

# FUNGUSCHAIN



Valorisation of mushroom offcuts to obtain high value products

<http://www.funguschain.eu>

## Summary

The FUNGUSCHAIN project aims to extract value from the agricultural offcuts of commercial mushroom farming. It seeks to process these offcuts into bio-based functional additives and biopolymers using a cascading approach to separate the valuable components into a spectrum of products. It also seeks to prove its industrial viability by building a new bio-refinery and modifying industrial current manufacturing lines.

The bio-molecules and building blocks isolated from the mushroom wastes will be validated for industrial production in three value chains for the European economy, notably food supplements for the elderly, plastic products and industrial film products such as bags and gloves.

### Type of Action:

Innovation Action -  
Demonstration

**Value Chain:** VC3 – agro-based

**Start date:** 01 November 2016

**End date:** 31 October 2020

**BBI JU contribution:** €  
5,700,547.00

## Objectives

- Demonstrate an integrated process of valorisation of agro-residues from mushroom industrial cultivation into bio-based functional additives and biopolymers
- Demonstrate the industrial viability by building a new biorefinery and modifying industrial current lines

## Expected impacts

- Boost innovation on agricultural waste management establishing circular economy business models.
- Definition, demonstration, validation of at least 5 new types of products (food supplements, cleaning products, commercial masterbatches, commercial plasticizers and industrial films)
- Improvement of environmental performance and cost efficiency of resulting products
- Increase the capacity of industries and SMEs to contribute to innovative research in the field of valorisation of agricultural waste.

## Project coordination

- BioDetection Systems BV (The Netherlands)
- AITIIP Technology Centre (Spain)
- Monaghan Mushrooms (Ireland)
- Biozoon GmbH (Germany)
- Condensia Quimica SA (Spain)
- European Centre for Nanostructured Polymers (Italy)
- Neem Biotech Ltd. (United Kingdom)
- University of Alicante (Spain)
- OWS (Belgium)
- Mi-Plast d.o.o. (Croatia)
- Corbion (The Netherlands)
- Tecnaro Gesellschaft zur Industriellen Anwendung Nachwachsender Rohstoffe GmbH (Germany)
- KTH Royal Institute of Technology (Sweden)
- Novamont SpA (Italy)
- Saponia d.d. (Croatia)
- Biotrend S.A. (Portugal)

**Organisation name:** BioDetection Systems BV  
(The Netherlands)