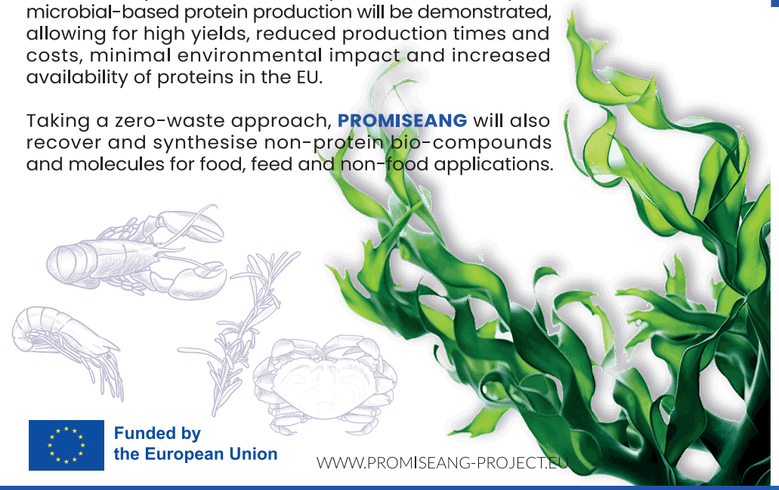
Expected outcomes

PROMISEANG aims to develop novel proteins from underexploited marine sources, including marine invertebrate and macroalgae discards and industrial biowaste and by-products, through fermentation using fungi, yeast or bacteria. This should generate new microbial protein biomass that meets market requirements for food, animal feed and non-food products such as pharmaceuticals and cosmetics.

A technically and economically viable biorefinery for microbial-based protein production will be demonstrated, allowing for high yields, reduced production times and costs, minimal environmental impact and increased availability of proteins in the EU.

Taking a zero-waste approach, **PROMISEANG** will also recover and synthesise non-protein bio-compounds and molecules for food, feed and non-food applications.



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PROMISEANG

New microbial protein biomass that meets the requirements of the food market

Universidade Vigo

INSTITUTE OF AGRICULTURAL AND FOOD BIOTECHNOLOGY STATE RESEARCH INSTITUTE

MOA FOODTECH

CENTIV GmbH

contactica innovation

food innovations gmbh biozoon

CSIC Consejo Superior de Investigaciones Científicas

RIANXEIRA

INL INTERNATIONAL IBERIAN NANOTECHNOLOGY LABORATORY

IST-ID Associação do Instituto Superior Técnico para a Investigação e Desenvolvimento

Scan site web Promiseang project

Get in touch with us for further information: jsimal@uvigo.gal

PROMISEANG

Alternative PROteins from MIcrobial fermentation of non-conventional SEA sources for Next-Generation food, feed and non-food bio-based applications

INVESTIGATION · SUSTAINABLE · VIABLE

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PROMISEANG

Objectives

PROMISEANG's goal is to formulate zero-waste procedures for producing proteins via biomass fermentation of non-conventional marine sources. It then looks to use the proteins to create nutritious, high-value, sustainable food, feed and non-food products.

To this end, the project aims to:

- Understand the requirements for use of marine food waste and by-products as a fermentation substrate
- Use biomass fermentation to produce sustainable, healthy, protein-rich microbial extracts
- Confirm the nutritional value, safety and health benefits of the new food and feed products
- Determine the sustainability of the new proteins compared to currently available alternatives
- Foster development of the circular economy by recovering bioactive compounds from fermentation side streams
- Maximise project impact through exploitation activities and dissemination of results to various audiences

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Impacts

- Identify underexploited or unexploited protein sources by determining the nutritional and metabolite profiles of over 30 types of marine biowaste and by-produc
- Extrapolate the findings to any type of food biowaste and by-product, contributing to the development of new bio-based protein fermentation processes and reducing food waste
- Identify 10 marine food by-products that are suitable biomass fermentation substrates and validate and optimise two biomass fermentation processes
- Increase the availability of high-quality proteins in the EU and reduce reliance on imports by mobilising protein streams from alternative sources and delivering five high-quality protein extracts
- Create seven non-protein ingredients using residual biomass
- Develop nutritious, healthy, safe and sustainable feed, food and non-food products by creating over 30 formulations and delivering at least four food, five feed and three non-food prototypes
- Draw up six sets of guidelines for production of proteins and other biomolecules via biomass fermentation
- Enhance the resilience, circularity and sustainability of bio-based marine protein industries

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Work Packages

