plan

S3N Plan

The Agenda is an instrument to develop Challenge 7 Circular Economy of S3.

Promotion of the bioeconomy and circular economy, taking advantage of knowledge in agri-food, energy efficiency and management waste and resources.
Sourcing of renewable and secondary raw materials and energy for sustainable industry and construction sectors.

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Nafarroako Gobernua

Navarra Nafarroa GREEN strategy

Navarra Nafarroa GREEN
Estrategia de transición ecológica
Trantsizio ekologikorako estrategia

Components

- C1 — Energy efficiency and buildings
- C2 — Circular economy
  - A1.Circular city design
  - A2. Industrial facilities based on the Circular Economy
  - A3. Waste management
  - A4. Access to finance for innovative circular initiatives
- C3 — Rural promotion and modernisation
- C4 — Biodiversity promotion and conservation
- C5 — Renovable energy impulse
- C6 — Innovative and sustainable mobility

A green transition strategy for the recovery

Navarra Nafarroa GREEN builds sustainable alternatives to the current production model and aims stimulation of social changes answering to climate emergency and the current sanitary crisis. It is a transformation plan that includes 74 projects following economic, environmental and social sustainable principles, aligned with the European Green Deal strategy.

- 761. 5 M€ EU Next Generation Grant
- 3,760 M€ Investment promotion
- 74 Projects included

European projects on the Circular Economy in Navarre

The Government of Navarre leads and participates in European projects related to the implementation and the enhancing of resources circularity.

Several private and public organisations in Navarre are taking part actively in European projects linked to the implementation of Circular Economy principles through different types of EU programmes.

Key European projects on Circular Economy of Government of Navarre

SCREEN
http://www.screen-lab.eu

SCREEN
Synergic CirculaR Economy across European regioNs

LIFE NAdapta
https://lifenadapta.navarra.es

LIFE NADAPTA
Life

INTERREG EUROPE SME ORGANICS
https://www.interregeurope.eu/smeorganics/

ORGANIC ACTION PLANS

SME ORGANICS
Interreg Europe

INTERREG EUROPE LCA4REGIONS
https://www.interregeurope.eu/lca4regions/

LCA4Regions
Interreg Europe
European Union
European Regional Development Fund

EUROPEAN EFIDISTRICT PROJECT
https://www.efidistrict.eu/efidistrict-fwd/

ORVINA II
GRUPO SAN JOSE
OFICINA EFISITRICT
VARIAS SANTA TERESA

efidistrict

NAVARRE CIRCULAR CATALOGUE

The aim of this catalogue is to present and to offer European collaboration opportunities on R&D and commercialisation to circular business models from Navarre region.

Navarre has

the 3rd highest GDP per capita in Spain, and an own taxation system.

a long European tradition, and a socially and territorially cohesive, healthy, sustainable, industrial and competitive culture.

20% of the energy consumption and more than 80% of the electricity generated from renewable energies.

Participant companies are looking for:

1. Cooperation with European networks and platforms related to the Green Deal and Circular Economy Action Plan implementation.
2. Consortiums and partners for the European programmes-Horizon Europe, LIFE or INTERREGs.
3. New private inversors.
4. Business collaborations for scaling-up their business models.
5. Opportunities for entering new markets.

02

The circular economy concept

CIRCULAR ECONOMY

A regenerative economic system

Principle 1

Preserve and enhance natural capital

PRESERVE by controlling finite resource for the technological sphere- with a **material stock management** ENHANCE by balancing renewable resource flows in the biological cycle- Biosphere-by a **renewable flow management.**

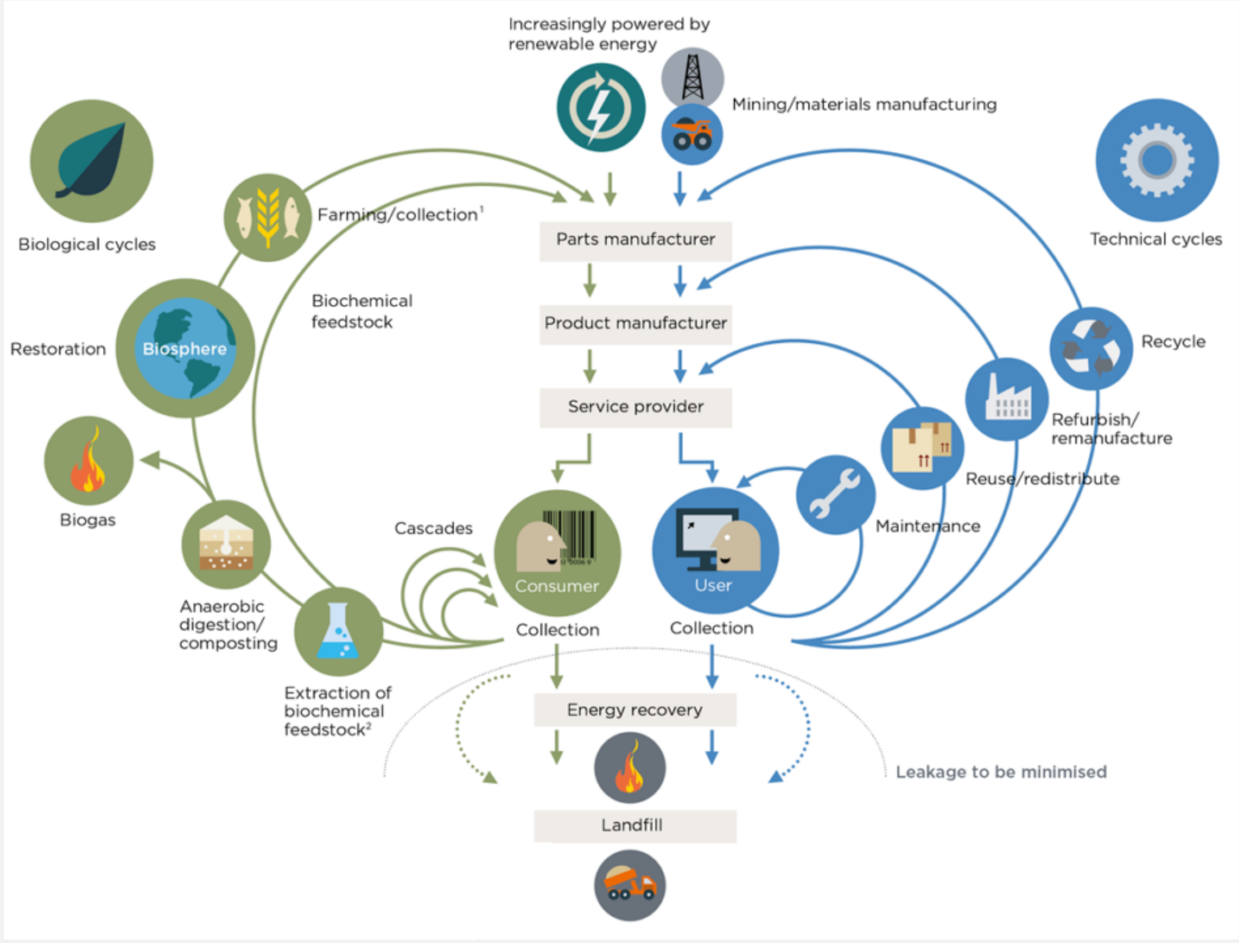
Principle 2

Optimize resources by circulating products, components and materials in **use at the highest utility** at all time in both technical and biological cycles.

Principle 3

Foster system effectiveness by revealing and designing out negative externalities.

With **pure, healthy and simple materials** that can flow forever in the loops with economic value.



Source: Ellen MacArthur Foundation

Share, repair, maintain & prolong goods

Sharing of products between peers or B2B enables the intensive usage of products by different users.

Repair and maintain are services that enable to prolong the lifespan of a certain good for the same user.

These cycles perpetuate the original purpose of the product and are the highest cost savings in terms of material, labor, energy and capital embedded in the product and on the associated rucksack of externalities (emissions, water, toxicity).

Product reuse and redistribution

A process of returning a product to good working condition to that other user can by it in the second-hand market.

Reuse can include the replacing or repairing major components that are faulty or close to failure and making "cosmetic" changes to update the appearance of a product, such as cleaning, changing fabric, painting or refinishing. Any subsequent warranty is generally less than issued for a new or a remanufactured product, but the warranty is likely to cover the whole product (unlike repair). Accordingly, the performance may be less than as-new.

Components refurbish or remanufacturing

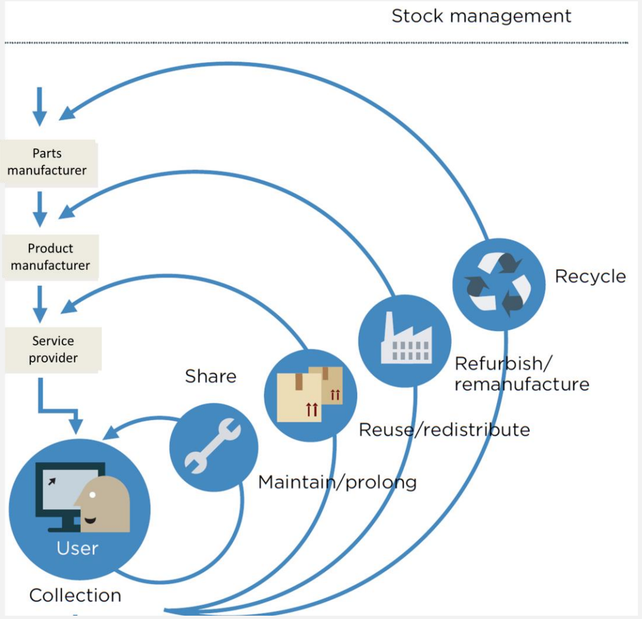
A process of disassembly and recovery at component level. Functioning, reusable parts are taken out of a used product and rebuilt into a new one. This process includes quality assurance and potential enhancements to the components.

Material recycling

Functional recycling. A process of recovering materials for the original purpose or for other purposes, excluding energy recovery.

Downcycling. A process of converting materials into new materials of less quality and reduced functionality.

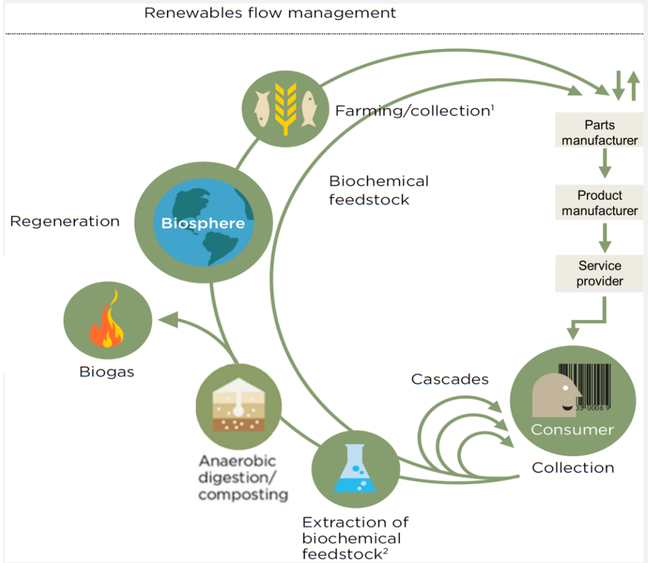
Upcycling. A process of converting materials into new materials of higher quality and increased functionality.



Technological cycles

- Share Repair/Maintain/Prolong
- Reuse/Redistribute
- Refurbish/Remanufacture
- Recycle

Source: Ellen MacArthur Foundation



Biological cycles

- Cascade use of by-products
- Extraction of biochemical feedstock
- Anaerobic digestion/ composting
- Biogas generation
- Biosphere regeneration
- Farming/collection (hunting and fishing)

Cascading of components and materials

Using discarded materials from one value chain as by-products, replacing virgin material inflow in another. The value creation potential is rooted in the fact that the marginal costs of repurposing the cascading material are lower than the cost of virgin material.

Biochemical extraction

Applying biomass conversion processes and equipment to produce low-volume but high-value chemical products, or low-value high-volume liquid transport fuel- and thereby generating electricity and process heat fuels, power, and chemicals from biomass. In a biorefinery such processes are combined to produce more than one product or type of energy.

Anaerobic digestion

A process in which microorganisms break down organic materials, such as food scraps, manure, and sewage sludge, in the absence of oxygen. Anaerobic digestion produces biogas and a solid residual.

Biogas

Biogas, made primarily of methane and carbon dioxide, can be used as a source of energy similar to natural gas. The soil residual can be applied on the land or composted and used as a soil amendment as a form or recycling, and a natural way of returning biological nutrients to the soil.

Composting

A biological process during which naturally occurring microorganisms (e.g. bacteria and fungi), insects, snails, and earthworms break down organic materials (such as leaves, grass clippings, garden debris, and certain food wastes) into a soil-like material called compost. Composting is a form of recycling, a natural way of returning biological nutrients to the soil.

Biosphere regeneration

Preserving and rebuilding the long-term resilience of the agricultural system and the “systems services” provided by the larger biological system, in which agriculture (farming and collection- hunting and fishing) is anchored, are the foundation for creating value from these assets in the future. A final aim of the Circular Economy is the regeneration of natural capital.

Source: Ellen MacArthur Foundation

5 circular business models (CBMs)

Reform use of resources

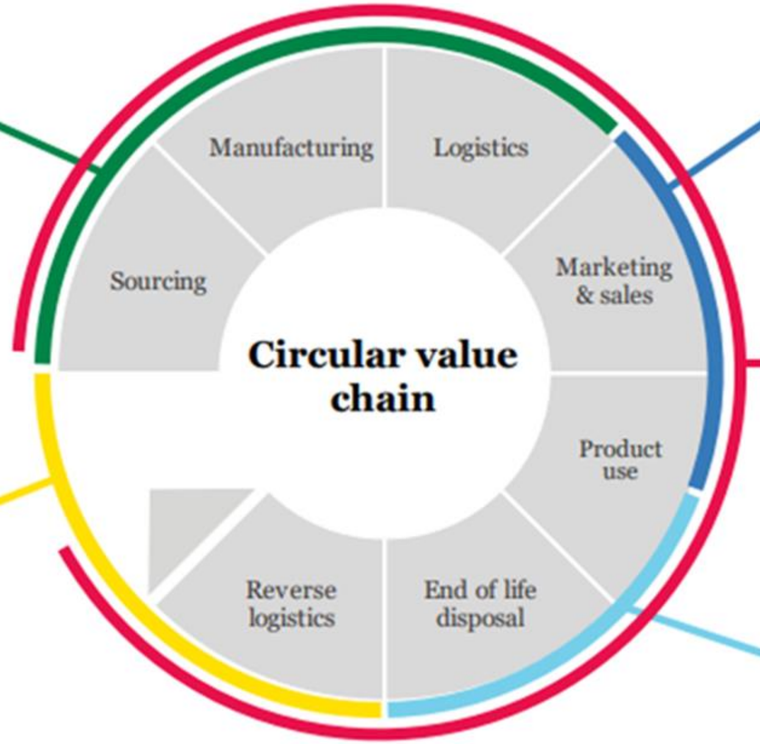
CIRCULAR SUPPLY CHAIN

Use of renewable energy, bio-based or potentially completely recyclable materials

Recover value in waste

RECOVERY & RECYCLING

Recovery of usable resources or energy from waste or by-products



Optimise capacity use

SHARING PLATFORM

Increased usage rates through collaborative models for usage, access, or ownership

Offer outcome oriented solutions

PRODUCT AS A SERVICE

Offering of products for use with retention of product ownership which incentivises increase in resource productivity along the whole life cycle

Extend life cycles

PRODUCT LIFE EXTENSION

Extension of the life cycle through repair, maintenance, upgrading, resale and remanufacturing

How this catalogue uses CBMs

For each organisation the circular business model where the company works is identified.

It enables the recognition of how companies creates value and how this value is captured and distributed along the value chain.

Value creation: generating economic, social and customer value following the circular economy principles.

Value capture: turning the circular and social value created into profits or competitive advantage. Making a profitable business case.

Value distribution: how the value created is distributed amongst the value chain. Main value chain actors and stakeholders affected.

Source: Accenture in SITRA “CIRCULAR ECONOMY BUSINESS MODELS FOR THE MANUFACTURING INDUSTRY 19.9.2019”

Enabling organisation

ENABLERS AND FAVOURABLE SYSTEM CONDITIONS

This catalogue includes other organisations that, though not being considered examples as Circular Business Models as such, offer products and services that enable others to start or to manage their transition to more circular business.

That includes new industrial technologies that allow more efficient processes or those that ease environmental data or controls for the transition monitoring, industrial packaging distributors that offer returnable solutions, educational centres working at sectorial level with circularity approaches and, of course, digitalisation solutions for a better decision making in the path to more circular business models.

Digitalisation

Digitalising the industrial processes enables a more accurate decision making on which type of materials use, how to define the optime layout or design products for zero-waste in the manufacturing.

Digitalisation also provides the information needed to create the “life-story” of materials, components and products that will allow their reintegration back into the economic system.

Environmental data, control & monitoring

In order to guarantee the natural capital regeneration and the restoration of natural eco-systems it becomes crucial to identify the indicators to control and monitor the improvements achieved by more circular business models. Environmental data become indicators of a healthy, pure and high quality air, water and soil and drive our transition to a Circular Economy.

Education

Professional education is a necessary step to boost the implementation of new technologies, design and material selection criteria and the integration of circular concepts within all sectors and at any professional qualification level.

Reverse Logistics

Collection and reverse logistics, are an important part of any system aiming to increase material productivity by ensuring that end of life products can be reintroduces into the business system. Reverse logistics in the packaging sector enables the return and reuse of materials improving the Life Cycle Analysis results of goods.

New industrial technologies

It may be considered one of the most important enablers applying to any sector and at any part of the value chain. The use of new processing technologies combined with digital solutions can contribute to the expected European Industrial Renaissance.

Source: Ellen MacArthur Foundation

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The Sustainable Development Goals (SDGs)

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future.

At its heart are the **17 Sustainable Development Goals (SDGs)**, associated to 169 targets, which are an urgent call for action by all countries in a global partnership. The monitoring of the regional SDGs evolution can be checked on **ODS 2030 en Navarra.**

People
End poverty and hunger in all their sizes and dimensions, and ensure that all human beings can perform their potential with dignity and equality and in a healthy environment.
SDG1- No poverty
SDG2- Zero hunger
SDG3- Good health and well-being
SDG4- Quality education
SDG5- Gender equality
SDG6- Clean waster and sanitation

Prosperity
Ensuring that all human beings can enjoy a full and prosperous life, and that economic, social and technological progress is in harmony with the nature**.**
SDG7- Affordable and clean energy
SDG8- Decent work and economic growth
SDG9- Industry, innovation and infrastructure
SDG10- Reduced inequalities
SDG11- Sustainable cities and communities

Planet
Protect the planet against degradation, including through sustainable consumption and production, sustainable management of its natural resources and urgent measures to cope with climate change, in a way that can meet the needs of present and future generations.
SDG12- Responsible consumption and production
SDG13- Climate action
SDG14- Life below water
SDG15- Life on land

Peace
Promote peaceful, fair and inclusive societies that are free from fear and violence. There can be no sustainable development without peace.
SDG16- Peace, justice and strong institutions

Partnerships
Align the necessary resources for the implementation of the 2030 Agenda, based on a global solidarity spirit and focusing on the needs of the poorest and most vulnerable, in collaboration of all countries, stakeholders and people.
SDG17- Partnerships for the goals

Source: United Nations THE 17 GOALS | Sustainable Development (un.org)

The Circular Economy and the SDGs

The Circular Economy aims the regeneration of natural and social capital by offering products and services in a regenerative production system, therefore working on the circular economy means working on the majority of SDGs, not as a cost item but as a business model, taking profit from SDGs comply.

SDGs directly benefitting from CE practices:

Environmental development

Social development

Economic development

SDGs facilitating the uptake of CE practices:

The circular economy supports the achievement of SDGs while creating economy value, some examples are:

- Repair, remanufacturing and recycling processes create new industries, infrastructures and new job opportunities that can be developed by people in risk of exclusion, supporting SGG1, SDG8, SDG9.
- Circular economy business models are based on offering services instead of selling products creating new habits and responsible consumption patters, from consumers to users, supporting SDG12.
- The sharing economy as a key aspect of the circular economy creates new ways of responsible consumption and sustainable cities and communities, supporting SDG12 and SDG11.
- Circular food systems are based in local and renewable use of resources for healthy diet, increasing regional resilience, supporting SDG1, SDG3 and SG12.
- The nutrients recovered in waste water treatments can be valorised as fertilisers for natural regeneration of soils, supporting SDG2, SDG6, SDG12, SDG15.
- Using new renewable and bio-based materials guarantee no toxic, healthy and innovative products, supporting SDG3, SDG9 and SDG12.

How this catalogue works on the SDGs:

Each company and its activities are focusing in the improvement of specific SDGs. The catalogue describes for each company the key SDGs related, gathering the commitment of the participant organisations with the sustainable development.

Looking for funding opportunities in the sustainable finance

The new EU Taxonomy regulation encourages access to finance for those economic activities that can be classified as environmentally sustainable when contributing to one or more of 6 environmental objectives.

EU Taxonomy Regulations

6 ENVIRONMENTAL OBJETIVES:

1. Climate change mitigation
2. Climate change adaptation
3. The sustainable use and protection of water and marine resources
4. **The transition to a circular economy**
5. Pollution prevention and control
6. The protection and restoration of biodiversity and ecosystems

Objective 4. Transition to a circular economy:

An economic activity shall qualify as contributing substantially to the transition to a circular economy, including waste prevention, re-use and recycling, where that activity:

(a) uses natural resources, including sustainably sourced bio-based and other raw materials, in production more efficiently, including by:

(i) reducing the use of primary raw materials or increasing the use of by-products and secondary raw materials; or

(ii) resource and energy efficiency measures;

(b) increases the durability, reparability, upgradability or reusability of products, in particular in designing and manufacturing activities;

(c) increases the recyclability of products, including the recyclability of individual materials contained in those products, inter alia, by substitution or reduced use of products and materials that are not recyclable, in particular in designing and manufacturing activities;

(d) substantially reduces the content of hazardous substances and substitutes substances of very high concern in materials and products throughout their life cycle, in line with the objectives set out in Union law, including by replacing such substances with safer alternatives and ensuring traceability;

(e) prolongs the use of products, including through reuse, design for longevity, repurposing, disassembly, remanufacturing, upgrades and repair, and sharing products;

(f) increases the use of secondary raw materials and their quality, including by high-quality recycling of waste;

(g) prevents or reduces waste generation, including the generation of waste from the extraction of minerals and waste from the construction and demolition of buildings;

(h) increases preparing for the re-use and recycling of waste;

(i) increases the development of the waste management infrastructure needed for prevention, for preparing for re-use and for recycling, while ensuring that the recovered materials are recycled as high-quality secondary raw material input in production, thereby avoiding downcycling;

(j) minimises the incineration of waste and avoids the disposal of waste, including landfilling, in accordance with the principles of the waste hierarchy;

(k) avoids and reduces litter; or

(l) enables any of the previous activities.

All companies included in the catalogue are contributing at least to Objective 4.

Source: EU Taxonomy regulation

03

How this catalogue works

Reading guide

The catalogue, being the second edition, includes **30 organisations** description. It is only an initial selection of companies located in the Navarre region, many others could be also included here or may be included in following editions.

The information gathered here shows the key aspects of the organisation´s business model, including the identification of the circular business model where the company works and the cycle where the company is creating value (technical and biological). It also includes descriptions of enabling organisations that offer services or products that help others to become more circular.

A specific description of the interests of the company in potential R&D project proposals with the identification of key calls is also included.

Additional information about the sustainability profile of the company, including a description of social, environmental and economic positive impacts is included, showing how the value is created, capture and distributed amongst the value chain.

In some cases a slight description of the previous experience in European projects and the international activity of the organisation can be found.

04

Navarrese organisations in the circular economy

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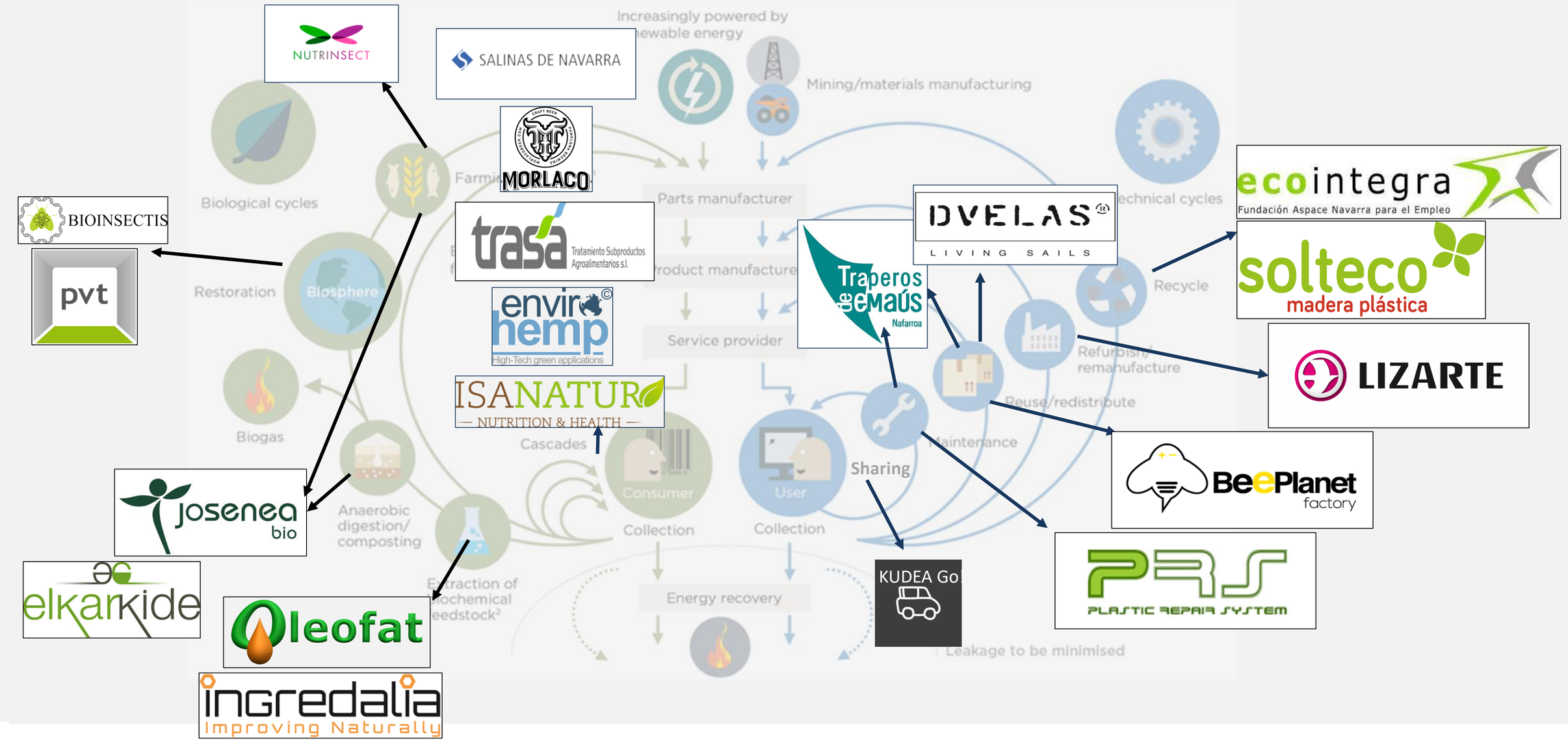
Enablers:



04.

Navarrese organisations in the circular economy

ORGANISATIONS IN THE TECHNICAL CYCLE

- KUDEA GO
- PLASTIC REPAIR SYSTEM
- TRAPEROS DE EMAÚS NAVARRA
- DVELAS LIVING SAILS
- BEEPLANET FACTORY
- LIZARTE
- SOLTECO MADERA PLÁSTICA
- ECOINTEGRA

ORGANISATIONS IN THE BIOLOGICAL CYCLE

ENABLING ORGANISATIONS

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KUDEA >Go!

Sustentable Mobility

SHARING PLATFORM

KUDEA | Servicios

KUDEA >Go!

Movilidad positiva para el medio rural.

Gobierno de Navarra / Nafarroako Gobernua

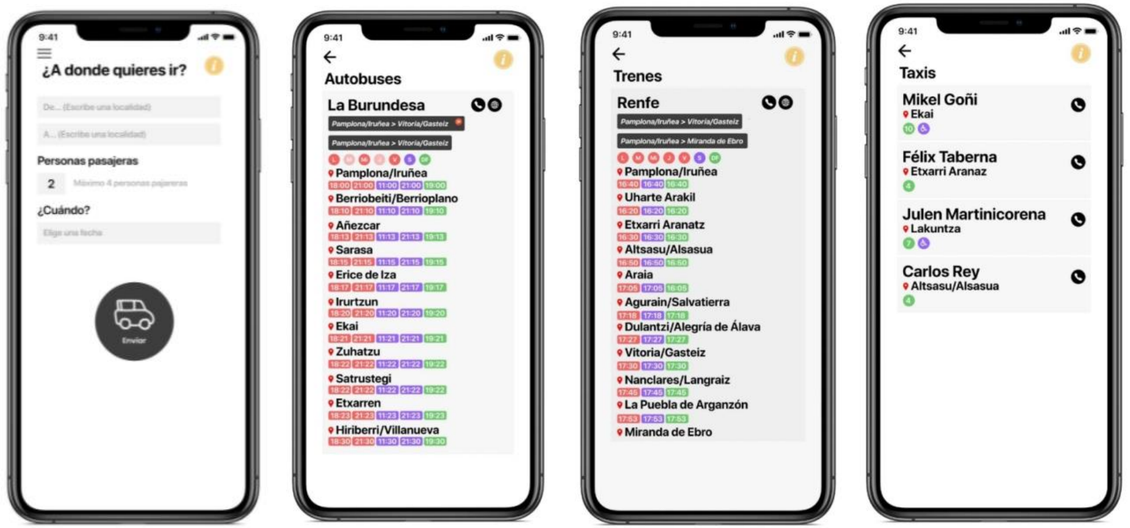
KUDEA | Servicios

Sustentable Mobility

SHARING PLATFORM

Como acción te proponemos dotar a la población, de la solución de movilidad positiva para el medio rural

KUDEA >Go!



Background and business model

KUDEA | Servicios is a social entrepreneurship company founded in 2020. Its main objective is generating positive impact being creating solutions to social, environmental and cultural problems in rural areas. Its main activity is the development and management of the digital platform of positive mobility for the rural environment KUDEA >Go!.

The app allows to share the day-to-day movements with the people of the same town and region without any type of economic transaction between them. Users can also see and contact all the existing mobility offer in the area: bus, local taxi, train, car rental, bicycle rental, etc.

The fee of the services is paid by municipalities.

Positive environmental impact

- Thanks to the service offered by Kudea is it possible to make a reduction of CO_2 emissions and other greenhouse gases
- Address to municipalities, the app collects different data that helps to count and write the *Action Plans for Climate and Sustainable Energy (PACES):* CO_2 emissions to the atmosphere avoided in shared trips, kilometers traveled with the app, use by gender, age of the users, language of use, interaction of searches transport services of the region, etc.
- Positive, integral, fun and ecological mobility tool.
- Thanks to the sharing of transport between inhabitants of rural areas, Kudea prevents the damage created in the roads that are not frequently maintained. This also allows local governments to save money in the improvement of the roads and invest it in other social priorities.

Positive economic & social impact

- Application designed to be used in rural areas, where the need for transport solutions is necessarily urgent.
- This application will allow greater connectivity between the municipalities and the people they live in, thus promoting positive and sustainable mobility throughout the region.
- Free service for the inhabitants of the rural areas, with no monetary exchange.
- The app works on all the mobility options, including public transport and information about their timetables.
- Kudea also informs its users about possible incidents in their area due to the inclement weather of rural areas.
- The app provides local governments with data for impact monitoring and the maintenance of the service.

Interesting topics in #EUfunding

- **HORIZON-CL5-2021-D2-01-13:** Strengthening Social Sciences and Humanities (SSH) research communities in climate, energy and mobility disciplines
- **HORIZON-CL5-2022-D6-01-01:** European demonstrators for integrated shared automated mobility solutions for people and goods (CCAM Partnership)
- **HORIZON-CL5-2022-D6-02-04:** Accelerating the deployment of new and shared mobility services for the next decade

Key SDGs

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#Ishare #sustentablemobility #Bauhaus #ruralmobility #ruraldevelopment

@kudeaservicios
Kudea Servicios
KUDEA Servicios

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PLASTIC REPAIR SYSTEM

Industrial plastics repair service

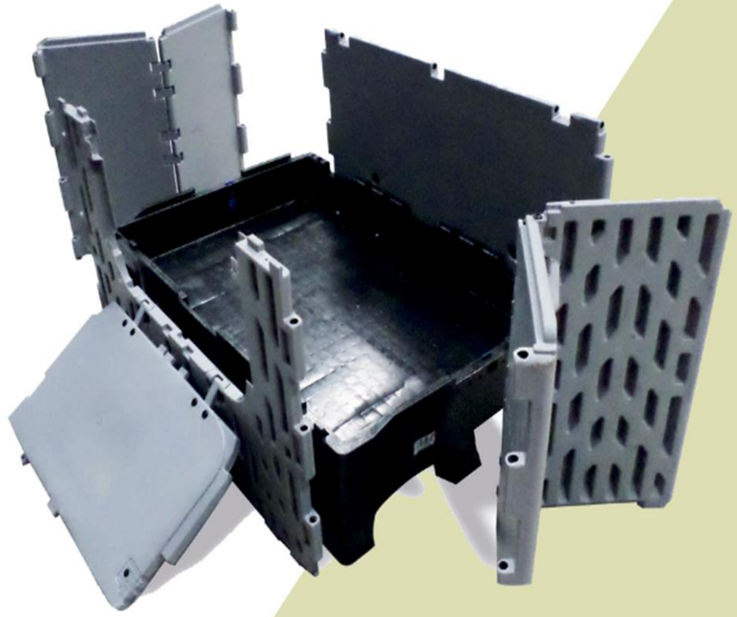
PRODUCT LIFE EXTENSION

PRS
PLASTIC REPAIR SYSTEM

INDUSTRIAL REPAIR OF RETURNABLE TRANSPORT PLASTIC PACKAGING

CERTIFIED &PATENTED METHOD
FOOD SAFE

PLASTIC CAN BE REPAIRED



SAVING 70% vs. REPLACEMENT

182 times less CO_2 than RECYCLING

≥98% OF THE ORIGINAL RESISTANCE

100% FUNCTIONALITY

European Business Awards for the Environment
European Commission

Gobierno de Navarra / Nafarroako Gobernua

PRS PLASTIC REPAIR SYSTEM

Industrial plastics repair service

PRODUCT LIFE EXTENSION

Background and business model

Plastic Repair System (PRS) offers a repair service of returnable /reusable plastic items made of PE & PP. Founded in 2011, the business case in repairing plastics was visionary.

PRS has developed and patented an innovative technology that allows to repair plastic returnable transport packaging (RTP) such as pallets, crates, boxes, etc. PRS's repair system recovers at least 98% of the original strength and 100% of the functionality with a 70% cost reduction compared to replacing a new one and 220 times less CO2 emissions.

Positive environmental impact

- Extension of plastic items life cycle
- Radically reduction of industrial plastic items waste, enabling the improvement in LCA of companies.
- Important reduction of new plastic items production needs, reducing the greenhouse gas emissions.
- Enabling the repair of items by welding and replacing parts, reducing waste generation.

Positive economic & social impact

- The repair service offers a cost reduction of approx. 70% avoiding the purchase of new items.
- Growing potential and scaling-up internationally.
- One designed process and technology for optimization of process.
- Growing market even during economical crisis.
- 17 workshops working as a network in the offer of the patented and standardized repair service.
- High labor-intensive process creating local employment.
- Working and collaborating with special employment centers as members of the workshops Network.
- Training and building capacities for new employments.
- Scaling-up process, creating employment in other locations worldwide.

Interesting topics in #EUfunding

- **HORIZON-CL6-2021-CIRCBIO-01-03:** Innovative solutions to over-packaging and single-use plastics, and related microplastic pollution
- **HORIZON-CL6-2021-CIRCBIO-01-01:** Circular Cities and Regions Initiative (CCRI)'s circular systemic solutions

Key SDGs

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Website: www.plasticrepair.es

#ReparingIsBetterThanRecycling #RepairMeansSaving #CircularEconomy #PlasticRepair

@PlasticRepairSystem

Plastic Repair System 2011 SL

@PRS_2011

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TRAPEROS DE EMAÚS NAVARRA

Repaired & Reused Distribution

PRODUCT LIFE EXTENSION

Gobierno de Navarra / Nafarroako Gobernua

Traperos de Emaús Nafarroa

Repaired & Reused Distribution

PRODUCT LIFE EXTENSION

1. Prevention

2. Collection

3. Prepare for reuse or recycling

4. Redistribution

Background and business model

With 49 years of history, Traperos was born as a workcamp for volunteers that in 1978 become its first Community in Navarre, Traperos collects and manages more than 11,000 tons of products under agreement with 16 Grouping of Municipalities in Navarre region and with scraps dealers. Traperos is a group that prioritises taking in people with difficulties and fight for a fairer and more supportive world. The organisation´s value creation is based on the prevention, selective collection, preparation for reuse and recycling of products that are sold as second hand in their shops.

Positive environmental impact

- 8,393,929 kg CO_2 emission avoided yearly, related to the more than 11,000 tons of products and materials recovered, reused and/or recycled, avoiding landfilling.
- 645,882 kg CO_2 emission generated yearly, related principally with the consumption of fossil fuels in vehicles (70,6%) and heating needs (21,1%).
- Part of the emission of the process is compensated with renewable energy consumption and own production in sites.
- Plastics and textile materials that can not be revalorised are sent to recycling.
- Active yearly participation in the EWWR European Week of Waste Prevention.

Positive economic & social impact

- Quality of employment and wealth generation.
- The 70% of the costs are related to labour costs.
- Committed to a fair and equilibrated distribution of work, the working hours are generally reduced (32.5 hours/week), tasks are shared enabling reduced time shifts and warranting a greater number of jobs.
- Wage equity amongst all employees.
- The company is always financially self-sufficient.
- With the recovery of products, in addition to employment and waste management other social impacts are achieved:
  - Creation of 280 employments under labour contracts.
  - Social and solidarity cohesion.
  - Social utility: 2nd hand essential goods are affordable for people and groups with low purchasing power.
  - The labour reality is organised and carried out with the principle of the Social and Solidarity Economy: importance of people, equity, justice, solidarity and environment.

Interesting topics in #EUfunding

- **LIFE-2021-SAP-ENV-ENVIRONMENT**: Circular Economy, resources from Waste, Air, Water, Soil, Noise, Chemicals, Bauhaus.
- **HORIZON-CL6-2021-CIRCBIO-01-04:** Increasing the circularity in textiles, plastics and/or electronics value chains

Key SDGs

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#SocialSolidarityEconomy #Reuse #Reduce #Repair #2ndLife #ResponsibleConsumption #WastePrevention

@traperosemausnavarra
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@traperosemausnafarroa

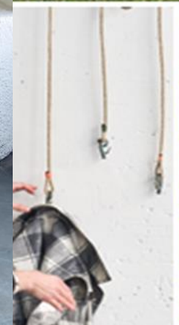
Gobierno de Navarra / Nafarroako Gobernua

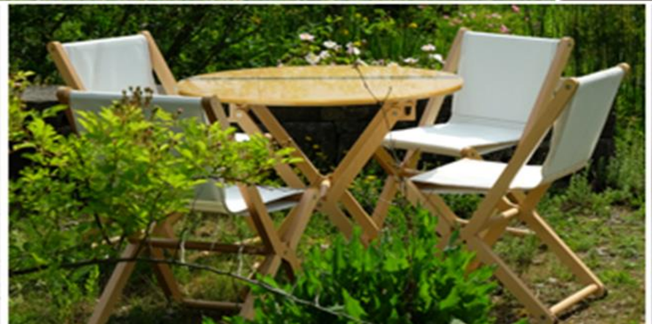
DVELAS LIVING SAILS

Furniture sector

PRODUCT LIFE EXTENSION

DVELAS®
LIVING SAILS



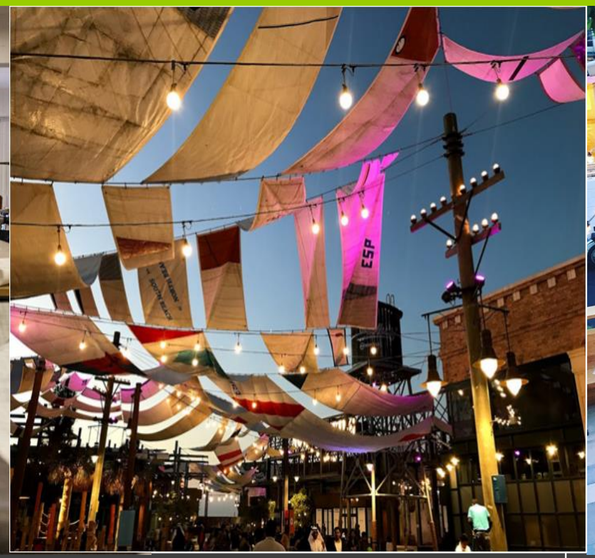


Gobierno de Navarra / Nafarroako Gobernua

DVELAS®
LIVING SAILS

Furniture sector

PRODUCT LIFE EXTENSION

Background and business model

DVELAS reuses discarded sails from the sailing industry and creates new and high fashioned products and offers a unique solution to this refuse. Based on the sails, Dvelas merges functionality and aesthetics to create a product that brings together design, comfort, beauty and emotion. DVELAS was founded in 2009 as a creative reaction to find a new use for discarded boat sails. The company is founded and managed by a multi-disciplinary team of professionals that combines architecture graphics and product design

Positive environmental impact

- Using rejected or non-recyclable fabric, as a raw material, avoiding incineration or landfilling.
- The remanufacturing process transforms the no recyclable fabric of the sails into a high value-added product (furniture), giving a long-lasting new life for the rejected fabric.
- Offering solutions for high temperatures by creating shades with the sails, as well as for rain protection.
- Reducing the waste produced by the sailing industry.
- Development of nanotechnology that allows the sail to purify the air, like plant photosynthesis.

Positive economic & social impact

- Creating furniture with reused material.
- Sails are made of non-recyclable material. Dvelas reuses this material, city councils of maritime regions and waste managers can reduce costs since there is no need for incineration or landfilling.
- The company's workforce is made up of 80% women.
- Dvelas works with local craftsmen boosting the local employment and also improving their product quality.
- The company is constantly looking for ways to improve the life of the world's population and that's why they have developed their shade sails to protect users from harmful sun exposure.

Interesting topics in #EUfunding

- **HORIZON-CL4-2021-TWIN-TRANSITION-01-17:** Plastic waste as a circular carbon feedstock for industry (Processes4Planet Partnership) (IA)
- **HORIZON-CL5-2022-D4-02-01:** Designs, materials and solutions to improve resilience, preparedness & responsiveness of the built environment for climate adaptation (Built4People)
- **LIFE-2021-SAP-ENV-ENVIRONMENT —** Circular Economy, resources from Waste, Air, Water, Soil, Noise, Chemicals, Bauhaus

Key SDGs

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#ReuseDesign #CircularFashion #EcoArt #CircularDesign #CircularFurniture

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Gobierno de Navarra / Nafarroako Gobernua

BEEPLANET FACTORY

2nd LIFE EV-Battery

PRODUCT LIFE EXTENSION

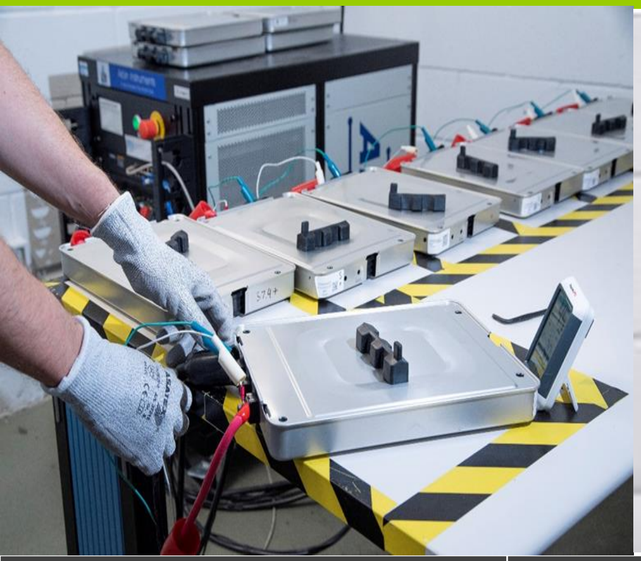
BeePlanet factory

Gobierno de Navarra / Nafarroako Gobernua

BeePlanet factory

2nd LIFE EV-BATTERIES

PRODUCT LIFE EXTENSION



Background and business model

BeePlanet Factory designs and manufactures sustainable second life batteries. At the end of their original application in the EV, they keep intact a large storage capacity (70%-80%) and still offer high performance, which makes them perfectly functional for other uses, such as stationary energy storage. BeePlanet Factory researches, analyzes, develops and implements different applications to re-introduce electric vehicle batteries to the market as stationary energy storage. BeePlanet ensures that all batteries are recycled properly. The company is member of the EBA250, BatteryPlat, ETIP-SNET and Futurred.

Positive environmental impact

- Reuse of a potentially polluting residue
- Avoiding landfilling of a potentially contaminant product.
- Recovery of valuable raw material and the embedded value of the materials of EVBatteries.
- Virtual zero CO2 emission impact for the battery when reused from the vehicle.
- After they finish their activity, all batteries are completely recycled.
- Renewable energy storage solution enabling electrification and reduction of greenhouse gas emission of fuel oils (4200 kg CO2 compared to a new e-battery).

Positive economic & social impact

- Revalorization of a residue avoiding the cost of the e-waste management and extending lifespan.
- Recovering the economic value of Critical Raw Materials
- Best value for money of a lithium-ion battery for residential storage.
- Maintenance-free and ready to connect and start working, monitoring battery operation offering online data and preventing failures and misfunction in advance. Keeping high performance for 2500-3000 cycles.
- Electrification solutions for neighborhoods and mobility solutions, avoiding
- Democratizing the renewable energy storage options.
- Energy service Independence, resilience solution and non external dependence of nonrenewable energy sources.
- Reduction of energy poverty

Interesting topics in #EUfunding

- **HORIZON-CL5-2021-D2-01-06:** Sustainable, safe and efficient recycling processes (Batteries Partnership).
- **HORIZON-CL5-2021-D5-01-04:** LCA and design for sustainable circularity - holistic approach for zero-emission mobility solutions and related battery value chain (2ZERO & Batteries Partnership)
- **HORIZON-CL5-2022-D2-01-09:** Physics and data-based battery management for optimised battery utilisation (Batteries Partnership)

Key SDGs

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#SecondLifeBatteries #SustainableBatteries #EVBatteriesRefurbish #EnergyStorage

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BeePlanet Factory

Gobierno de Navarra / Nafarroako Gobernua

LIZARTE

Automotive Sector

PRODUCT LIFE EXTENSION

LIZARTE

Gobierno de Navarra / Nafarroako Gobernua

LIZARTE

Automotive Sector

PRODUCT LIFE EXTENSION

Background and Business model

Lizarte is a manufacturer of car spare parts since 1973, turning to be the first European company to remanufacture car steering racks, power steering racks, air conditioning compressors and diesel injection components (injectors and diesel pumps). Lizarte creates value from wracked cars by returning valuable parts to at least its original performance with a warranty that is equivalent or better than the newly manufactured products. From a customer viewpoint, the remanufactured products can be considered the same as a new product but with a reduced price (around 60-80%).

Positive environmental impact

- Using a used product as a raw material, avoiding the process of producing a new one.
- The remanufacturing process transforms the not longer useful and broken pieces of cars into a new ones with a 2-year warranty and with a quality equivalent to or even better than the one of the newly manufactured products.
- Reduction of the waste produced for the automotive industry by giving the pieces a second life
- The reutilization of the pieces is also a way to harness the energy already used to manufacture the pieces the first time.

Positive economic & social impact

- Important savings for the customers of reman products instead of original products.
- Recovery of embedded value of previous manufactured parts, including materials and innovation value.
- Possibility for society to acquire an environmental commitment with the purchase of this type of product.
- Creation of employment related to remanufacturing, that is more labor intensive than other manufacturing processes.

Interesting topics in #EUfunding

- **HORIZON-CL4-2021-RESILIENCE-01-04:** Developing climate-neutral and circular raw materials (IA).
- **HORIZON-CL5-2022-D6-02-06:** Smart and efficient ways to construct, maintain and decommission with zero emissions from transport infrastructure.

Key SDGs

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#CarSpareParts #CircularEconomy #SustainableMobility #Remanufacturing

LIzarte S.A.U.

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Lizarte

Gobierno de Navarra / Nafarroako Gobernua

SOLTECO MADERA PLÁSTICA, S.L.U.

Furniture sector

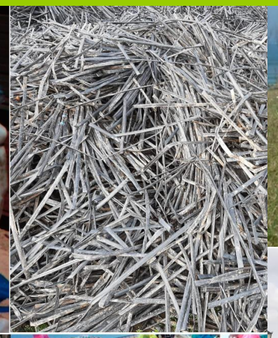
RECOVERY & RECYCLING

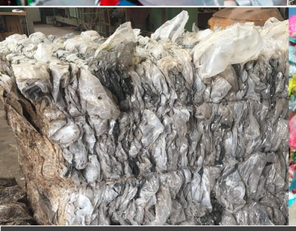
Gobierno de Navarra / Nafarroako Gobernua

solteco madera plástica

Furniture sector

RECOVERY & RECYCLING






Background and business model

Solteco creates a 100% useful product using a no valuable residue (plastic waste) as raw material, avoiding burring it in a dump or landfilling, by transforming it into a not contaminating plastic wood. This new plastic material can be used for production of valuable products like furniture, fences or even construction materials. This creates green rural jobs, in the moulding of plastic and mounting of final products, which offer much longer life than wood, does not need maintenance and can be repaired and continuously recycled in a non ending life-cycle.

Positive environmental impact

- Rejected or non-recyclable plastics as raw material, avoiding incineration or landfilling.
- Transforming the rejected plastics into a high value-added product (Plastic Wood), giving a long-lasting new life products that can be repaired and recycled again, closing the plastic flow loop.
- Addressing a climate emergency problem (obsolescence of single use plastic and generation of waste and pollution in traditional waste management solutions- incineration and landfilling).
- Littering plastics into the environment and producing valuable products for each sector..

Positive economic & social impact

- Remanufacturing of a highly polluting raw material and they turn it high valuable and 100% recyclable products.
- Enables companies and municipalities to close the plastic cycle.
- Solteco's urban furniture does not need maintenance.
- Creation of a circular business model: the place where the plastic waste is generated could be also the place where it offer the maintenance and repair service.
- Generating value and inclusive employment in the same area, as an opportunity for new rural employment capabilities
- Cooperation and collaboration with social agents, civil services and companies in social innovation projects that have the aim of reusing the rejected plastic, co-designing solutions and products.
- Collaboration with centers of employment in projects related with socio-economic development.

Interesting topics in #EUfunding

- **HORIZON-CL5-2022-D4-02-01:** Designs, materials and solutions to improve resilience, preparedness & responsiveness of the built environment for climate adaptation (Built4People)
- **HORIZON-CL6-2021-CIRCBIO-01-04:** Increasing the circularity in textiles, plastics and/or electronics value chains
- **HORIZON-CL6-2021-CIRCBIO-01-01:** Circular Cities and Regions Initiative (CCRI)'s circular systemic solutions

Key SDGs

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#AvoidingLandfilling #PlasticWood #RecycledPlastic #WasteIntoValue #CircularEconomy

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Gobierno de Navarra / Nafarroako Gobernua

ECOINTEGRA

Recycling of WEEEs

RECOVERY & RECYCLING

ASPACE PARÁLISIS CEREBRAL Navarra - Nafarroa

Gobierno de Navarra / Nafarroako Gobernua

ASPACE PARÁLISIS CEREBRAL Navarra - Nafarroa

Recycling of WEEEs

RECOVERY & RECYCLING

Background and business model

ECOINTEGRA is a Waste Electrical and Electronic Equipment (WEEEs) treatment plant belonging to Aspace Navarra, a social integration organization that works for the creation of stable job for people with disabilities. The plant is located at rural area and recovers mainly household electrical appliances and some type of industrial WEEEs. Its activity started in 2007 and consists of extracting the potentially harmful substances including in these products (gases, cells, batteries, capacitors, etc.) and recover them for the recycling of materials ready for being offered in the secondary material markets.

Positive environmental impact

- Rejected or non-valorisable EEEs is recycled obtaining new secondary raw materials such as copper, iron, plastics or aluminum.
- The separation process for each type part of the equipment is managed in order to obtain the most value of each material, obtaining a high value recycling process and products.
- The recycling rates achieve the recovery of 85% of the materials embedded in the EEEs.
- The products that are recycled avoid the landfill of toxic parts as batteries, capacitors or contaminated oils.
- The process includes the capture of gases included in refrigeration/cold appliances that are harmful to the ozone layer and the green house effect.

Positive economic & social impact

- The company valorised materials included in different type of appliances (cold, CRT monitors, large and small electrical appliances).
- The company offers employment to 40 people, 90% of them with disabilities under a transparent management of WEEE flows. It´s main objective is to offer a labor itinerary for social integration of people with disabilities, achieving personal self-autonomy of workers.
- The plant is managed under 9001 and 14001 management system, and the WEEE-LABEX of Excellence for WEEE recycling plants.
- The activity is located at rural area avoids depopulation and creates industrial jobs in a disadvantaged territory.
- ECOINTEGRA organizes specific educational and awareness activities offering visits to the plant and sessions for schools and companies in its training venue .
- The company participates in R&D European projects willing to improve the quality and recycling rate. Including the implementation of new methods for recovering Indium and Yttrium form discarded flat panels.

Interesting topics in #EUfunding

- **HORIZON-CL6-2021-CIRCBIO-01-04:** Increasing the circularity in textiles, plastics and/or electronics value chains.
- **HORIZON-CL4-2021-RESILIENCE-01-03**: Identifying future availability of secondary raw materials.
- **HORIZON-CL4-2021-RESILIENCE-01-04**: Developing climate-neutral and circular raw materials.
- **LIFE-2021-SAP-ENV-ENVIRONMENT:** Circular Economy, resources from Waste, Air, Water, Soil, Noise, Chemicals, Bauhaus.

Key SDGs

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#Ecointegra #AspaceNavarra #RecyclingWEEEs #RecycledMaterials #RecoveredMaterials

@aspacenavarra
AspaceNavarra
@AspaceNavarra

04.

Navarrese organisations in the circular economy

ORGANISATIONS IN THE TECHNICAL CYCLE

ORGANISATIONS IN THE BIOLOGICAL CYCLE

- SALINAS DE NAVARRA
- AISLANAT
- ISANATUR- NUTRITION &HEALTH
- ENVIROHEMP
- TRASA
- MORLACO BEER
- NUTRINSECT
- ALIMENTOS SANYGRAN
- JOSENEA BIO
- INGREDALIA
- ELKARKIDE
- OLEOFAT TRADER
- PVT- PAVIMENTOS DE TUDELA
- BIOINSECTIS

ENABLING ORGANISATIONS

Gobierno de Navarra
Nafarroako Gobernua

SALINAS DE NAVARRA

Food Sector

CIRCULAR SUPPLY CHAIN

Gobierno de Navarra / Nafarroako Gobernua

SALINAS DE NAVARRA

Food sector

CIRCULAR SUPPLY CHAIN

Background and business model

Salinas de Navarra with more than 40 years of experience is the largest producer of vacuum salt in Spain. Every year, 160,000 tons of salt come out of its factory for water treatment (swimming pools, dishwashers, decalcification, etc.), food industry (sausages, preserves, broths, etc.), industry (electrochemistry, electrolysis, dyes, perfumes, etc.) and even human consumption (table salt). The company recovers the potassium waste generated from the former mining operation in Navarra. This potassium is purified and transformed into sodium chloride for food and industrial uses.

Positive environmental impact

- With its activities Salinas helps to the consumption for a complete disappearance of the mountains of potassium by-product linked to the previous mining activity.
- Salinas' consumption of the potassium helps the reduction of the saline leachate generated by rainwater.
- The company helps with the recovery of the exploited areas.
- The company not only revalorizes a by-product originated because of the mining activity but also valorizes all the sub-mineral products obtained through its process to produce the salt.
- By its waste revalorization and creation of a new product, the company avoids the need of start a mining activity.

Positive economic & social impact

- After the closure of the mining industry in 1996, Salinas has achieved to reactivate the local industrial activity with the production of a sustainable product.
- Thanks to this industrial reactivation Salinas has helped to the generation of quality employment with 100 direct employees and 50 indirect employees linked exclusively to its activity.
- Its product is used for different sectors such as water treatment, food industry, etc. Thanks to this, the company is introducing into several industries a new product made of waste that is as good as one made by new raw material.
- Reconciliation of positive economic results and environmental regeneration in intensively exploited areas aligning with two of the pillars of sustainability (economical and environmental)
- Salinas has achieved to be one of the leaders in southern Europe of salt tablet production and for the water treatment industry.

Interesting topics in #EUfunding

- **LIFE-2021-SAP-ENV-ENVIRONMENT:** Circular Economy, resources from Waste, Air, Water, Soil, Noise, Chemicals, Bauhaus.
- **HORIZON-CL6-2022-ZEROPOLLUTION-01-04:** Securing drinking water quality by protecting water sources against pollution, providing innovative monitoring and treatment solutions and ensuring safe distribution.

Key SDGs

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SalinasdeNavarra

Salinas de Navarra

#vacuumsalt #potassium #circulareconomy #watertreatment #industrialenvironment #miningrestoration

Gobierno de Navarra / Nafarroako Gobernua

AISLANAT

Construction sector

CIRCULAR SUPPLY CHAIN

Gobierno de Navarra / Nafarroako Gobernua

AISLAnat
AISLANTE DE CELULOSA

Construction sector

CIRCULAR SUPPLY CHAIN

Background and business model

Aislantes Aislanat is the first and so far only manufacturer of cellulose insulation in Spain. Aislanat has been in the ecological insulation sector for more than 15 years, offering an ecological and efficient alternative for construction. 100% of the raw materials comes from recycled newsprint from the region (Navarra), thanks to the collaboration agreements signed with the main newspapers of Navarra. Aislanat collaborates with universities and research centers in the search for new applications of cellulose, injected and insufflated.

Aislanat cellulose is a zero kilometre product. This fact affects the costs, allowing to offer a product equal in quality to other cellulose insulators manufactured in Europe but at a much more competitive price.

Positive environmental impact

- It highlights the unparalleled storage capacity of CO_2 of cellulose insulation. Thanks to its paper-based raw material, which in turn comes from wood, cellulose stores CO_2 throughout its life. Therefore, one kilo of paper corresponds to the storage of 1.52 kg of CO_2.
- To insulate a house of 100 m², 1 ton of cellulose (1,000 kilos of paper) is used, which would be the equivalent of 1,520 kilos of stored CO_2 and therefore is not emitted into the atmosphere.
- Environmental Product Declaration

Positive economic & social impact

- Cellulose is currently the most efficient insulator on the market for several reasons: it has a thermal lag of between 8 and 12 hours depending on the thickness (this is the time it takes to transmit the temperature from one side of its thickness to the other); save up to 50% on the electricity or gas bill; increases the thermal and acoustic comfort of the house; its useful life is the same as that of the house and does not need maintenance.
- In addition, by solving problems of humidity and condensation, it improves the quality of life of the people who live in it, specifically those who have respiratory problems. It is a breathable material and regulates humidity improving the feeling of comfort inside the house.

Interesting topics in #EUfunding

- **HORIZON-CL5-2021-D4-02-02:** Cost-effective, sustainable multi-functional and/or prefabricated holistic renovation packages, integrating RES and including re-used and recycled materials (Built4People).
- **HORIZON-CL5-2022-D4-02-03:** Sustainable and resource-efficient solutions for an open, accessible, inclusive, resilient and low-emission cultural heritage: prevention, monitoring, management, maintenance, and renovation (Built4People).

Key SDGs

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#bioconstruction #cellulose #isolation #sustainability #EUstrategies #circulareconomy #passivhaus

@AislaNat
Iñigo-puncel-arandigoien
Aislantes AISLANAT

ISANATUR

— NUTRITION & HEALTH —

Unique organic products from olives, rich in fiber and antioxidants

- Extra Virgin Olive Oil
- Olive-based Condiments
- Olive Prebiotic Fiber - PreBIOfenol

VISIT OUR STORE

Gobierno de Navarra / Nafarroako Gobernua

ISANATUR — NUTRITION & HEALTH —

Agrifood sector

CIRCULAR SUPPLY CHAIN

Background and business model

ISANATUR in-house facilities designs and produces functional ingredients obtained from organic olive milling under a patented (pharma grade) zero-waste process, facilitating access to novel, natural and healthy ingredients at the best value. The production process is located in Navarre exploiting the full potential of olives under ECOPROLIVE brand. Olive extract and olive phenol rich fiber are the key products (see www.ecoprolive.com) ideally used in dietary supplements and functional foods, providing disease prevention beyond their nutritive value (MICROBIOME).

ECOPROLIVE products have won different awards in fairs for organic innovative food products and condiments.

Positive environmental impact

- Production process that uses no chemical additives or treatments and zero waste production, based on upcycling methods
- The company uses Hight Tech that enables reduction of environmental impact.
- A key technology used are the evaporator concentrator- spry dryer and the extraction technology CO_2 supercritic: innovative, clean, and environmentally friendly, no fluids or emissions are generated.
- Pilot and production facilities available.
- Using LCA and LCC studies to foster sustainable decision making useful in cosmetics, nutraceutical, pharma and food industries.

Positive economic & social impact

- Preservation of the high value to all olive byproducts, so that each of them can be valuable valorized, and avoids waste management cost.
- The products obtained are commercialized under the ECOPROLIVE brand with a high value projection and positive impact in health proved.
- Rural areas development for olive organic production processes and rural employment for the production process.
- Improvement of health conditions for consumers of their products, for food or health/beauty consumption.
- Food products specially addressed to gluten-intolerants and diabetics and for people with heart or gastrointestinal diseases.
- Health/cosmetic products addressed to sensitive skins e.g. eczemas.
- In collaboration with many partners for RD projects and new commercial products development. For example, the development of XOS product as a high-quality prebiotic. This production can be either in isolation or in combination with other products to enhance the protective and modulating capacity of the gut microbiota.

Interesting topics in #EUfunding

- **HORIZON-CL6-2022-FARM2FORK-01-09:** Microbiomes in food production systems
- **HORIZON-CL6-2021-CIRCBIO-01-07:** Microbiomes for bio-based innovation and environmental applications.
- **HORIZON-CL6-2021-FARM2FORK-01-15:** Transition to healthy and sustainable dietary behaviour

Key SDGs

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#HealthyFood #ECOPROLIVE #EU_Farm2Fork #Biorefinery #OrganicIngredients #OliveByproducts

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Gobierno de Navarra / Nafarroako Gobernua

ENVIROHEMP

Greentech Sector

CIRCULAR SUPPLY CHAIN

enviro hemp ©

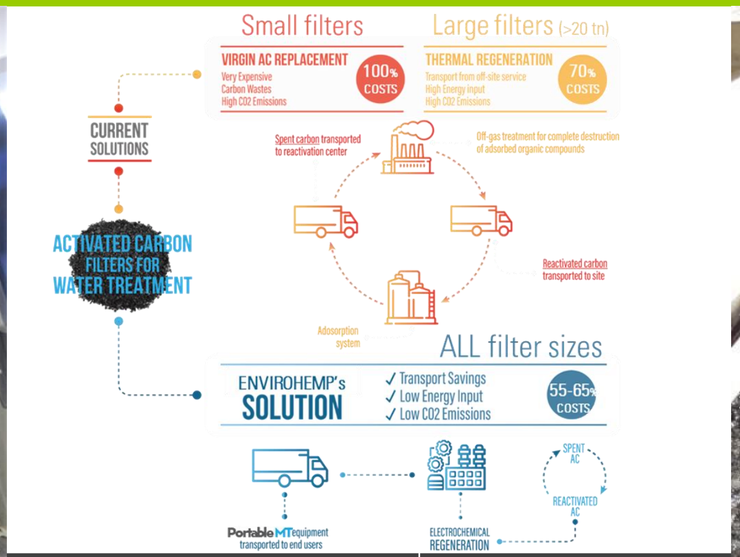
High-Tech green applications

Gobierno de Navarra / Nafarroako Gobernua

enviro hemp © High-Tech green applications

Greentech Sector

CIRCULAR SUPPLY CHAIN



Background and business model

Envirohemp (ENV) focuses on the development of specialty carbons from biomass for a wide variety of applications, applying high technology to bioproducts.

This is the case of the Portable MT, a modular plant for water treatment's spent Activated Carbon (AC) that substitutes the current external thermal regeneration solution by offering a portable solution for the electrochemical regeneration of activated carbon, enabling the reuse on side. 85,000 ton of spent AC are generated every year and the lack of regeneration leads to >1 MILL tons of CO_2. The ENV portable solution, currently under development, offers a highly automated solution WWT plants, obtaining a certified plant and treated carbon that optimizes the end of life of electrolytes.

Positive environmental impact

- Capacity to valorize hundreds to thousands of tons of biomass residues, that would typically only be used as low-grade fuel for "heating" purposes.
- Capacity to produce two-in-one valorization and sterilization of complex feedstock such as manure and sewage sludge, by applying high-pressure treatment.
- The new Portable MT solution offers a GHG reduction of 45% vs. thermal regeneration, and 95% single score improvement vs. landfilling

Positive economic & social impact

- Production of high added-value materials that typically produce a 2 order of magnitude increase with respect to the feedstock employed.
- cutting-edge solutions that enable other disrupting technologies such as the ultra-fast energy storage in Ultracapacitors.
- Rural areas development and creation of jobs directly (location of facilities on rural area) and indirectly by establishing new revenue streams for the primary sector through the valorization of agri-food residues.
- Development of 100% EU-based specialty materials and chemicals derived from regional biomass..
- The new Portable MT solution: Regeneration savings 0.85 €/kg vs. 1.05 €/kg and fast investment pay-off from 1,000 AC tonnes/year .

Interesting topics in #EUfunding

- **HORIZON-CL6-2021-CIRCBIO-01-05:** Novel, non-plant biomass feedstocks for industrial applications
- **HORIZON-CL6-2021-CIRCBIO-01-06:** Contained biomass solutions for sustainable and zero-Indirect Land Use Change (ILUC) production systems for high value applications
- **HORIZON-CL4-2021-TWIN-TRANSITION-01-14:** Deploying industrial-urban symbiosis solutions for the utilization of energy, water, industrial waste and by-products at regional scale

Key SDGs

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#BiocharCarbon #BiomassValorisation #ActivatedCarbons #Hydrochar

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Gobierno de Navarra Nafarroako Gobernua

TRASA

Food sector

CIRCULAR SUPPLY CHAIN

trasa Tratamiento Subproductos Agroalimentarios s.l.

Gobierno de Navarra / Nafarroako Gobernua

trasa Tratamiento Subproductos Agroalimentarios s.l.

Food sector

CIRCULAR SUPPLY CHAIN

Background and business model

TRASA has access and manages food industry vegetable by-products, **creating value by transforming their organic by-products into new products through different specialized business units** (animal feed, energy, functional ingredients, agri-biologicals (biofertilizers, biostimulants, others). The company aims to guarantee a stable Circular Economy model in the agri-food sector in the Spanish Ebro Valley. The business model, following the criteria of sustainability and social objectives is to recover value added products from vegetable by-products; to research, develop and start-up new technologies related to these materials; to promote industrial activities aimed at prevention, research, technological development, minimization, recycling and valorization of vegetable by-products.
The circular economy is the key pillar of the business model for multiple valuable roadmaps.

Positive environmental impact

- Recovery, treatment and valorization of vegetable by-products, avoiding landfilling of food processing waste.
- Regional resources for animal feeding, reducing greenhouse gases emissions in transport.
- High investment in R&D looking for new ways of valorisation.
- Own technologies development for transforming food waste and food losses in new raw materials, increasing the lifespan of resources and improving the Life Cycle Analysis of products.

Positive economic & social impact

- Reducing waste management costs for agri-food industries
- Creating value from waste
- Animal feed at lower price and higher quality based on vegetable byproducts (From food processing).
- Creating economic value in rural areas.
- Rural employment resilience.
- Healthier animals, healthier meat for food, positive impact on health.
- Increasing synergies between farmers, cattle breeders and food processors.
- In close collaboration with companies and RD centers for building knowledge in the sector.
- Internal technical-economic evaluation for each new business model.
- Industrialisation of the production processes for achieving real scale project.

Interesting topics in #EUfunding

- **LIFE-2021-SAP-ENV-ENVIRONMENT —** Circular Economy, resources from Waste, Air, Water, Soil, Noise, Chemicals, Bauhaus.
- **HORIZON-CL6-2021-CIRCBIO-01-03:** Innovative solutions to over-packaging and single-use plastics, and related microplastic pollution.
- **HORIZON-CL6-2022-CIRCBIO-02-03-two-stage:** Sustainable biodegradable novel bio-based plastics: innovation for sustainability and end-of-life options of plastics.

Key SDGs

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#ValuableFoodWaste #Bio-byproducts #CascadeUse #HealthyAnimalFeed #FromFarm2Feed

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MORLACO BEER

Food Sector

CIRCULAR SUPPLY CHAIN

Gobierno de Navarra Nafarroako Gobernua

MORLACO

Food Sector

CIRCULAR SUPPLY CHAIN

Background and business model

Morlaco Beer is a small and independent brewery founded in 2013 by civil engineers and homebrewers. The company produce small batches of beer, but more than 12 different beers including the ones brewed with wasted bread. They develop their own recipes, get the ingredients and brew, bottling, and distribute them in their local area. Their work reflect an alternative attitude and approach to brewing flexibility, adaptability, experimentation and customer service. They have found in the big amount of bread that are considered waste daily an opportunity to craft a beer. Besides, the waste generated by the crafting of both the normal beer and the bread one is used as animal food.

Positive environmental impact

- Bottles are made from up to 100% recycled glass avoiding the waste of raw materials to make new bottles.
- All the waste generated is managed as a by-product of the brewing process. This waste is based on protein and fiber-rich leftovers that made it excellent feed for animals.
- The company reuses the dry bread that bakeries are going to throw away because it has not been sold and use them as raw material for crafting beer (two different recipes.)
- The waste produced from the bread beer is also used as animal feed.
- As a future project, the company is researching and experimenting how to produce bread from the waste generated by the crafting of the bread beer. By doing that Morlaco beer will close the circle: using dry bread to produce beer, using the waste to produce bread, using the dry bread again to produce beer.
- The company is also in the way of changing their machinery into electric in order to reduce is GHG emissions and they are looking how to install solar panels in their rooftop for being energy self-sufficient.

Positive economic & social impact

- Morlaco helps reducing the organic waste produced in the city of Pamplona by using the dry bread as raw material. By reusing the bread, they avoid the economic impact caused by the need of the treatment of the organic residue.
- Soon, they will help reducing the CO2 emissions produced and improving the air quality of the city thanks to the introduction of electric machinery and the installation of solar panels in their rooftop.
- The company is now moving to use local ingredients like hops and barley malt from their region.
- Pioneers in the region by creating the first point of sale based in growler service / bottle reuse and beer refill.

Interesting topics in #EUfunding

- **LIFE-2021-SAP-ENV-ENVIRONMENT**: Circular Economy, resources from Waste, Air, Water, Soil, Noise, Chemicals, Bauhaus.
- **HORIZON-CL6-2021-CIRCBIO-01-01:** Circular Cities and Regions Initiative (CCRI)'s circular systemic solutions

Key SDGs

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Gobierno de Navarra / Nafarroako Gobernua

NUTRINSECT

Food Sector

CIRCULAR SUPPLY CHAIN

NUTRINSECT

Gobierno de Navarra / Nafarroako Gobernua

NUTRINSECT

Food Sector

CIRCULAR SUPPLY CHAIN




Background and business model

Nutrinsect is a company based on the idea of feeding the planet in a sustainable way by insect farming for as a source of protein. The insects are fed with organic waste/byproducts from the agri-food industry. The purpose of the breed of insects is to use them as nutritive additives for the production of flours. Depending on the type of feeding of the insects the flour would have different properties. So far, pasta and energy bars have been created from this flour.

The new plant of Nutrinsect is located in rural area in Navarre and it is a great business opportunity to offer high protein solutions with increasing acceptance of the society.

The company has experiences in European projects (e.g. RECOVER project).

Positive environmental impact

- Reutilization of organic waste avoiding landfill, without competition with food land uses, and cero waste process.
- The breeding of insects needs less water and less feeding than livestock and generates substitutive protein.
- Insect feeding reduces the intensive agricultural activity that harms the land, the ecosystems and the environment.
- Cattle farming is responsible of the waste of high amounts of water per day and of the total 9% of greenhouse gases emitted each year. The insect breeding avoids the use of such amounts of water and reduces the GHG emissions.
- Because of the feeding of the insects with organic waste the intensive agriculture needed for the cattle farming is reduced.
- Using insect species that are well known and with high knowledge of their properties that creates no invasive species risk.

Positive economic & social impact

- Insects have up to 70% of protein meanwhile the cows have only a 15-20%. Consuming food with insect protein has a lot of benefits for the human health. It ensures the good functioning of the gut microbiota and seems to be favorable to control the levels of cholesterol, ensuring and fostering a healthy lifestyle and a balanced diet. Being rich in calcium, iron and vitamins B12, insects are a real panacea for bone growth, for the prevention of iron deficiency anemia and of megaloblastic anemia.
- Insects are more sustainable economically than livestock, since all process byproducts (wastecricket droppings and their shedding of fur) are highly valorised as organic fertilizer with potential bio-stimulant properties.
- Vertical production process economically sustainable.

Interesting topics in #EUfunding

- **HORIZON-CL6-2022-FARM2FORK-01-07:** Building alternative protein-friendly sustainable and healthy food environments**.**
- **HORIZON-CL6-2021-CIRCBIO-01-01:** Circular Cities and Regions Initiative (CCRI)'s circular systemic solutions.
- **HORIZON-CL6-2021-FARM2FORK-01-17**: Increasing the transparency of EU food systems to boost health, sustainability and safety of products, processes and diets.

Key SDGs

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Gobierno de Navarra / Nafarroako Gobernua

ALIMENTOS SANYGRAN

Food Sector

CIRCULAR SUPPLY CHAIN

Sanygran

Photo by Jarek Jordan on Unsplash

Gobierno de Navarra / Nafarroako Gobernua

Sanygran

Food Sector

CIRCULAR SUPPLY CHAIN

Background and business model

Alimentos Sanygran produces meat substitutes based on vegetables and legumes. Sanygran's mission is to develop plant-based foods to improve the Health of People and the Sustainability of the Planet.

All the actions developed by the company are based on the development and distribution of more sustainable products not only in terms of crops and processing, but also in the packaging used.

We are immersed in the process of different sustainability certificates, in addition to having developed a range of products with which we promote upcycling (e.g.the new range of Santy's Picadillo products has been developed by using by-products from other industries.) Key products are LeguMeat, FlexiMeat and Buenggie.

Positive environmental impact

- Using vegetables that cannot be marketed fresh or preserved due to their size, shape, etc., which helps to promote sustainability and food waste reduction, thus promoting the circular economy.
- Substitution of animal protein with vegetable protein, reducing CO_2 emissions/ kg protein.
- In process of changing 100% recyclable materials for the commercialization of products
- The key actions developed:
  - Sustainable and efficient use of natural resources
  - Environmentally responsible packaging
  - Energy efficiency of processes
  - Minimization of the environmental impact of distribution activities.

Positive economic & social impact

- High quality products highly valued in international markets and immersed in a trend growth process.
- Innovation and continuous product development.
- Local employment and gender equality. We have a registered equality plan.
- Company that encourages team and collaborative work.
- Encourage job training so that all workers can continue to develop each and every one of the skills required for the performance of the different jobs.
- Strengthening the sustainability of jobs through continuous training of the workforce.
- Products are vegan and gluten-free answering the needs of specific diets.
- Some products are addressed to flexitarian diets, where animal and vegetable protein are mixed, creating new line of innovative healthy food products.

Interesting topics in #EUfunding

- **LIFE-2021-SAP-ENV-ENVIRONMENT**: Circular Economy, resources from Waste, Air, Water, Soil, Noise, Chemicals, Bauhaus.
- **HORIZON-CL4-2021-TWIN-TRANSITION-01-14:** Deploying industrial-urban symbiosis solutions for the utilization of energy, water, industrial waste and by-products at regional scale (Processes4Planet Partnership).
- **HORIZON-CL6-2021-FARM2FORK-01-17:** Increasing the transparency of EU food systems to boost health, sustainability and safety of products, processes and diets.

Key SDGs

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#bio-basedprotein #by-products #newingredients #futurefood #vegetalmeat

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Gobierno de Navarra / Nafarroako Gobernua

JOSENEA BIO

Food sector

CIRCULAR SUPPLY CHAIN

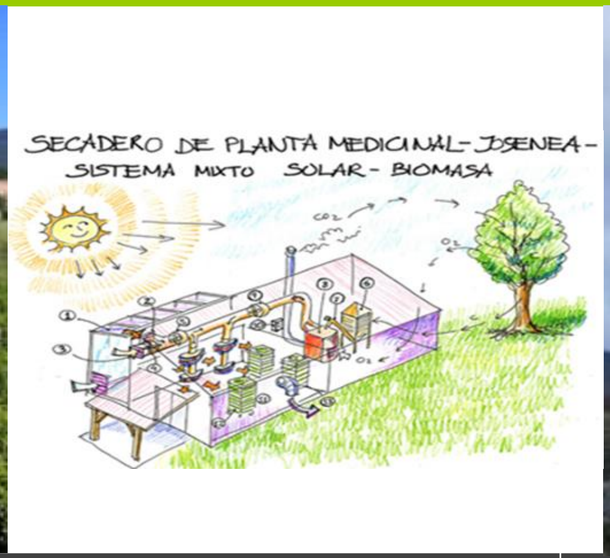
josenea bio

Gobierno de Navarra / Nafarroako Gobernua

josenea bio

Food sector

CIRCULAR SUPPLY CHAIN



Background and business model

Josenea produces aromatics and medicinal plants for infusions and essential oil extraction and apple snacks under a solar drying process. All products have organic certification, as well as the compost obtained that is commercialised. The complete farm, production site, composting process and renewable energy facilities can be visited and builds the first **Rural Circular Living Lab** in Navarre, where circular economy principles and business models can be touched, tested and implemented, under co-design methodologies and stakeholder's engagement and participation, including the evaluation and monitoring of the social and natural capital regeneration. Josenea is willing to participate in European networks of rural circular living labs.

Positive environmental impact

- Bordablanca farm is energy self-sufficient thanks to photovoltaics panels and wind generator connected to battery storage system.
- The fruit drying process happens in the solar greenhouse building combined with biomass pellet boiler, being more than 90% efficient, with a steam recovery system used for heating greenhouses.
- Zero discharge systems- closed cycling of organic flows and rainwater, with regeneration of soil thanks to own composting facilities.
- Composting process (testing solutions and learning by doing) for biofertilizers production using organic waste collected from the farm and regional resources.
- Awarded with the Rural Inspiration 2021- Resilient Future.

Positive economic & social impact

- High quality products highly valued in international markets.
- New products development, continuous innovation on products and services.
- Regional rural employment for people under social exclusion risk.
- Rural organic farming activity and valorization of abandoned soils.
- As a non-profit company configuration, the company reinvest all profits in the development of the social project
- Non-profit organization with the purpose of working with and for people, as a transition for workers who are in the process of labor insertion. Employment creation- 80 workers in rural areas.
- Job training and the acquisition of work habits make people achieve sufficient autonomy and guarantee their incorporation into the labor market with full guarantees of success.
- People hired are derived from the Social Services and the Navarre Employment Services, in collaboration with the Government of Navarre.

Interesting topics in #EUfunding

- **HORIZON-CL6-2021-CIRCBIO-01-08:** Mainstreaming inclusive small-scale bio-based solutions in European rural areas.
- **HORIZON-CL6-2021-COMMUNITIES-01-02:** Expertise and training centre on rural innovation.
- **LIFE-2021-SAP-ENV-ENVIRONMENT**: Circular Economy, resources from Waste, Air, Water, Soil, Noise, Chemicals, Bauhaus.

Key SDGs

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##EU_Farm2Fork #SocialRegeneration #SoilRegeneration #HealthyFood #RuralCircularLivingLab

Josenea BIO

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Gobierno de Navarra Nafarroako Gobernua

INGREDALIA

Food Sector

CIRCULAR SUPPLY CHAIN

ingredalia
Improving Naturally

Photo by Jarek Jordan on Unsplash

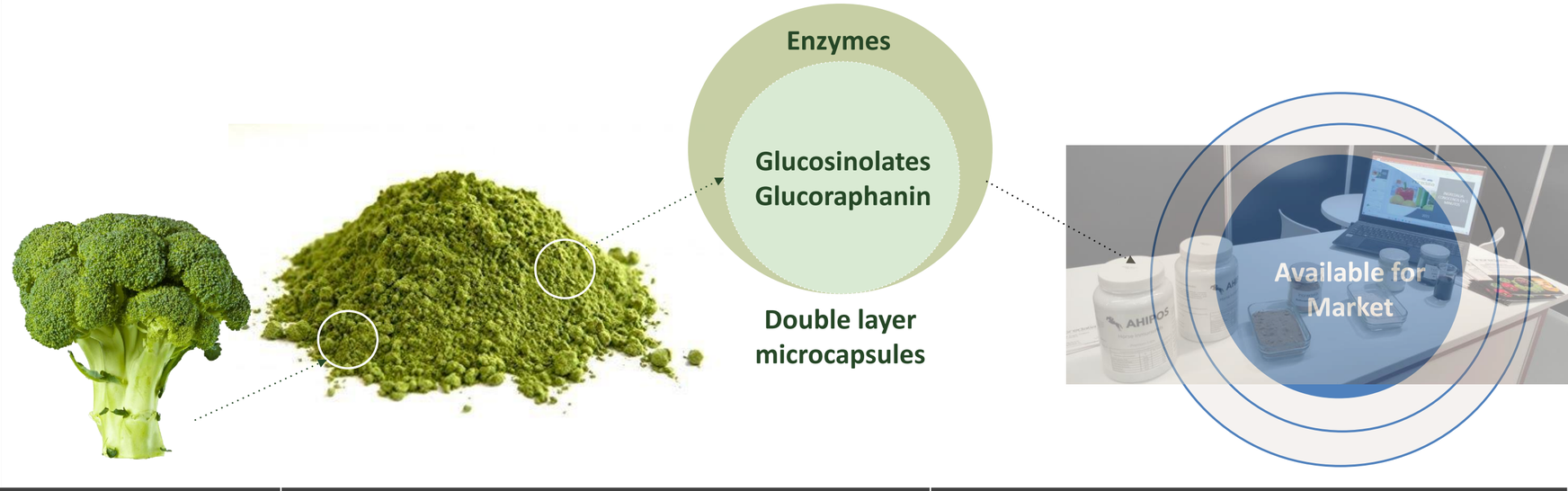
Gobierno de Navarra Nafarroako Gobernua

ingredalia
Improving Naturally

Food Sector

CIRCULAR SUPPLY CHAIN

Photo by Louis Hansel on Unsplash



Background and Business model

Ingredalia is a company owned by large and medium size food processing companies as well as a technology centre, for the valorisation of by-products generated in the processing of vegetables.

Ingredalia has been able to industrialize the process under a patent for the valorisation of the broccoli processing by-products, that allows it to extract sulforaphane and glucosinolates. These compounds have been reported as very beneficial for its health promoting effects, among others for the immune system in humans and other animals in many published clinical studies and research papers. Today their commercialized products are Sulforaphan-Smart (natural phytochemical with immuno-stimulating activity) and Brasphenol (vegetal extract rich in polyphenols with antioxidant activity).

Positive environmental impact

- Valorization of organic resources, collecting industrial food losses generated during the process (crumbs) avoiding food waste and reducing industrial costs of waste management and environmental impact since most is ending in landfill.
- The company will be able to valorise many other compounds of vegetable food losses in process offering, distributing and commercializing natural, healthy and functional ingredients.
- The extraction and the high-tech production process needs a reduced consumption of energy and resources.
- The use of process by-products does not compete with the land use for human food.

Positive economic & social impact

- Creating new ingredients, with high economic value from by-products. Around 30% of the collected vegetable become by-product during the transformation processes, what is a large leakage that becomes a huge business potential.
- The industrial process have been demonstrated as economically sustainable thanks to the extraction of high value and very effective compounds addressed to different markets (human and pet food, pharma or cosmetics)
- Reducing the waste management cost of agri-food sector.
- Ingredalia participates in R&D projects for the valorisation of the compounds extracted as bio-additive for new applications (e.g. paints, packaging) and with other vegetables too
- Healthy new smart ingredients that have been demonstrated can prevent cancer and other diseases.
- The company is based on industrial alliance with large companies enabling the access to new markets.

Interesting topics in #EUfunding

- **LIFE-2021-SAP-ENV-ENVIRONMENT**: Circular Economy, resources from Waste, Air, Water, Soil, Noise, Chemicals, Bauhaus.
- **HORIZON-CL4-2021-TWIN-TRANSITION-01-14:** Deploying industrial-urban symbiosis solutions for the utilization of energy, water, industrial waste and by-products at regional scale (Processes4Planet Partnership).
- **HORIZON-CL6-2021-FARM2FORK-01-17:** Increasing the transparency of EU food systems to boost health, sustainability and safety of products, processes and diets.

Key SDGs

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#broccoli #Healthy #by-products #futurefood #naturalfunctionalingredients

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Gobierno de Navarra / Nafarroako Gobernua

ELKARKIDE

Green services sector

CIRCULAR SUPPLY CHAIN

Gobierno de Navarra / Nafarroako Gobernua

elkarkide

Green services sector

CIRCULAR SUPPLY CHAIN

Background and Business model

Elkarkide is a social non-profit enterprise that offers products and services related to the green economy, including food seeds production, farming, distribution of organic food product (0km food), garden services for municipalities (edible gardens) or managing urban and school farms, all under organic certifications and ISO 14001.
The social and natural regeneration are its mission and collaborates with other private/public organizations for the offering of innovative products and services, such as the e-mobility in mailing services, the collaboration in the collection of food surplus for the regional food bank or carpentry services for composters (chicken compost system) and other furniture manufacturing with recycled plastic (wood plastic carpentry services).

Positive environmental impact

- Working under the principles of agroecology and rural development with organic certification and ISO14001 standards.
- Recovery of local variety of seeds, vegetables and aromatics.
- Reduction of phytosanitary products even those that are allowed for the organic certification.
- Culture medicine obtaining solutions based on local plants.
- Zero waste and valorization of organic waste into fertilizers to be commercialized after composting.
- 0km food production and commercialization in urban location.
- Green fertilizers and moon calendar application.
- Enhancing biodiversity by rotational crops and auxiliary flora and fauna protection.

Positive economic & social impact

- Offering products and services for public and private organisations: composters, compost, e-mobility, seeds, manufacturing and garden services.
- 0km food shop.
- Agri-ecology consultancy and training services.
- Green social employment.
- Commitment with people dignity and respect.
- Individualized attention to workers based on their specific needs and disabilities.
- Social Responsibility criteria and CSR management system implementation.
- Employment creation- 29 workers (2019).
- Team working.
- Social innovation for new products and services definition.
- Personal and professional development journey.

Interesting topics in #EUfunding

- **LIFE-2021-SAP-ENV-ENVIRONMENT**: Circular Economy, resources from Waste, Air, Water, Soil, Noise, Chemicals, Bauhaus.
- **HORIZON-CL6-2021-FARM2FORK-01-15:** Transition to healthy and sustainable dietary behaviour.
- **HORIZON-CL6-2022-FARM2FORK-01-04:** Innovative solutions to prevent adulteration of food bearing quality labels: focus on organic food and geographical indications.

Key SDGs

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#PeopleFirst #CSR #OrganicSeeds #0KmFood #RecycledPlastics #NaturalRegeneration #SocialCircularEconomy

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Gobierno de Navarra / Nafarroako Gobernua

OLEOFAT TRADER S.L

Energy sector

CIRCULAR SUPPLY CHAIN

Gobierno de Navarra / Nafarroako Gobernua

Oleofat

Energy sector

CIRCULAR SUPPLY CHAIN

Background and business model

OLEOFAT TRADER, S.L. is a company located in Tudela (Navarra) dedicated to the management and treatment of oil by-products and wastes and their subsequent recovery in the chemical industry, mainly aimed at the production of sustainable biodiesel. Currently OLEOFAT is developing several projects with the aim of extracting active principles (tocopherols, sterols and squalene) from these fatty by-products from the agri-food industry. The company has participated in a project that combines nanotechnology with biotechnology to manufacture, in a more sustainable way, new high-quality fatty products from oleic waste for later use in the chemical, cosmetic, pharmaceutical and food industries. Oleofat has obtained a high-quality final product using an enzymatic technology, much less aggressive with the raw material, with the final product and the environment, where the generation of waste is minimized.

Positive environmental impact

- Reuse of oil waste from the agri-food industry: 48.000 tn/year of by-products and oil waste valorisation.
- Generation of biofuels to replace fossil fuels.
- Manufacture of compounds of vegetal origin that replace chemical compounds or fossil origin in other industries (paints, varnishes, cosmetics, etc.).
- Development of sustainable solutions (enzymatic processes) that replace conventional chemical processes, being processes more sustainable with the environment.
- Reuse of other types of waste from industrial processes.

Positive economic & social impact

- Valorizes waste and by-products from other companies, creating economic value and new products fro the cosmetic, pharma and food sectors.
- Oleins, have many uses and replace petroleum products, reducing the social impact of fuel oil extraction and creating wealth in rural areas.
- The new industrial processes that allows the company to increase the company's turnover.
- Regional development and the reduction of the waste created by our society
- The company is constantly looking for ways to improve the industrial processes in order to reduce waste and improve the yield.
- Collaboration with local research centers, improving the employability of the area and the knowledge.

Interesting topics in #EUfunding

- **HORIZON-CL5-2022-D3-01-01:** Demonstration of cost-effective advanced biofuel technologies utilizing existing industrial plants.
- **HORIZON-CL5-2022-D3-03-02:** Best international practice for scaling up sustainable biofuels
- **HORIZON-CL6-2022-CIRCBIO-01-02:** Marginal lands and climate-resilient and biodiversity-friendly crops for sustainable industrial feedstocks and related value chains.

Key SDGs

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#Reuse #QualityControl #CascadeUse #Biodiesel #Fattyacids #Squalene #ByproductsIntoEnergy

HIDROFAT project

Gobierno de Navarra / Nafarroako Gobernua

PVT – PAVIMENTOS DE TUDELA

Construction sector

CIRCULAR SUPPLY CHAIN

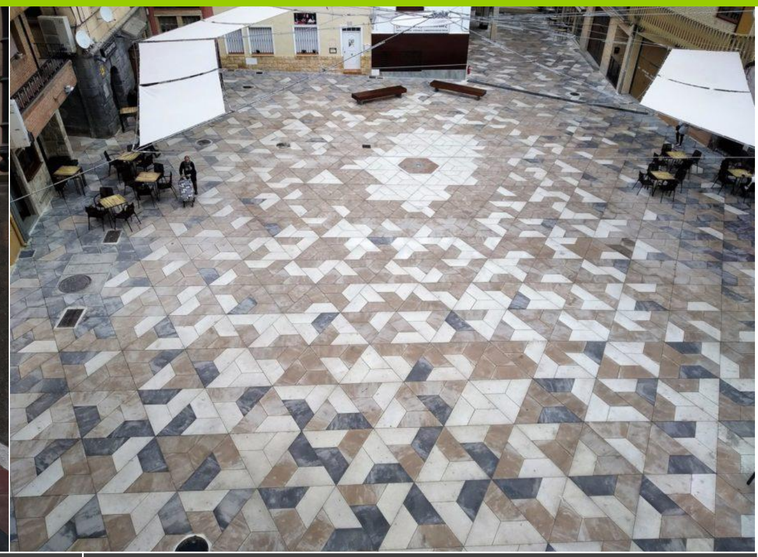
Gobierno de Navarra / Nafarroako Gobernua

pvt

Construction sector

CIRCULAR SUPPLY CHAIN

Biosphere



Background and Business model

PVT has become a leading company in the development of solutions, such as ecoGranic® draining pavements and slabs with decontaminating photocatalytic effects. For over 10 years PVT has been pioneer in the development of sustainable products through the collaboration with different public institutions, universities, as well as private partners from the region. Our products incorporate recycled materials (up to 15%) from our fabrication process by-products. PVT collaborates with transport/multimodal hubs, public transport, Smart cities programs, etc.

Positive environmental impact

- Using a concrete modular pavement with high draining capacity that incorporates a decontamination technology that remove pollutants from the atmosphere through a natural oxidation process (as photosynthesis)
- The company produces permeable pavements for their ability to laminate and purify urban runoff and pursue its most important purpose: the closure of the natural water cycle.
- The use of the ecoDraining technology in the pavements is considered urban green infrastructures with a multifunctional character: mitigators of the urban heat island effect that causes the waterproofing of the cities, sono-reductive, anti-clip and decontaminating pavements.
- PVT´s two factories incorporate solar panels with a 100kWh electricity generation.

Positive economic & social impact

- Improvement of the life quality of the cities and their population.
- The pavements the company manufacture, and its decontaminating technology help the city councils to save money regarding anti-pollutant tools.
- Because of its benefits for health and the environment, the governments get to reduce costs in the public health system.
- The pavements has a recycled content of up to 30%, thus reducing the impacts resulting of the extraction and processing of raw materials. All the raw materials used are from Spain, reducing also the ecological footprint.
- Improvement of the citizen's life quality by designing exclusively pedestrian streets or spaces with access to disabled vehicles.
- A quick water evacuation of pavements improves road safety, reducing the loss of grip, and comfort, avoiding splashes.
- PVT is part of Dry Paving System (DPS) an urban sustainable drainage system for an efficient rainwater flow and valorisation.

Interesting topics in #EUfunding

- **HORIZON-CL5-2021-D4-02-02:** Cost-effective, sustainable multi-functional and/or prefabricated holistic renovation packages, integrating RES and including re-used and recycled materials (Built4People).
- **HORIZON-CL5-2022-D4-02-03:** Sustainable and resource-efficient solutions for an open, accessible, inclusive, resilient and low-emission cultural heritage: prevention, monitoring, management, maintenance, and renovation (Built4People).

Key SDGs

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#GreenCity #SmartCity #Sustainability #Eustrategies #Circulareconomy

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PVT Pavimentos de Tudela

pvt- ecoGranic

Gobierno de Navarra / Nafarroako Gobernua

BIOINSECTIS

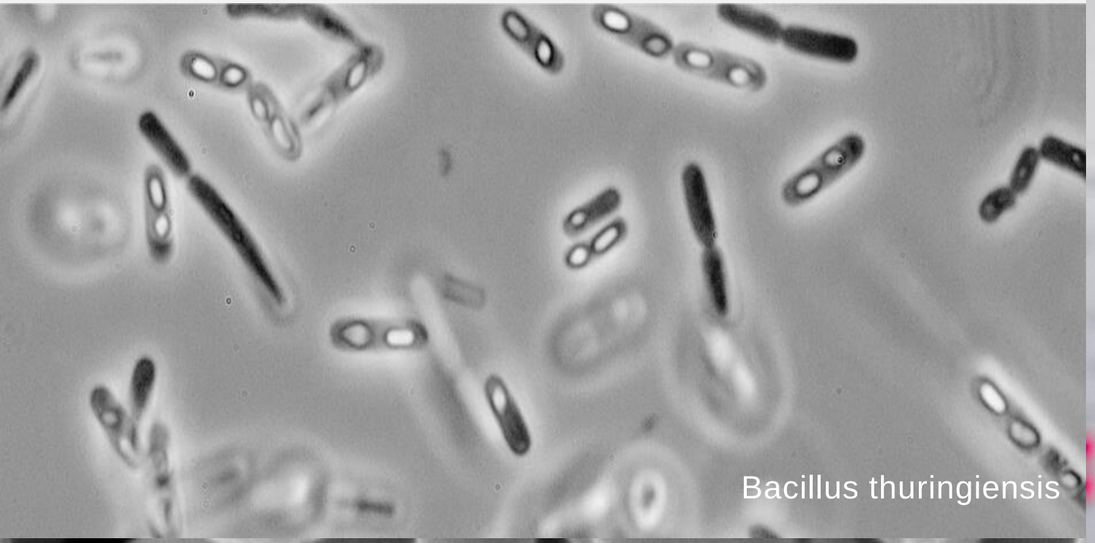
Agricultural sector

CIRCULAR SUPPLY CHAIN

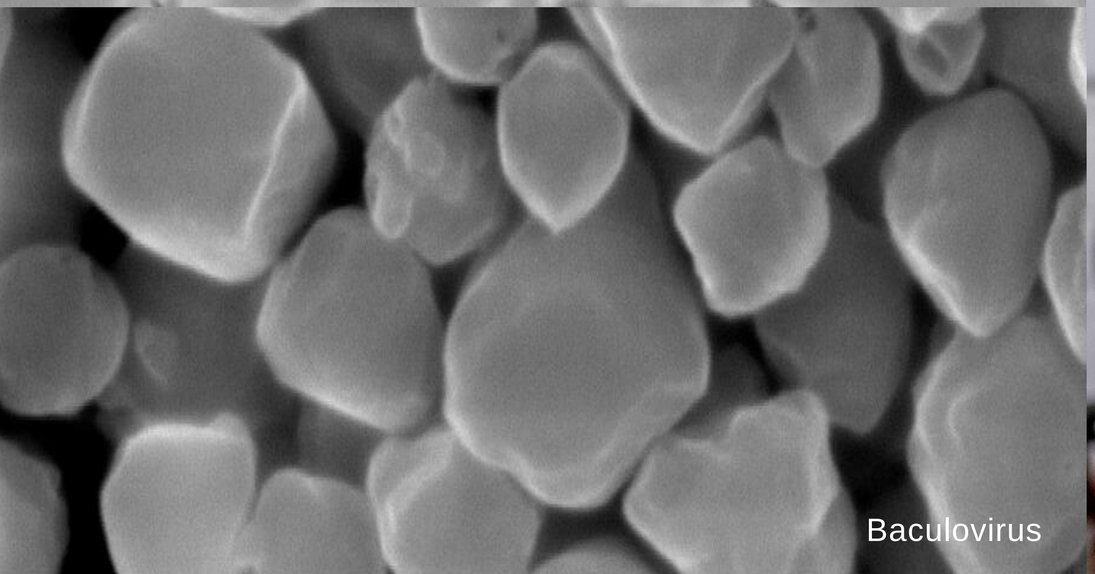
Biosphere

BIOINSECTIS

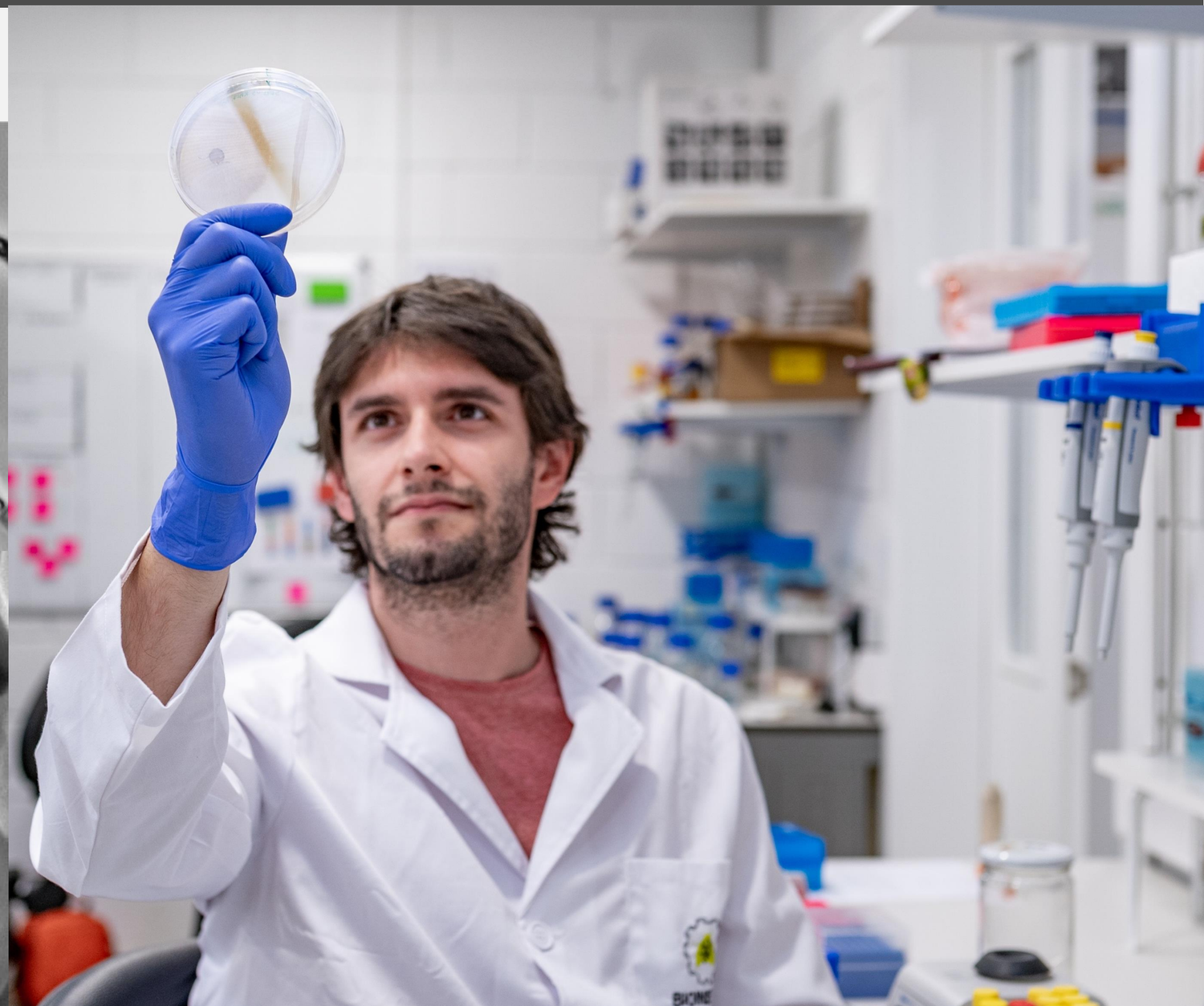
INICIATIVA neotec CDTI



Bacillus thuringiensis



Baculovirus



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BIOINSECTIS

neotec / CDTI

Agricultural Sector

CIRCULAR SUPPLY CHAIN

Biosphere

Background and business model	Positive environmental impact	Positive economic & social impact	Interesting topics in #EUfunding
• Bioinsectis is a spin-off from the Public University of Navarra that was founded in 2016. • The company designs and develops microbial solutions for the control of insect, mite and nematode pests that are patented at the active ingredient and formulation level, providing companies from the crop protection sector with unique products. • Bioinsectis follows a Licensing business model in which it transfers its patented solutions and technology to large companies of the sector.	• By developing alternatives to chemicals, Bioinsectis helps protecting our crops while minimizing the adverse effects on human health and the environment. • It is Bioinsectis' policy to prevent pollution, minimize waste and promote recycling through its activities. • Bioinsectis' solutions are highly specific, exclusively design to target pests of interest . This makes them perfect candidates to replace chemicals and help preserve biodiversity and protect human health. • All the offered solutions with the new European requirements and limitation in the use of pesticides.	• Bioinsectis replaces the current chemical and harmful pesticides by new and sustainable products that benefit not only the health of the society but also the productivity and well being of agricultural lands. • The company has gender equity and offers a good balance between personal and professional life, promoting local talent. • Founded by researchers from the Public University of Pamplona with the aim of creating job opportunities for young people. • The development of new products needs of long-term agreements between companies to address the problematic associated to different crops and territories.	• **HORIZON-CL6-2021-FARM2FORK-01-04:** Tackling outbreaks of plant pests • **HORIZON-CL6-2022-FARM2FORK-01-01:** Risk assessment of new low risk pesticides

Key SDGs

2 ZERO HUNGER · 5 GENDER EQUALITY · 8 DECENT WORK AND ECONOMIC GROWTH · 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE · 11 SUSTAINABLE CITIES AND COMMUNITIES · 12 RESPONSIBLE CONSUMPTION AND PRODUCTION

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#agroecology #biopesticides #biocontrol #ecology #green #sustainability #cropprotection #biosolutions

@bioinsectis
BIOINSECTIS SL
@bioinsectis

04.

Navarrese organisations in the circular economy

ORGANISATIONS IN THE TECHNICAL CYCLE

ORGANISATIONS IN THE BIOLOGICAL CYCLE

ENABLING ORGANISATIONS

- KUNAK TECHNOLOGIES
- CO2 REVOLUTION
- TRACASA
- CONFIGEE!
- GREEN KILLER WEEDS
- FUNDACIÓN LABORAL DE LA CONSTRUCCIÓN NAVARRA
- VALSAY SISTEMAS DE EMBALAJE
- BIELAS EXTENSIBLES

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KUNAK TECHNOLOGIES

Environmental
Control & Monitoring

ENABLERS AND FAVOURABLE SYSTEM CONDITIONS

kunak®
SENSING ANYWHERE

Gobierno de Navarra / Nafarroako Gobernua

kunak SENSING ANYWHERE

Environmental Control & Monitoring

ENABLERS AND FAVOURABLE SYSTEM CONDITIONS

Kunak AIR: Circular & Sustainable by Design

Background and business model	Positive environmental impact	Positive economic & social impact	Interesting topics in #EUfunding
Kunak helps businesses and organizations to monitor and control critical environmental data from water, air quality and the operation of infrastructures with IoT monitoring and control systems, instrumentation, sensor networks and operational intelligence. Kunak designs and manufactures the wireless monitoring and control system that guarantee the proper transmission and exploitation of information and allows their integration into other systems (sensing, transmission, storage and visualization) in Smart Cities, Water&Utilities, Industry 4.0 and Smart Products sectors.	• Deployment of innovative means for preventing, predicting, monitoring and fighting emissions (industrial, traffic, agriculture, wildfires, infrastructures) • Air quality (indoor, outdoor, including decontamination from microbiological pathogens) and noise trade-off in green ports • Enhancing observations for air quality in urban areas monitoring networks and other relevant observing infrastructures in measuring air pollutants such as particles and their precursors. • Susainable adoption of IoT and sensor technologies by means of reducing the impact in (i) use of biomimicry in the design of cooling (ii) reduction of waste from sensors (iii) use of solar energy	• Provide with healthy and sustainable Urban Ecosystems based on the deployment of innovative technologies. • Support in the operation of Ultra Low Emission Zones (ULEZ) by means of monitoring the effect of measures implemented and integration of Air Quality data into Intelligen Transport Systems (ITS) • Deliver a Master Plan for the future Green Port with solutions with the highest potential for emission reduction at ports, focusing on CO2 and noxious pollutant emissions (SOx, NOx and particulates), as well as water pollution and noise • Build a common culture on risk prevention and preparedness across Europe to encourage self-protection, safety and environmental protection • Building commitment at local, national and European level and promote long-term sustainability	• **HORIZON-CL5-2022-D5-01-07:** Prevent smog episodes in Europe: Air quality impact of engine-emitted volatile, semi volatile and secondary particles **Key SDGs** 3 GOOD HEALTH AND WELL-BEING · 6 CLEAN WATER AND SANITATION · 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE · 11 SUSTAINABLE CITIES AND COMMUNITIES · 13 CLIMATE ACTION · 15 LIFE ON LAND · 17 PARTNERSHIPS FOR THE GOALS

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#AIRQUALITY #GreenTech #Greencities #SmartCities #Io #AirMonitoring

KUNAK - Sensing anywhere
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CO2 REVOLUTION

Multisectoral

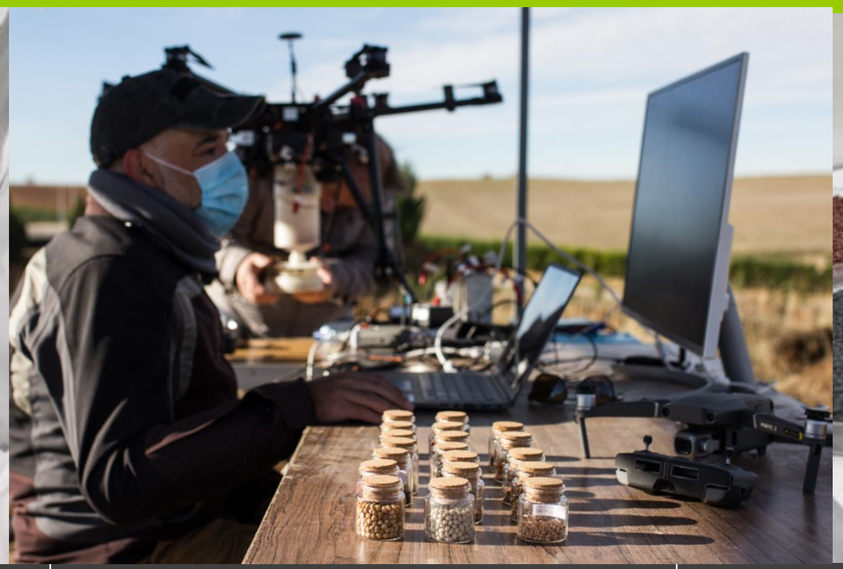
ENABLERS AND FAVOURABLE SYSTEM CONDITIONS

Gobierno de Navarra Nafarroako Gobernua

CO2 REVOLUTION

Multisectorial

ENABLERS AND FAVOURABLE SYSTEM CONDITIONS

Background and business model

CO_2 Revolution is a company created from the idea of reforesting in a massive and sustainable way through a low-cost and Artificial Intelligent (AI) based system. The selected territories are reforested in two ways: (1) by using drones and pre-germinated and genetically modified seeds (iSeed); or (2) by traditional means.The purpose of our reforestation is to prevent the climate change and create a better world.After reforesting, CO_2 Revolution sells its carbon rights to enterprises that want to reduce their carbon footprint, becoming an enabler of emission compensation. Moreover, CO_2 Revolution calculates its clients' carbon footprint. CO_2 Revolution is among the 100 best startups in the world selected by South Summit and it was awarded in the third edition with the prize to the Revelation Company by Vocento.

Positive environmental impact

- Creating complete ecosystems promoting biodiversity.
- Biodiversity: (1) creates ecosystems that increasingly approximate those found in nature; (2) stabilizes ecological systems; (3) avoids irreversible collapse in the event of drought or fire; (4) restores ecosystems after a natural fire; (5) protects and fixes the soil against erosion; (6) regulates the water cycle; and (7) reduces extreme temperature changes.
- The growth of forest stands is responsible for the highest percentage of atmospheric CO_2 absorption.
- CO_2 absorption prevents global warming and the greenhouse effect, creating a healthier world for future generations.
- CO_2 Revolution creates complete ecosystems, including trees, grasses, shrubs, bushes and flowers.

Positive economic & social impact

- CO_2 emissions pollute the air, harming people's health, comfort and mental performance.
- Forests are sources of biodiversity as they are home to about 80% of the world's terrestrial biodiversity, cover one third of the earth's land surface and play a fundamental role in the life of the planet. Forests and other wooded areas are composed of more than 60,000 tree species. In addition, more than one billion people depend directly on forests for food, shelter, energy and income.
- Moreover, CO_2 Revolution hires people at risk of social exclusion in collaboration with Red Cross and other non-profit organizations.
- About 20% of the world's carbon emissions are produced by changes in land use, most of which are due to deforestation.

Interesting topics in #EUfunding

- **LIFE-2021-SAP-NAT-NATURE:** Nature and Biodiversity
- **HORIZON-CL6-2022-BIODIV-01-07:** Protection and sustainable management of forest genetic resources of high interest for biodiversity, climate change adaptation, and forest reproductive materials
- **HORIZON-CL6-2022-CIRCBIO-**02-06-two-stage: Harnessing the digital revolution in the forest-based sector

Key SDGs

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#environment #reforestation #carbonfootprint #climatechange #iseed

CO2 Revolution
CO2Revolution
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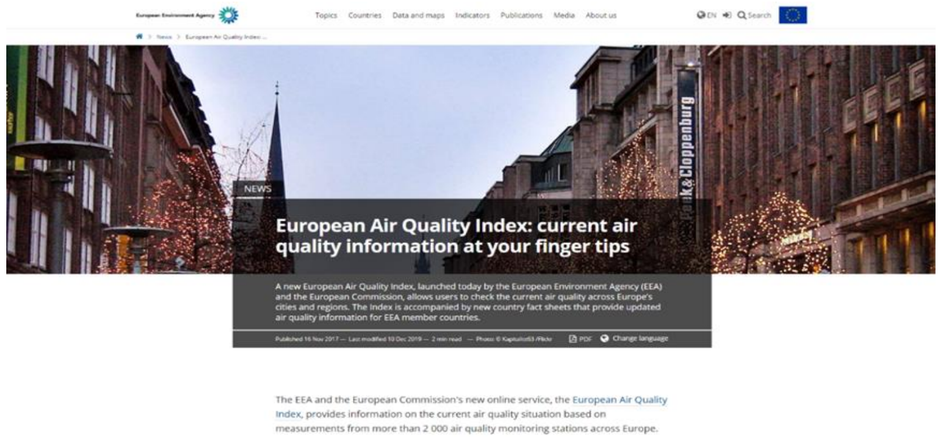
TRACASA

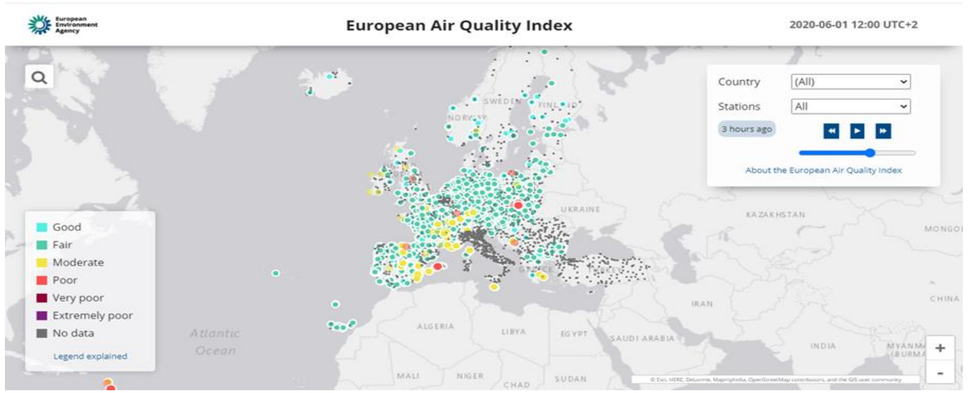
Gobierno de Navarra / Nafarroako Gobernua

tracasa

Advanced Digital Solutions

ENABLERS AND FAVOURABLE SYSTEM CONDITIONS





Background and business model

Tracasa works in a 4 years contract with the European Environment Agency (EEA) and DG Environment, in order to collect, design and disseminate environmental data from 38 European states. The company provides services in cartography, data management and territorial information systems, and offers solutions for the modernization of the public administrations and private companies. One of the products Tracasa works on is the European Air Quality Index, that enhances the system that manages the 'up to date' (UTD) data in the context of Air Quality forecasts that CAMS (Copernicus Atmosphere Monitoring Service) provides. .

Positive environmental impact

- Increase general public awareness on environmental matters
- Taking decisions easily regarding air pollution effects on European population wellbeing. According to EEA reports, air pollution (PM2.5) caused the premature death of an estimated 400.000 Europeans in 2014.
- The company has the ISO14001 certification that guarantees that the environmental aspects that affects the company are addressed, evaluated and improved in a permanent way.
- TRACASA has been working since 1998 in soil studies which allows to identify the soil's production capacity and the risk of losing it.

Positive economic & social impact

- Generation of local employment and help entrepreneurs to improve the future of their territories.
- Development of environmental solutions can help to save, in the long term, big amounts of money in aspects like Health (air pollution effects on European population), Petrol (cars consumptions)…
- designs, evolves, develops and maintains advanced solutions and corporative information systems for the public administration.
- Improvement of the local air quality.
- Improving, in the long term, the health condition of the population.
- Rethinking city design by increasing the number of green areas, intensifying the use of public transport and the use of bicycles.
- Boosting local employment.

Interesting topics in #EUfunding

- **HORIZON-CL5-2022-D1-02-02:** Development of high-resolution Earth system models for global and regional climate change projections
- **HORIZON-CL5-2022-D1-02-04:** Supporting the formulation of adaptation strategies through improved climate predictions in Europe and beyond
- **HORIZON-CL4-2022-SPACE-01-42:** Copernicus Anthropogenic CO_2 Emissions Monitoring & Verification Support (MVS) capacity

Key SDGs

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#TRACASA #EEA #ECMWF #Airqualityindex #ManagingTransition

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CONFIGEE

Configee!

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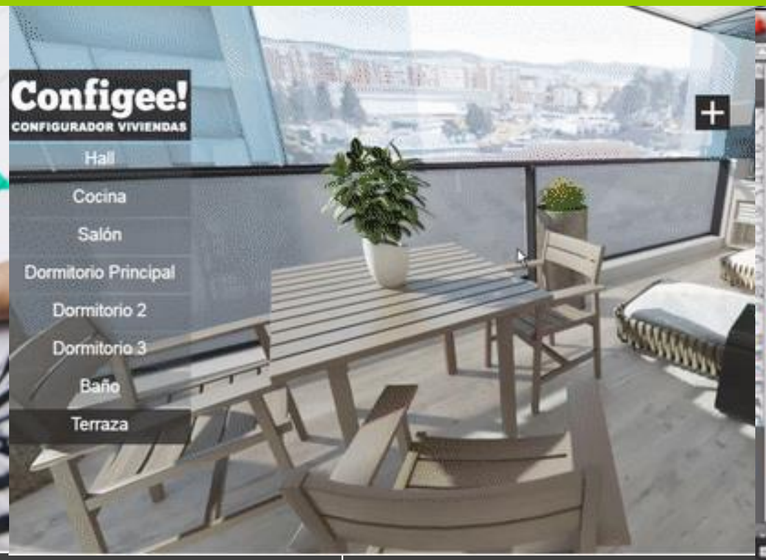
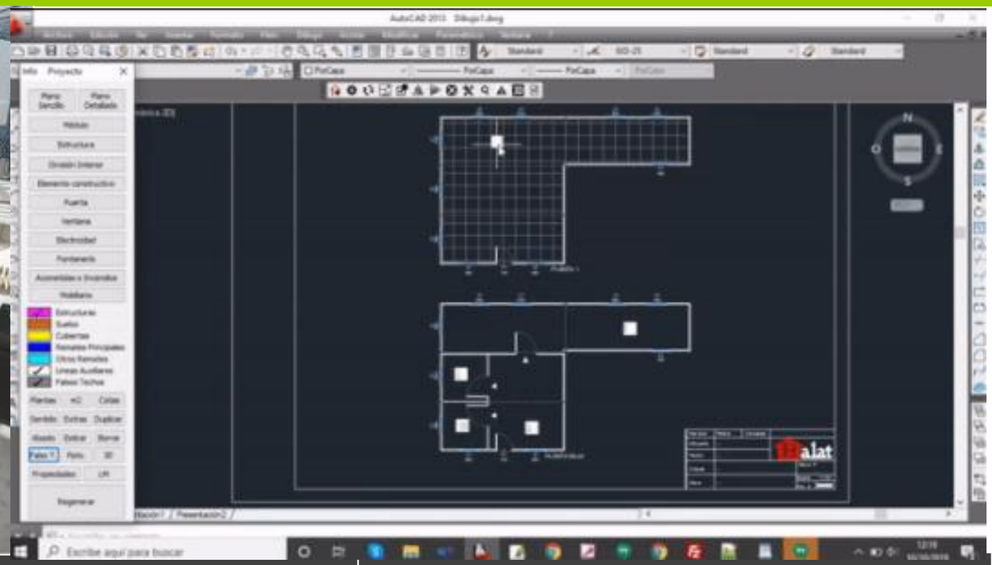
Configee!

Manufacturing sector

ENABLERS AND FAVOURABLE SYSTEM CONDITIONS





Background and Business model

Configee is a product configuration software. It automates the design, manufacturing and expenditure of products, digitalizing the use of materials in the entire value chain with software configuration tools. It eases obtaining the product the client wishes while avoiding the waste of resources and materials thanks to the technology developed. The company personalizes the platform for each client so they can create their products foreseeing the exact number of materials and energy they need for manufacturing them and helping the companies to reduce waste. Working on cloud computing it enables the 3D preview of the final product, and the link to ERPs (Enterprise Resource Planning).

Positive environmental impact

- Reduction of raw materials' waste generation thanks to its technology to design the product and predict the exact amount of material needed to manufacture it.
- Better use of resources thanks to its 3D technology that allow to design and manufacture the product avoiding the creation of extra waste.
- Energy efficient manufacturing process achieved thanks to the preview of design and manufacturing.
- A product configurator is a perfect multi-option simulator. The greater number of variables in an analysis allows making more successful decisions without assuming risks and with very low costs (e.g. LCA analysis comparison).

Positive economic & social impact

- Reduction of materials' cost thanks to the software tools the company uses to design the product and foresee all the materials need it for its manufacturing.
- Reduction of labor costs.
- Reduction of costs causes by manufacturing mistakes. With the technology used to design the products the clients can specify the exact number of materials they need to produce their products. Thanks to this, the mistakes, made along the whole value chain, are easily reduced.
- Use of new technologies, new skilled youth employment.
- Industry 4.0. and digitalization, linked to VETs professionalization.
- Enables be closer to the final customer needs, enabling manufactures products customization.

Interesting topics in #EUfunding

- **LIFE-2021-SAP-ENV-ENVIRONMENT:** Circular Economy, resources from Waste, Air, Water, Soil, Noise, Chemicals, Bauhaus
- **HORIZON-CL5-2022-D4-02-01:** Designs, materials and solutions to improve resilience, preparedness & responsiveness of the built environment for climate adaptation (Built4People)
- **HORIZON-CL4-2021-RESILIENCE-01-11:** Safe- and sustainable-by-design polymeric materials (RIA)

Key SDGs

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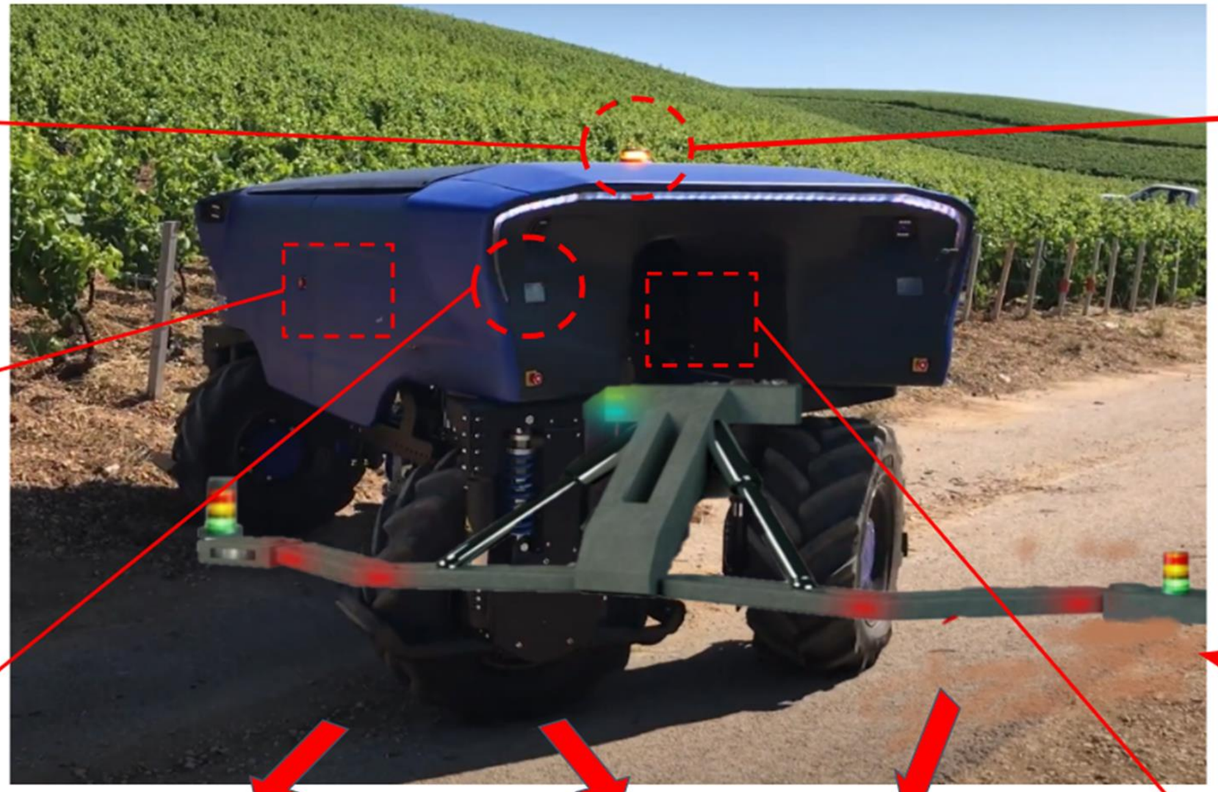
#OptimisedDesign #IND4.0 #AvoidingWaste #MaterialResources #3Dmodelling #SmartManufacturing

Configee!
@Configee
Configee

GREEN KILLER WEEDS, S.L.

GREEN KILLER WEEDS



BIG DATA ANALYTICS DECISIONS

IoT

TARGETED ELIMINATION

(Real Time)

Gobierno de Navarra Nafarroako Gobernua

GREEN KILLER WEEDS

Agricultural sector

ENABLERS AND FAVOURABLE SYSTEM CONDITIONS

Background and Business model

The Green Killer Weeds´s machine scans and obtains an unprecedented data layer containing from terrestrial climatological, soil morphological and harvest data, geolocalization, presence detection, identification and selective elimination of weeds and pests in the crops. It avoids the use of herbicides and pesticides, and no chemicals or oil-based products are used, eluding toxic footprints. Farmers benefit in several ways: reducing cost in herbicides and pesticides, water or fossil fuels, improving crop yields and helping in restoring environmental and people's health.

Positive environmental impact

- Avoiding the use of toxics and the generation of dangerous chemical residues for human health through in the food chain.
- The use of this technology is adequate for the food organic certification.
- Avoiding the pollution of water, soil, air and enabling the recovery of threaten species such as bees or other natural pollinators.
- No chemical substances or toxics are used.
- Only in Spain, the use of this technology could avoid the dispersion of 75 trillion tons of toxics and the littering of 1,700 tons of plastics (1 kg plastics/ha).

Positive economic & social impact

- The savings achieved by farmers are €52,000 in 10 years for an exploitation area of 80 Hectares.
- Savings related to the cost of recovery of environmental conditions, biodiversity protection and negative impact on health of pesticides and herbicides use.
- 70% of today´s fruit and vegetable products contains residues or traces of dangerous chemicals (potentially cancerogenic) or herbicides and pesticides. Using Green Killer Weed technology this ratios drop to zero.
- Green Killer Weeds offers healthier eco-systems and healthier food and feed production systems.
- Healthy agricultural procedures as a direct benefit on farmers health.

Interesting topics in #Eufunding

- **HORIZON-CL6-2021-CLIMATE-01-05:** Agroecological approaches for climate change mitigation, resilient agricultural production and enhanced biodiversity
- **HORIZON-CL6-2021-FARM2FORK-01-03:** Digitalisation as an enabler of agroecological farming systems
- **HORIZON-CL6-2022-FARM2FORK-02-01-two-stage:** Agroecological approaches for sustainable weed management

Key SDGs

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#SmartFarm #PrecisionAgriculture #SmartAgro #Farm2Fork #StopHerbicides #StopPesticides

@greenkillerweeds

Green Killer Weeds

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FUNDACIÓN LABORAL DE LA CONSTRUCCIÓN NAVARRA

Construction Sector

ENABLERS AND FAVOURABLE SYSTEM CONDITIONS

FUNDACIÓN LABORAL DE LA CONSTRUCCIÓN Navarra

Gobierno de Navarra Nafarroako Gobernua

FUNDACIÓN LABORAL DE LA CONSTRUCCIÓN Navarra

Construction sector

ENABLERS AND FAVOURABLE SYSTEM CONDITIONS

Background and Business model

Fundación Laboral de la Construcción Navarra provides companies and employees alike the resources to be more professional, secure, qualified and with a more successful future ahead. The sector is increasingly more united and connected and works closer with society and the rest of sectors than ever before, to face the challenges of new times. The company guarantees services to workers and companies within the National Collective Agreement of the Construction Industry: vocational education and training, occupational health and safety and employment. The main goal of the company is to boost an innovative and sustainable construction industry, leading its transformation in the fields of employment, professional qualification, health and safety.

Positive environmental impact

- Developing a circular economy strategy to improve the use of construction and demolition waste CDW in construction.
- Increasing the efficiency by offering a quick decision-making tool regarding circular economy and circular value chain in construction.
- Valorization of CDW under sustainable criteria, taking into consideration their life-cycle, and the responsible design of “zero-waste buildings”.
- Construction companies have ISO14001 certification that guarantees environmental aspects are addressed, evaluated and improved on a regular basis.

Positive economic & social impact

- Training and capacity building to develop environmental solutions that can generate local employment and help entrepreneurs to improve the future of their territories.
- Working in more than twenty projects all over Europe in order to improve the capacity building in the construction industry, creating a more efficient and productive sector.
- Improvement the efficiency in the sector and the implementation of sustainable materials.
- Bio-based solutions for construction, and the revalorization and reuse of materials.
- Reduction of contamination and pollution related to local management of CDWs.
- Healthier and more sustainable buildings and living areas.
- Dissemination and training the construction industry members in new building processes, new materials, new sustainable solutions and new technologies.

Interesting topics in #EUfunding

- **LIFE-2021-SAP-ENV-ENVIRONMENT** Circular Economy, resources from Waste, Air, Water, Soil, Noise, Chemicals, Bauhaus.
- **HORIZON-CL6-2022-CIRCBIO-02-01-two-stage:** Integrated solutions for circularity in buildings and the construction sector.
- **HORIZON-CL5-2022-D4-02-05**: More sustainable buildings with reduced embodied energy / carbon, high life-cycle performance and reduced life-cycle costs (Built4People).

Key SDGs

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#FLCNAVARRA #ManagingTransition #RCDs #Energyefficiency #CircularConstruction

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VALSAY SISTEMAS DE EMBALAJE

Packaging Sector

ENABLERS AND FAVOURABLE SYSTEM CONDITIONS

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Valsay SISTEMAS DE EMBALAJE

Packaging sector

ENABLERS AND FAVOURABLE SYSTEM CONDITIONS

MATERIALES CON PLÁSTICO RECICLADO

Bolsas

Plástico de burbujas

Perfiles de espuma

Lámina

Film

Background and business model

Valsay offers innovative and environmentally friendly solutions for the packaging sector. The company adds long-term value not only for its customers but also for employees and society. Valsay offers customized solutions for optimizing the packaging needs of different sectors, implementing eco-design methodologies, looking for an effective and efficient use of material. Valsay has a large number of compostable products (under certification) and is implementing reverse logistics services for reusable and returnable packaging, avoiding single use materials as much as possible. Valsay also offers packaging technologies as a service and second hands equipment recovered from clients.

Positive environmental impact

- Environmental-friendly portfolio of products, that are certified under biodegradable and compostable standards.
- Line of returnable reusable plastics is offered to industrial clients.
- Single use plastics offered are compostable under EN13432 (2002) CEN Standard.
- Materials with high percentage of recycled plastic in foam profiles, bags and bubble wrap.
- Products made of paper has the FSC seal and PECF certificate.

Positive economic & social impact

- Offering the packaging equipment as a service for industries, including maintenance and repair services. Renting, leasing and pay per use packaging equipment.
- Leading the returnable solutions proposals in the industrial packaging needs is creating a mindset change and a new demand of returnable services.
- This new approach to packaging solutions is positively engaging participants and applications in other areas and packaging needs of the companies.
- Creating involvement and commitment amongst our workers and of the clients' companies of the need of optimizing management of packaging and increase participation in returnable packaging solutions.

Interesting topics in #EUfunding

- **HORIZON-CL4-2021-RESILIENCE-01-10:** Paving the way to an increased share of recycled plastics in added value products (RIA)
- **HORIZON-CL6-2021-CIRCBIO-01-03:** Innovative solutions to over-packaging and single-use plastics, and related microplastic pollution
- **HORIZON-CL6-2021-CIRCBIO-01-04:** Increasing the circularity in textiles, plastics and/or electronics value chains

Key SDGs

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#ReusablePackaging #RethinkingPackaging #CompostablePackaging #PlasticsStrategy #PackagingChallenge

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Valsay Sistemas de Embalaje

Valsay Sistemas de Embalaje

BIELAS EXTENSIBLES

BIELAS EXTENSIBLES
Feel the Power

SEAL OF EXCELLENCE

European Commission

Gobierno de Navarra / Nafarroako Gobernua

BIELAS EXTENSIBLES
Feel the Power

Sustainable mobility

ENABLERS AND FAVOURABLE SYSTEM CONDITIONS

Background and business model

BIKE INNOVATIONS S.L. has developed RAYLAP innovative springy cranks for bikes to foster sustainable urban mobility. RAYLAP patented “extendable cranks” increase the human force produced by 30-35% compared to traditional cranks. This improvement could encourage all kinds of people to cycle with the corresponding healthy, mobility and environmental benefits, also addressed to people with disabilities or reduced mobility promoting a sustainable transport model. RAYLAP can be implemented in any type of bike, so it is also useful for any company that uses bikes in urban transport or logistic services.

Positive environmental impact

- Bike innovations aims to promote cycling in cities, facilitating the use of bikes by decreasing the effort of the pedaling. The Commission's Green Paper "Towards a new culture for urban mobility" helped to raise political awareness regarding urban mobility and initiated a dialogue at European level. The paper also suggested that cycling should become an integral part of urban mobility policies.
- EU funds also support the development of new approaches to safe cycling in cities through CIVITAS, an EU initiative that helps cities to achieve a more sustainable, clean and energy-efficient urban transport system. More recently, the Horizon 2020 program is also supporting this strategy through the Smart, Green and Integrated Transport EU Challenge.

Positive economic & social impact

- The massive manufacturing of this new extension cranks could:
  - boost the activity of existing manufacturers
  - enable the creation of new manufacturers
- Reduce traffic problems.
- Reduce the costs of pollutions for cities.
- Improve the health of its citizens, with the corresponding savings in public budgets.
- People with disabilities or reduced mobility, elderly will find easier to cycle reducing sedentary habits.
- Applicable to bikes for disabled people.

Interesting topics in #EUfunding

- **HORIZON-CL5-2022-D2-01-11:** CIVITAS 2030 – Coordination and support for EU funded urban mobility innovation.
- **HORIZON-CL5-2022-D6-02-04:** Accelerating the deployment of new and shared mobility services for the next decade.

Key SDGs

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#URBANMOBILITY #CITYCYCLING #CYCLING #CLIMATECHANGE #EUGREENDEAL

This catalogue has been developed by AIN (Navarrese Industrial Association) for the Government of Navarre.
Know more about our Circular Economy projects and services in www.ain.es

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Gobierno de Navarra
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