



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

BIOSEA Grant agreement number: 745622

NEWSLETTER – *May 2018*

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This project has received funding from the Bio Based Industries Joint Undertaking under the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 745622



BIOSEA project

BIOSEA will make cosmetic, food and feed industries more sustainable

EU society needs new sustainable bio-based feedstock in order to meet the growing population needs and to reduce the dependence on fossil fuels. In terms of potential market requirements in EU, the food and fuel demand are mainly covered by foreign import, achieving the 68% of total proteins supply. Aquatic feedstock can be a solution to these necessities, however, European algae feedstock market is still facing immature production technologies, and which are not specifically designed for algae biorefinery.

The **overall objective of BIOSEA** is the development and validation of innovative, competitive and cost-effective upstream and downstream processes for the cultivation of 2 microalgae (*Spirulina platensis* and *Isochrysis galbana*), and 2 macroalgae (*Ulva ohnoi* and *Saccharina latissima*) to produce and extract at least 6 high value active principles at low cost (up to 55% less than with current processes) to be used in food, feed and cosmetic/personal care as high-added value products.

For achieving this objective, BIOSEA consortium consists of specialists in specific area/s or discipline/s involved in the project ([IGV](#), [AT SEA](#)-subcontracted and [CTAQUA](#) in Agricultural/Aquacultural Sciences and Biotechnology; [VITO](#) and [FEYECON](#) in Chemical Science and Engineering; [CNTA](#), [BIOPOLIS](#), [DIBAQ](#), [SORIA NATURAL](#) and [CPCFEED](#) in Food/Feed Technology; [VLCI](#) and [HENKEL](#) in Cosmetic Science; [AITEX](#) in Materials Science and [TABU](#) in Environmental Science).

The total budget of BIOSEA is up to €4,491,392.50, so it is totally aligned with the range considered in the topic. It can be added that the industrial contribution will be up to €2,611,223.01 representing a percentage of 58% of the total budget and indicating the strong weight and involvement of the industry in the proposal.

General project information

Call identifier	H2020-BBI-JTI-2016
Topic	<u>BBI-2016-R9</u> Exploiting algae and other aquatic biomass for production of molecules for pharma, nutraceuticals, food additives and cosmetic applications.
Duration	36 months
Starting date	June 2017
Ending date	May 2020
Project number	745622

Activities development

Algal biomass cultivation

In the first months of the project the selected micro and macroalgae species were cultivated and their cultivation process was optimized.

In the following images are presented the cultivated algae strains:



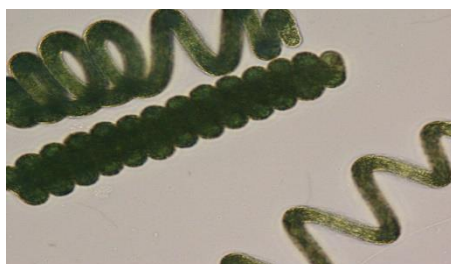
Off shore Saccharina sp.



Ulva sp. cultivation



Microalgae cultivation system



Spirulina platensis

In addition, the biomass characterization was developed and influences in the preservation conditions of the biomass were tested.

Events and conferences

By contributing to scientific conferences and events, the consortium aims to present the main objective and outcomes of the project to stimulate the interest of the general public. BIOSEA has been presented in:

European Textile Collectivities Association : ACTE (1st of June 2017)

AITEX presented the main objective and approach of the BIOSEA project to an audience specialized in research projects and open to new sustainable industrial alternatives.

ACTE's mission is to carry the European textile, clothing, leather, footwear, and fashion accessories industries into the future, while preserving the interests of its members - both territorial collectivities and adherent organizations.

Interview with BIOWAYS project: (27th of September 2017)

BIOSEA was presented by AITEX through an interview to BIOWAYS project concerning the development of bio-based products, for a complete screening of similar projects promoting bioeconomy.

BIOWAYS is a BBI-JU funded project, with the aim of raising public awareness of bio-based products and to promote their applications and benefits to society at large and highlight the role of the bio-based industries, using a variety of communication techniques and educational tools and materials.

Seagriculture: (7-8th of November 2017)

CTAQUA presented the main objective and expected results of BIOSEA project to an audience experienced in seaweeds and their development.

Seagriculture 2017 brought together more than 120 delegates, 26 speakers in 6 plenary sessions, from various fields specialized in ingredients and extracts for human food products, feed products, medical fields, horticulture and more.



The Bio-based Industries Joint Undertaking First Stakeholder Forum: (6-7th of December 2017)

The BBI-JU organized a two-day event for the presentation of the 65 ongoing BBI-JU projects through exhibition of objectives and results, having their own exhibition area.

The stakeholder forum was a one-day public event dedicated to engaging directly in dialogue with BBI JU's stakeholders.

The BIOSEA project was presented during the two days in its own stand through a poster, roll-up, flyers, video and algae samples, and throughout a presentation in plenary session dedicated to aquatic biomass valorization.



PROTECT: (16-17th of January 2018)

The H2020 project has included in the meeting celebration information regarding BIOSEA project. The attendance to the meeting was increased due to the development of the seminary regarding spectroscopy-a toolbox for process monitoring and control.



AITEX magazine No. 58 (January 2018)

Main information regarding BIOSEA project was published in AITEX local magazine targeted to the textile sector.

AITEX magazine has been published since 2001 and was established with the main objective of transfer to textile companies the new



developments relating to research and innovation, which are directly applicable to textile; innovations and research that arises from the results of the science and technology system. New technologies, new developments, new trends, textile training, environment and sustainable development and design are the contents of this publication.

The magazine is available online on AITEX's website: www.aitex.es.

Radio Alcoy interview: (9th of March 2018)

BIOSEA project objectives, approach and consortium was presented by AITEX, in a 5 minutes interview in the local radio, *Radio Alcoy*, increasing in this way awareness about technology and investigation advances nowadays.

For more detailed information on the interview, click the following link on the BIOSEA project web page: <http://biosea-project.eu/biosea-project-in-alcoy-radio/>

BIOWATCH platform: (March 2018)

The BIOWATCH platform is a BBI-JU project which assists projects in increasing the awareness of their bio-based research results. BIOWATCH is an online, interactive platform that provides projects in the bioeconomy sector with a free service to position themselves alongside one another and communicate their results directly to industry, political stakeholders, the media and the general public in an engaging and accessible format.

BIOSEA project was recruited for participation and to be present in the platform (<http://www.bioways.eu/bio-network/biosea/>), and reported information serving for the project dissemination.

Consortium meetings

Two BIOSEA consortium meetings were celebrated until the moment:

Kick-off meeting, in Alcoy, Spain, AITEX facilities (21-22nd of June 2017)



1st BIOSEA meeting, in El Puerto de Santa Maria, Spain, CTAQUA facilities (20-21st of February 2018)

