

# Partnering Opportunity

Profile Status: Published

## Research & Development Request

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### **A Spanish technological center is searching partners to complete an advisory board for a Fast Track to Innovation - Horizon 2020 project**

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#### Summary

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*A Spanish technological center of footwear and plastic sector is searching partners to create an advisory board for a project to be submitted to Horizon 2020, Fast Track to Innovation call. The project will develop a non-chemical solution for soil disinfection based in the use of a 100% biodegradable barrier film. The partners sought may be stakeholder organisations representing agrofood sector, plastic agriculture sector, regulatory authorities, consumers associations and civil society.*

<b>Creation Date</b>	08 October 2019
<b>Last Update</b>	22 October 2019
<b>Expiration Date</b>	16 February 2020
<b>Reference</b>	RDES20191008001
<b>Public Link</b>	<a href="https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/711f707b-bfe7-4a46-94f7-e4d1a7e4e78b">https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/711f707b-bfe7-4a46-94f7-e4d1a7e4e78b</a>

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#### Details

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##### Description

The coordinator of the project is a Spanish Technological Centre of footwear and plastic sector. It carries out R&D projects, acquire legal information, regional and national funding for projects, among other activities. It is recognized as Results Transfer Office (OTRI) for the Government of Spain, belonging to the Spanish Committee of talks on Agriculture. It is involved in the Spanish Technology Platform for Sustainable Agriculture. It is a member of The Bio-Based Industries Joint Undertaking (BBI JU).

The project will develop the solution that will solve problems of current intensive/monoculture techniques. Intensive farming has important challenges to overcome: inadequate gross nutrient balance, control of soil-borne pathogens growth with an efficient, cost-competitive and

sustainable disinfection method and elimination of non-recyclable agricultural plastics.

Soil pathogens are one of the main causes of economic losses in the agricultural sector. They cause serious negative effects on the crops productivity, reducing the yield and quality of agricultural production. Pathogens must be eliminated by disinfecting the soil, destroying pathogenic agents which are likely to affect the crops in a negative way. Several disinfection techniques are available in the market, however, none of these is 100% effective and sustainable.

Chemical soil disinfection is the most popular technique because of its easy application and effectiveness. It consists in the use of chemical compounds with plastic films to avoid gases escape. These chemicals are dangerous for environment, toxic to human, and have negative effects on soil microorganisms. In this method, it is important to use a special plastic film with high barrier properties to seal and achieve a more effective disinfection. These multilayer disinfection films are very difficult to recycle or not recyclable being placed in landfills or incinerated, counteracting the efforts towards a circular economy and crude oil independency.

Other limitation in this technique is that plastic has to be removed after disinfection. As alternatives, biodegradable plastics have been developed, but these biodegrade under specific conditions which may not always be easy to find in the natural environment and can thus still cause harm ecosystems. Besides, they have high costs compared to non-renewable plastics.

This center has developed an efficient alternative in a previous project under H2020 FTIPilot: a biobased agricultural film for mulching with controlled degradation and being cost competitive which can be installed by the farmer in the same way that conventional films. The new project will use this first biobased barrier.

Although alternatives to chemical methods other non-chemical solutions have been developed, these alternatives are not sufficient. There is no intensive/monoculture agricultural mulching technique in the market that combines sustainability, competitive price and effectiveness at any season.

This project will develop a solution which will be the first agricultural technique combining disinfection and mulching in a sustainable way. This technology consists on the introduction of a plant-based material into the soil followed by the cover of the soil with a biodegradable barrier plastic film .

This project has already involved 5 partners. Partners are sought to create an Advisory Board for the project. It will be composed of stakeholder organisations representing agrofood sector, plastic agriculture sector, regulatory authorities, consumers associations and civil society. The Advisory Board will be established to consult stakeholder organisations during the preparation, revision and implementation of the proposal, exchange of thoughts and feedback and for dissemination of the proposal.

This project under development will be submitted to Fast Track to Innovation call of Horizon 2020 Programme on 22nd October 2019. The project will last 30 months.

## Advantages and Innovations

The result of the project will be the first biobased sustainable disinfection method in the market as effective as chemical disinfection method and being cost competitive. It will include the first biobased barrier film with controlled biodegradation under any environment, based on the successful previous project results. It is a ground-breaking intensive/monoculture agricultural

integrated solution since three aspects:

- 1) A new biological and sustainable disinfection method, with no use of chemical substances and 100% efficiency
- 2) A high barrier plastic film (low oxygen transmission rate) completely biodegradable to seal the soil and according to the farmer needs. When the farmer decides to biodegrade the film, a microorganisms solution will be added and the film will be degraded by microorganism in 45 days
- 3) The solution is cost competitive compared to conventional technological.

### Stage of Development

Proposal under development

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## Keywords

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### Technology

02007014	Plastics, Polymers
07001001	Agriculture Machinery / Technology
07001006	Pesticides
07001010	Micro- and Nanotechnology related to agriculture
10002011	Soil and Groundwater Pollution

### Market

08001001	Plastic fabricators
09005	Agriculture, Forestry, Fishing, Animal Husbandry & Related Products

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## Network Contact

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### Issuing Partner

ZACHODNIOPOMORSKI UNIWERSYTET TECHNOLOGICZNY W SZCZECINIE

### Contact Person

Pawel Zebrowski

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**Open for EOI :**    **Yes**

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## Client

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### Type and Size of Organisation Behind the Profile

R&D Institution

### Year Established

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### Already Engaged in Trans-National Cooperation

No.

### Client Country

Spain

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## Partner Sought

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### Type and Role of Partner Sought

The consortium has partners for the present project and is looking for new partners for the Advisory Board.

An advisory board will be created for the project composed of stakeholder organisations representing agrofood sector, plastic agriculture sector, regulatory authorities, consumers associations and civil society. The Advisory Board will be established to consult stakeholder organisations during the preparation, revision and implementation of the proposal, exchange of thoughts and feedback and for dissemination of the proposal.

### Type and Size of Partner Sought

SME 11-50, University, Inventor, R&D Institution, SME <10,>500 MNE, 251-500, SME 51-250, >500

### Type of Partnership Considered

Research cooperation agreement

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## Program - Call

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### Framework Program

H2020

### Call title and identifier

H2020-EIC-FTI-2018-2020

Ref: RDES20191008001

**Coordinator Required**

No

**Deadline for EOI**

16 Feb 2020

**Deadline of the Call**

16 Feb 2020

**Project Duration**

120 week(s)