

# MINERVA

## Marine Innovation using Novel Enzymes for waste Reduction and Valorisation of Algal biomass

### About the project

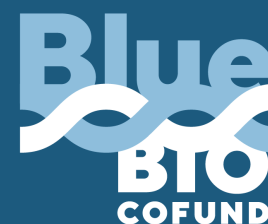
MINERVA aims to valorise underutilised seaweed biomass sustainably produced across Europe, to develop new high-value products and reduce waste in current processes. It will add value to brown algal biomass presently used at low efficiency, focused on bulk *Ascophyllum* (wild-harvest) and *Saccharina* (cultivated), in addition to other regionally important niche species of commercial potential, based on principles of waste reduction and 'food first' for new products within the blue bioeconomy.

Novel, environmentally friendly algal compounds will be developed to address identified consumer needs in food, cosmetics, biomedical and aquaculture industries. This will be achieved via 1) new extraction methods aiding purification of bioactives, and 2) omicsbased approaches on unexplored marine microbial sources to develop new enzymes for application to a wide range of marine biomass. Novel algal extracts will be provided to partners (including SMEs) with expertise in algal biology/ biochemistry, food fibres and ingredients, seaweed-based cosmetics, the development of novel antifouling agents for aquaculture and biomedical applications.

Anticipated outputs are: novel enzymes with food and health applications; novel food fibres; active algal compounds for cosmetics and aquaculture (antifouling agents); integration of algal components into hydrogels and encapsulation.

All partners are experienced in marine innovation using algal biomass, and strong collaborative links exist to ensure integration of complementary expertise, effective workflow and high potential for exploitation of outputs. Industry participation including end-user testing and dissemination activities will support near-to-market evaluation of results.

MINERVA will further develop Europe's research capacity by training early stage researchers in marine biotechnology within the consortium and create a focal point for marine bioresources research in Europe to maintain its leading position in this rapidly emerging area. Project management, dissemination and communication, will be underpinned by RRI principles.



### Project Overview

CALL 1 | 2019

#### Project Coordinator:

Dr. Dagmar Stengel, National University of Ireland, Galway Botany and Plant Science, Ireland

#### Project Partners:

- Prof. Alan Dobson, University College Cork, Ireland
- Dr. Sarah Hotchkiss, CyberColloids Ltd, Ireland
- Prof. Johan Svenson, RISE Research Institutes of Sweden Chemistry and Materials, Gothenburg, Sweden
- Mrs. Rosa Jonsdottir, Matis ohf., Research & Innovation, Reykjavik, Iceland
- Dr. Hordur Kristinsson, UNA, Reykjavik, Iceland

#### Keywords:

macroalgae, valorisation, waste reduction, novel enzymes, biorefinery

#### Priority Area:

Exploring new bioresources

#### Funding granted:

1.097.064 euros \*



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 817992.

\* The exact amount of granted funds may change after completion of national contracts.