

A Spanish R&D technological center specialised in plastics is searching a partner with experience in repairing rigid plastic boxes for agriculture sector to submit a project to Horizon Europe Programme under topic HORIZON-CL6-2024-CircBio-02-2-two-stage.

Summary

Profile type	Company's country	POD reference
Research & Development Request	Spain	RDRES20240201023
Profile status	Type of partnership	Targeted countries
PUBLISHED	Research and development cooperation agreement	• World
Contact Person	Term of validity	Last update
Sabrina WODRICH	1 Feb 2024 31 Jan 2025	2 Feb 2024

General Information

Short summary

This Spanish technological center specialised in plastics and footwear. Its services are focused on plastics laboratory, pilot plant, technical advice, sustainability assessment and digital transformation. The aim of the project is to create a new circular recycling strategy for post-industrial bag-in-box. The project will be submitted to topic HORIZON-CL6-2024-CircBio-02-2-two-stage. The center is searching a partner with experience in repairing rigid plastic boxes.

Full description

The Spanish R&D technological center is specialised in plastics and footwear is organised in four disciplines: footwear, advanced materials (transformation and compounding), circularity and sustainability and biotechnological research (focused on biodegradable bioplastics production). Its services are focus on plastics laboratory, plastic pilot plan, technical advice, sustainability assessment and digital transformation.

The proposal aims to create and develop at large scale a new circular solution for the plastics value chain, focused

on closing the loop by increasing upcycling and recycling rates of post-industrial multilayer bag-in-box streams from the agri-food sector (food contact). Thus, it will highly contribute to achieving the EU Plastics Strategy.

The main goal of the solution is to demonstrate the feasibility of the multilayer plastics waste circularity, to efficiently collect, sort and recycle them, converting it back into bag in box that can be reintroduced into the agro-food industry. This solution could be achieved:

- Developing an innovative sorting system which classifies the multilayer plastics waste for recycling into high-quality single-material streams.
- Separating the different materials through innovative technology based on a delamination process capable of separating all existing combinations of materials.
- Recycling mechanically of each material will be carried out in order to achieve high-quality products to produce bag-in-box again and then reintroduce them into the agri-food sector regarding a circular approach.

Since aluminium management as residue waste involves an entirely different value chain, the project will start by removing it from multilayer plastic, and then turning it into a different stream and increasing the critical raw materials circularity.

The circular solution will cover aspects such as recovery, repair, reuse, and remanufacturing focused on the rigid part of the bag-in-box.

Besides, environmental, social and economic impacts will be assessed, and learning resources for enhancing workers' skills will be developed.

The project will be submitted to Horizon Europe programme under the topic HORIZON-CL6-2024-CircBio-02-2-two-stage: Increasing the circularity in plastics value chain, on 22 of February for the first stage of evaluation and on 17 september 2024 for the second stage.

The role of the partner sought is to repair rigid plastic boxes which are in charge of containing multilayer plastic film from agri-food sector, therefore the process used to repair them must be suitable for food-contact.

Advantages and innovations

Technical specification or expertise sought

Stage of development

Under development

Sustainable Development goals

- **Goal 11: Sustainable Cities and Communities**
- **Goal 9: Industry, Innovation and Infrastructure**
- **Goal 13: Climate Action**
- **Goal 12: Responsible Consumption and Production**

IPR Status

Partner Sought

Expected role of the partner

The role of the partner sought is to repair rigid plastic boxes which are in charge of containing multilayer plastic film from agri-food sector, therefore the process used to repair them must be suitable for food-contact. The target boxes are mainly made up of HDPE (high density polyethylene) and have a size of 1m³. Once boxes are repaired, end-users will reuse these boxes in a closed-loop application (food-contact). As usual in an Innovation Action, the task developed during the project has to be beyond the state of the art, which means that if the process has some gaps (such as specific break that currently cannot be repaired) or the need for additional steps to adapt to process materials, the project should be used to cover them.

Type of partnership

Research and development cooperation agreement

Type and size of the partner

- **SME 50 - 249**

Call Details

Framework program

Horizon Europe

Call title and identifier

HORIZON-CL6-2024-CircBio-02-2-two-stage: Increasing the circularity in plastics value chain

Submission and evaluation scheme

Two stage. First stage on 22 of February . Second stage on 17 september 2024.

Anticipated project budget

Coordinator required

No

Deadline for EoI

16 Sep 2024

Deadline of the call

17 Sep 2024

Project duration in weeks

Web link to the call

Project title and acronym

LEYA: Creating a new circular recycling strategy for post-industrial bag-in-box

Dissemination

Technology keywords

- **02007014 - Plastics, Polymers**
- **02007015 - Properties of Materials, Corrosion/Degradation**

Market keywords

- **09005 - Agriculture, Forestry, Fishing, Animal Husbandry & Related Products**
- **08001018 - Polymer (plastics) materials**
- **09004006 - Packing products and systems**
- **08001001 - Plastic fabricators**



Targeted countries

- **World**

Sector groups involved

