

The
Circular
lab

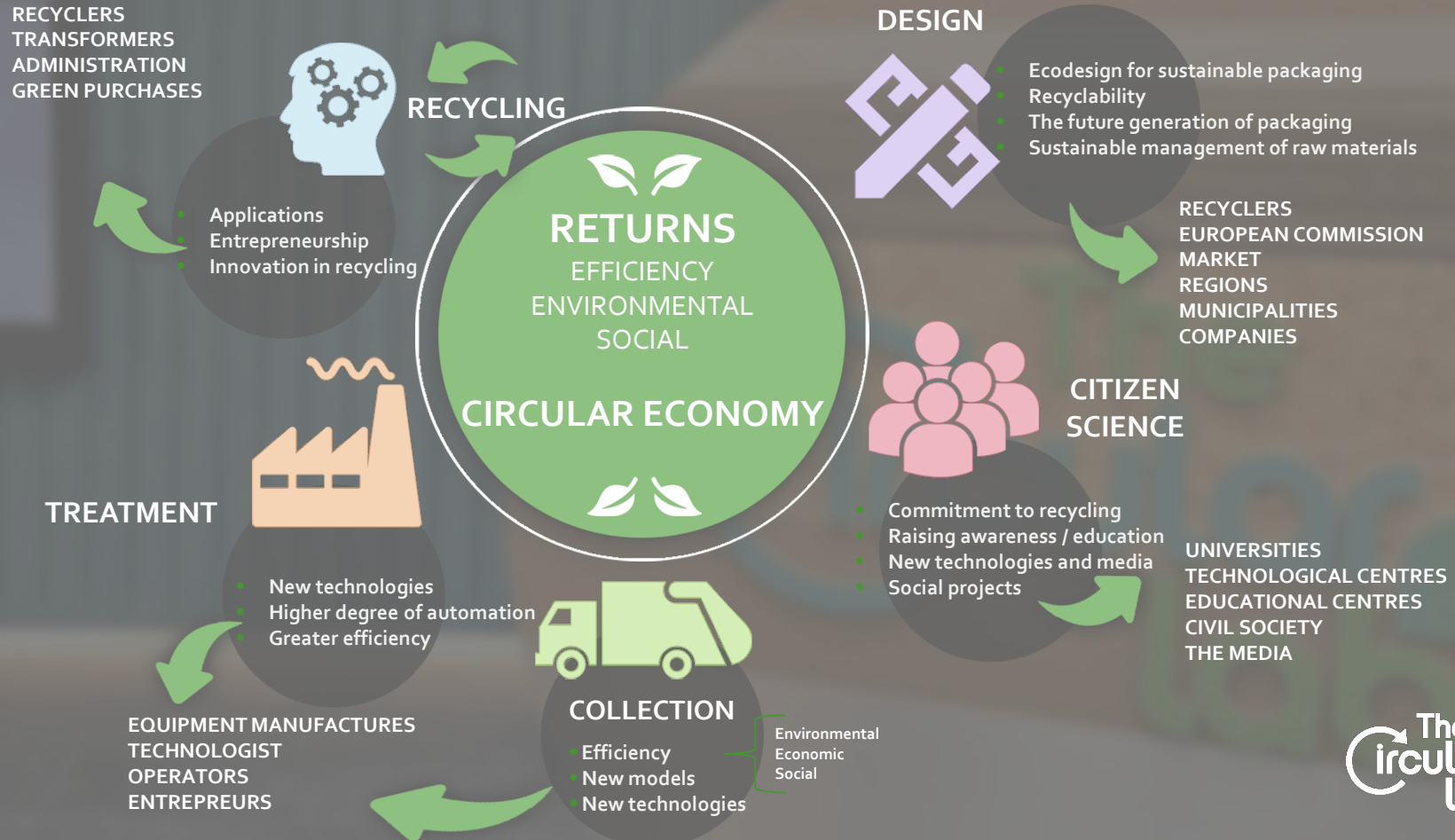


ecoembes



A leading international **real-scale** laboratory for research and validation of solutions related to packaging in a **circular economy** context

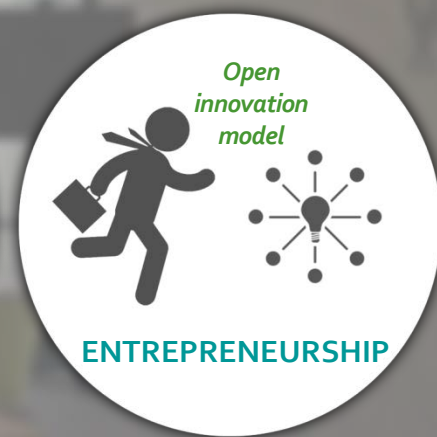
Packaging THECIRCULARLAB : A REAL INNOVATION FRAMEWORK



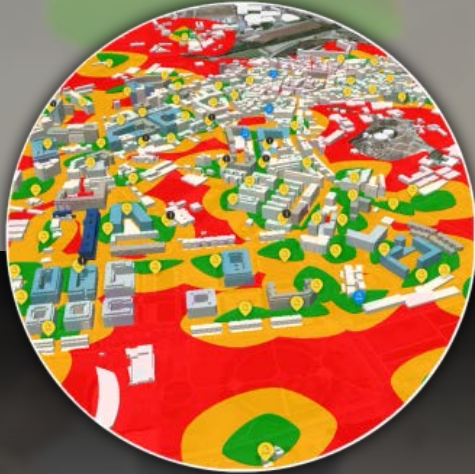


- Population **314,000**
- Household packaging recycling rate **84%**
- **30.2%** of gross domestic product comes from industrial sector
- Packaging put on the market **40 Kg/inh and year**
- **95%** of citizens take part on selective collection
- Best in class in:
 - ✓ **SELECTIVE COLLECTION SYSTEMS**
 - ✓ **TREATMENT FACILITIES**
- Universities, Research, Innovation and Entrepreneurship Centres
- Region with an innovation rate above the national average

LINE OF PROJECTS



SMARTWASTE



INFORMATION AND MANAGEMENT TECHNOLOGICAL PLATFORM

First technology platform to improve municipal waste services. Already developed heat positioning maps of containers for the improvement of the efficiency contribution of citizen and selective collection



CONTENEDOR GO

Containers geolocation through artificial vision, reduces the time and geo-positioning cost



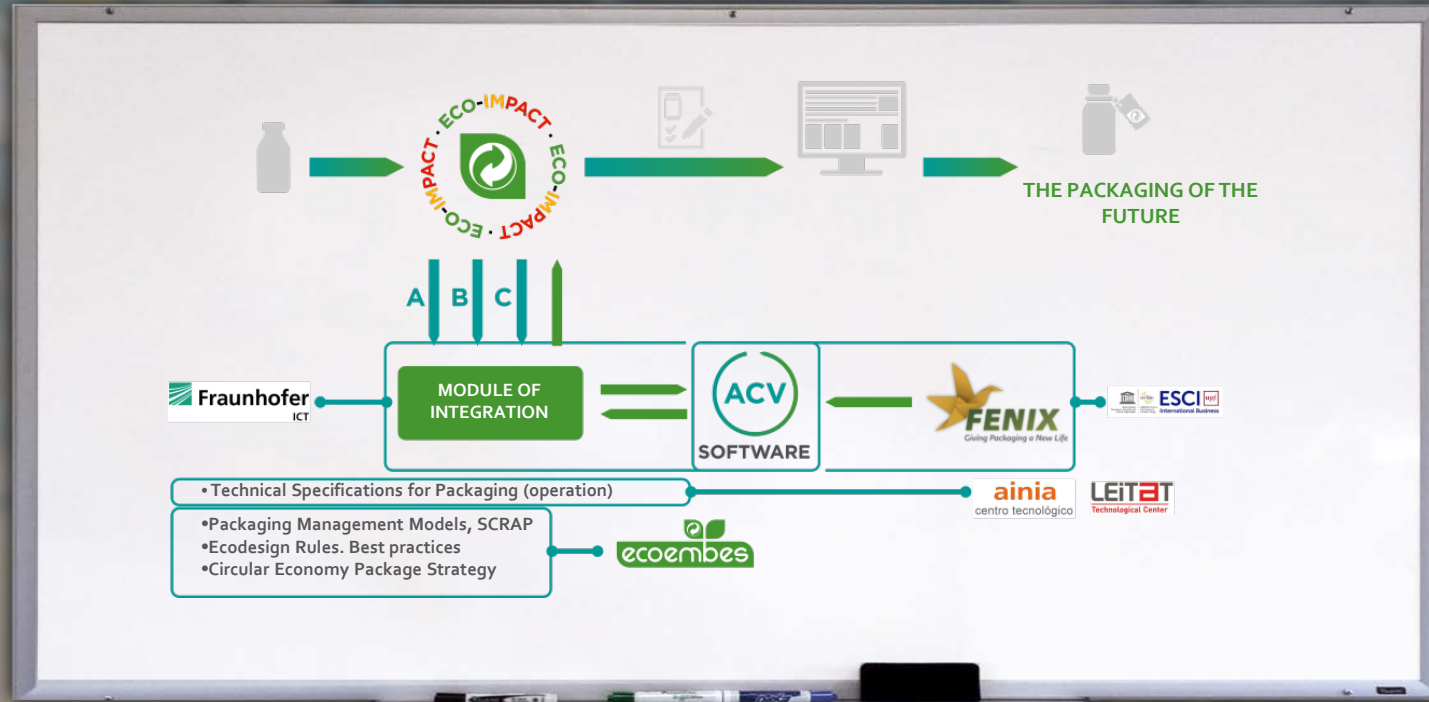
4.0 SORTING PLANT

The industry connected to the sorting plants for continuous improvement of the production, the technical and economic efficiency and traceability of materials

ECODESIGN

ECO IMPACT: STANDARDIZATION OF THE SUSTAINABLE PACKAGING

First tool of design, analysis and quantification of the life cycle of packaging that allows to integrate all the influential parameters, with a functional approach focused on the packaging



ECODESIGN

PACKAGING OF THE FUTURE OBSERVATORY

SUSTAINABILITY



ECODESIGN PACKAGING PROJECTS

LEGISLATION

Food, waste...

WASTE

MANAGEMENT
Collection, sorting,
recycling

INNOVATION

Smart, assets,
dangerous products

NEWTRENDS



NEW MATERIALS

Bioplastics, biocomposites,
nanoadditives, recyclable, PLA, PEF ...

ECODESIGN

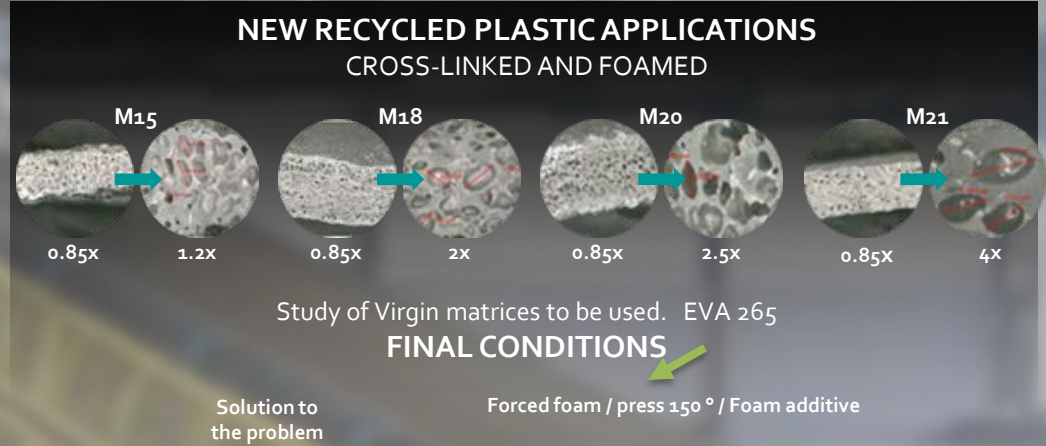
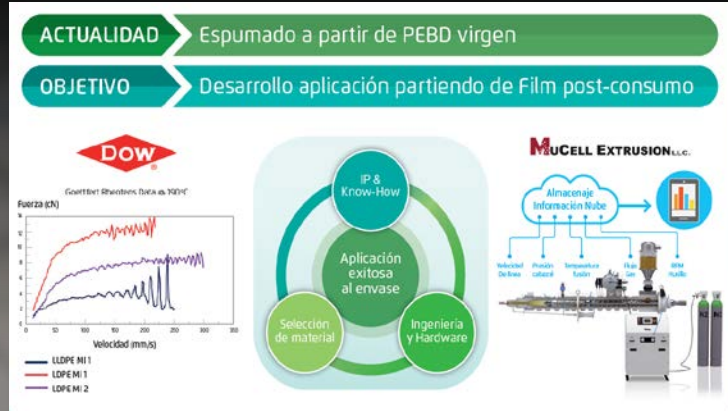
- Weight
- Barrier properties
- Opening & reclosure systems
- New formats and sizes
- Dosing systems...

NEW PRODUCTION PROCESSES

Complex packaging processes...

IMPROVING THE RECYCLABILITY AND RECOVERY OF MATERIALS

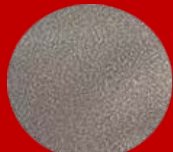
Regarding improving the recyclability some samples has been made with 2 companies, Dow and Cidaut:



Recycled LDPE foamed



Recycled



Foamed Recycled

COMPOSICIÓN	PREFORMA	ESPUMACIÓN POR COMPRESIÓN EN MOLDE
EVA / MREC 80 / 20 +0.5% NEGRO DE HUMO +2% DCP +15% AZODICARBONAMIDA (HIERBON) +10% ÓXIDO DE ZINC		
EVA / MREC 40 / 60 +0.5% NEGRO DE HUMO +2% DCP +15% AZODICARBONAMIDA (HIERBON) +10% ÓXIDO DE ZINC		
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BIODEGRADABLE PLASTICS: LINES OF PROJECTS AND RESEARCHS

Shredded
film recycled
(BLANK)



Shredded
film recycled
(BLANK)



Shredded bag of
starch based
Biopolymer (BP1)



Shredded bag of
PLA + PBAT based
Biopolymer (BP3)



Shredded bag of
starch based
Biopolymer (BP2)



Shredded bag of PLA +
PBAT based
Biopolymer (BP4)



Shredded bag of
PE with oxo
degradable additive (OXO)



Shredded bag of PE
with oxo degradable
additive (OXO)



A circular map of the Iberian Peninsula, specifically showing Spain and Portugal. The map is densely populated with hundreds of small, colorful pushpins in various colors including red, blue, green, yellow, orange, and purple. These pushpins are distributed across the landmass, with a higher concentration in the central and southern regions of Spain. The map is set against a light blue background. To the left, the word 'Portugal' is written in black. To the right, the words 'Balearic Sea' and 'Balearic Islands' are visible. At the bottom, the text 'GEOGRAPHICAL DISTRIBUTION' is written in a bold, black, sans-serif font. The entire map is enclosed within a circular frame.

- Real-time analysis: what, why and how the citizen recycles
- Segmentation by municipalities, regions, types of population
- Definition of strategies for the increase of the contribution and design of specific communication campaigns

Recycling Siri: app that recognizes voice and image
Solution for the citizen to provide the recycling and improve the information

ENTREPRENEURSHIP



ACCELERATOR FOR START UPS

Development of new ideas, businesses and work models in collaboration with Emprende Rioja



LAB TALENTUM

Development through the entrepreneurship of elements that helps the recycling at home, app, smart cubes
To respond to the needs of citizens



The Circular lab

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