biosea

Innovative cost-effective technology for maximizing aquatic biomass-based molecules for food, feed and cosmetic applications

needs

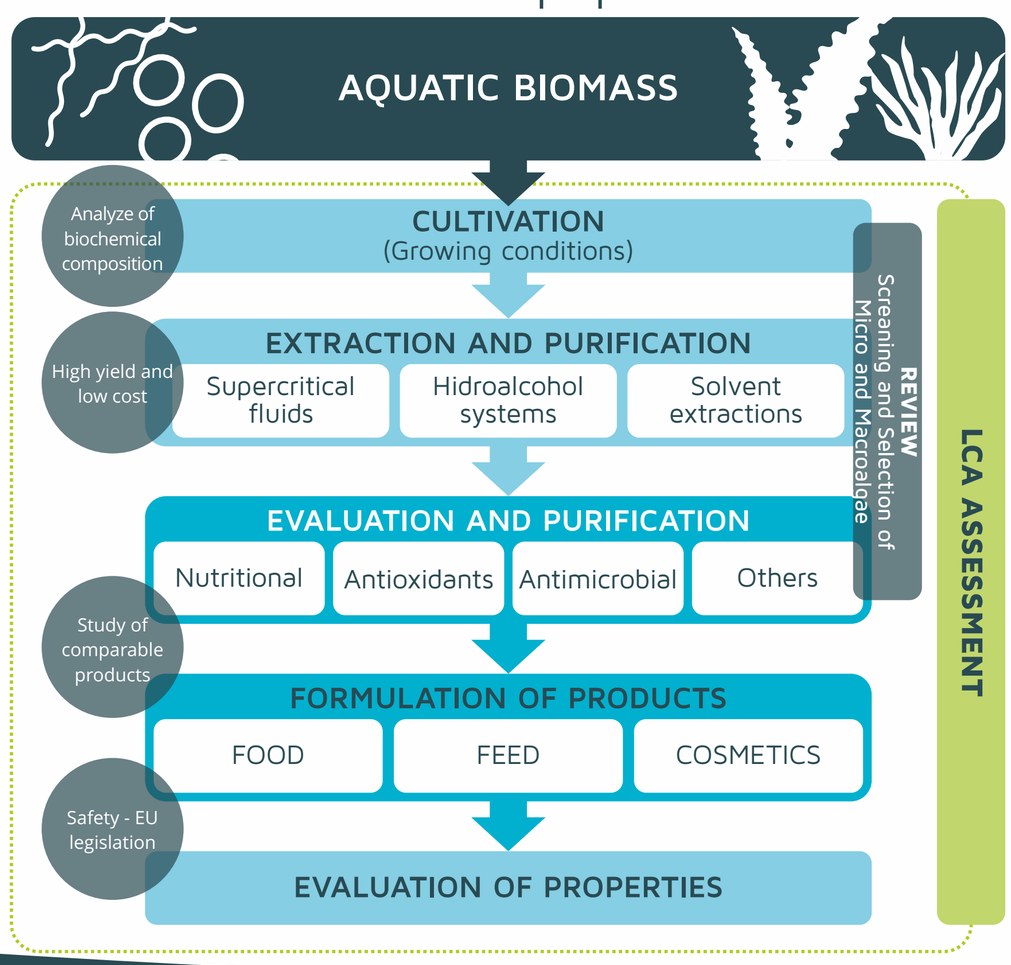
EU society needs new sustainable bio-based feedstocks to meet population growth and reduce dependence on fossil fuels. In terms of potential market demand in EU, the food, fuel and chemicals demand is mainly covered by foreign import. **Aquatic feedstock can be a solution as local resources,** however its total production and market size are still relatively small and large-scale commercial production.

objective

BIOSEA project is aimed at **validating** and **scaling-up** a complete production process of **minimum 6 ingredients** from the lipid, protein, carbohydrates and minority compounds fractions from **4 algae**, including upstream and downstream steps using cascading biorefinery approach that include pretreatment (including cell disruption), fractionation and conversion technologies.

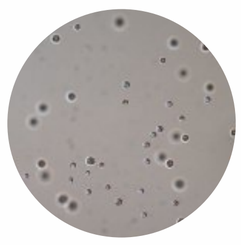
BIOSEA process will be effective and environmental friendly and the compounds will be obtained at low cost and will be used in **food, feed and cosmetic/personal care** markets. By this way, the industrialization of the process could be addressed once the project ends.

BIOSEA approach



selected algae

microalgae



Isochrysis galbana

Spirulina platensis

macroalgae

Ulva intestinalis

Saccharina latisima

final application sectors

food

feed

cosmetics

expected results

- Selection of s**pecific aquatic biomass** suitable for application in food, feed and personal care markets, using both micro and macroalgae from aquatic environment.
- Definition of **new growing conditions** of micro- and macroalgae for substantially increased yields.
- Definition of **new eco-efficient/eco-sustainable** separation, purification and extraction **methodologies** for obtaining **at least 6 compounds** with specific properties for the different final applications.
- **Optimised cascading conversion** including all required steps of the aquatic biomass and desired compounds achieving a reduction of the process cost up to 55%.
- **Validation of final products** developed for **final applications in food, feed and cosmetic sectors,** with improved properties and high added value, reflected in cost-efficiency, improved sensory characteristics and techno-functional properties, which will be measured and ranked.

consortium

COORDINATOR

aitex® textile research institute

PARTNERS

CNTA ADItech · ctaqua Centro Tecnológico de la Acuicultura · vito · T-A-B-U Solutions · IGV · Biopolis Tailor-made Biotechnology · vlci · FeyeCon · CPC Pecas on Livestock · Dibaq · SoriaNatural Eficacia y Calidad · Henkel

duration

36 months: 1st of June 2017- 31st of May 2020

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BIO-BASED INDUSTRIES Public-Private Partnership · Bio-based Industries Consortium

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