

ABSTRACT

SeaRefinery will develop eco-friendly chemical and enzymatic processing technologies to extract and purify high value-added components such as antioxidants, antimicrobial components and hydrocolloids from cultivated seaweed species (e.g. *Saccharina latissima*) in an integrated biorefinery. Bioactive compounds, e.g. phlorotannins, fucoidan, and laminarin, will be selectively tested for bioactivity. In addition, laminarin and marine proteins will be tested in nutraceutical and selected food model systems. Alginate will be tested as additive for textile applications via coating and extrusion technologies. In order to maximise the value of the biorefinery feedstock (input) and derived products (output), we will grow monocultures on innovative textile cultivation substrates with high yield biomass production. Seasonal variation, replicated over two years, of the selected biomolecules will be a measuring tool for harvesting the seaweeds with maximum contents of bioactive compounds.



Dr Anne-Belinda Bjerre, Project Coordinator
Danish Technological Institute
Denmark

CONSORTIUM

Name	Organisation	Country
Anne-Belinda Bjerre	Danish Technological Institute	Denmark
Rósa Jónsdóttir	MARINOX EHF	Iceland
Sarah Hotchkiss	CyberColloids Ltd	Ireland
Bert Groenendaal	SIOEN Industries NV	Belgium
Guy Buyle	Centexbel	Belgium
Job Schipper	Hortimare AS	Norway
Jan Alexander Villadsen	ViVoX ApS	Denmark
Helen Oshea	Cork Institute of Technology	Ireland

Topic:

- Feed
- Materials
- Cosmetics (e.g. skincare)
- Health (e.g. food supplements)
- Pharmaceuticals

Marine biomass:

- Macroalgae

Keywords:

Seaweed, *Saccharina latissima*, cultivation, harvesting, storage, preconversion, biorefinery, bioactive, hydrocolloids, protein, nutraceuticals, functional foods, pharmaceuticals, biobased materials, extraction, enzymes, green solvents

Total costs*: € 2.607.074

Funding granted*: € 1.406.156

Duration: 3 years (2016-2018)

** Exact amount may change after completion of national contracts*

