A LEADING INTERNATIONAL REAL-SCALE LABORATORY FOR RESEARCH AND VALIDATION OF SOLUTIONS RELATED TO PACKAGING IN A CIRCULAR ECONOMY CONTEXT
CIRCULAR ECONOMY

- Waste = Resources
- Production
- Innovation
- Consumption
- Recycling
- Raw Materials
- Quality
- Recycling Rates
- CO2 Emissions
- Responsible Consumption
THE PACKAGING OF THE FUTURE IS A SUSTAINABLE PACKAGING IN A CIRCULAR ECONOMY CONTEXT

VISION

PACKAGING LABORATORY IN A REAL ENVIRONMENT TO INNOVATE, STUDY, DEVELOP, TEST AND IMPLEMENT THE BEST CIRCULAR ECONOMY PRACTICES

PROJECT

TO CREATE AN ENVIRONMENT OF COLLABORATION, TRUST AND INNOVATION TO IMPROVE EFFICIENCY IN TERMS OF CIRCULAR ECONOMY

OBJECTIVE

WHERE

LA RIOJA

MUNICIPALITY CONSORTIUM REGION
- 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 X 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
THE CIRCULAR LAB
A REAL INNOVATION FRAMEWORK

- Applications
- Entrepreneurship
- Innovation in Recycling

RECYCLING DESIGN
- Ecodesign for Sustainable Packaging
- Recyclability
- The Future Generation of Packaging
- Sustainable Management of Raw Materials

RETURNS
- Efficiency
- Environmental
- Social

CIRCULAR ECONOMY
- Treatment
- New Technologies
- Higher Degree of Automation
- Greater Efficiency

COLLECTION
- Efficiency
- New Models
- New Technologies

EQUIPMENT MANUFACTURES
- Technologist
- Operators
- Entrepreneurs

ECOEMBALAJES ESPAÑA, S.A.

PROPERTY OF ECOEMBALAJES ESPAÑA, S.A.
80% of recycling is made more effective by working on the denominator (packaging placed on the market).

- Efficiency in ecodesign measures
- Test the recyclability of new packaging
- Sustainability of resources
- Reuse
- Responsible citizen
- Design for recycling

The packaging of the future

ECODESIGN

The Circularlab
- Responsible Consumption
- Impact of Education Campaigns and Schemes
- Social Information Platform (Big Data)
- Citizen App
- Social Organizations Integrated into Selective Collection

Increased Participation Recycling Selective Collections
% Non-Requested Material

2020

Continuous and Direct Communication Channel

Citizen App

Help Us!

Survey

Campaign Impact

Innovations in Selective Collection

Increased Recycling Participation
INTEGRATED PLATFORM IN THE SUPPLY CHAIN

- SMART, LOCATED AND CONNECTED CONTAINERS
- CONNECTED TRUCKS (GPS, WEIGHT)
- SMART ROUTE MANAGEMENT (REAL-TIME OPTIMISATION)
- VEHICLES WITH LOWER EMISSIONS (ELECTRIC, HYBRID AND OTHERS)
- Traceability of incoming waste (weight, location)
- Automation of quality controls of the incoming waste (composition)
- Automation of outgoing flow management quality
- Route of outgoing waste to the recycler
- Expert logistical management system

100% automated 4.0 sorting plant

Recycling efficiency

The Circular Lab
- Expert integrated sorting plant management system
- Flow control at the sorting plant (weight, composition)
- Robotized bulky material
- Robotized quality control
- Artificial vision systems and artificial intelligence
- Automated maintenance management
- Automated management of outgoing flow quality

100% automated 4.0 sorting plant

Recycling efficiency
- Automatic quality control of outgoing materials
- Certification of material quality
- Recycler logistics digital management system

The Circular Lab
- Application of LCA tools to the management of packaging in the circular economy
- Environmental cost-benefit evaluation of new models, systems and technologies
LABORATORY

WORKSHOP

MEETING ROOMS

WORK POSITIONS FOR COMPANIES AND ENTREPRENEURS

DATA PROCESSING CENTER

BIG DATA
CONCLUSIONS

- R&D&I IN PACKAGING AND CIRCULAR ECONOMY
- SUSTAINABLE RESOURCE MANAGEMENT
- EVALUATION OF THE EFFICIENCY OF NEW MODELS, SYSTEMS AND TECHNOLOGIES
- ECO-EFFICIENT AND ENVIRONMENTALLY SUSTAINABLE SOCIETY
- LCA TOOLS (FROM WASTE TO PRODUCT)
- INNOVATIONS FOR BUSINESSES

A REAL INNOVATION FRAMEWORK THAT CONTRIBUTES TO THE DEVELOPMENT OF REGULATION AND SUPPORTS THE TRANSITION TOWARDS A CIRCULAR ECONOMY
LAUNCH OF LINES OF PROJECTS IN 2017:

- **ECODESIGN**
  - DECREASE IN RAW MATERIALS
  - RECYCLABILITY
  - INCORPORATION OF RECICLED MATERIAL

- **CITIZENS**
  - EDUCATION AND COMMUNICATION TOWARDS RESPONSIBLE CONSUMPTION

- **SMART WASTE**
  - INFORMATION TECHNOLOGY PLATFORM AND REAL TIME ANALYSIS OF THE WASTE MANAGEMENT

- **CASE STUDY OF CIRCULAR ECONOMY**
TEST AT REAL SCALE ANY INNOVATION
THAT ARISE AS RESULT OF YOUR ACTIVITY.
OUR GREAT EXPERIMENTATION CENTRE
WAITS FOR YOUR PROPOSALS !!!

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