

Press Release

Algae based products accelerating through MULTI-STR3AM project A successful kick-off meeting

Lisbon, December 14th, 2020

The newly started Bio-based Industries Joint Undertaking's project **MULTI-STR3AM** addresses the challenges of scale of microalgae-based products by integrating sustainable multi-strain, multi-method and multi-product microalgae biorefinery in industrial side streams. The **MULTI-STR3AM** Web Kick-off meeting took place on the 9th of July with all partners present.

EU project is designed to help bridge gap between research and industrial scale microalgae cultivation

MULTI-STR3AM is driven by a critical need to shift to a sustainable means of producing food, feed and raw materials. Microalgae represent a promising solution to address the growing recognition that current agricultural and manufacturing practices are causing irreparable environmental damage. Microalgae, have a vast biosynthetic potential and are a rich source of lipids, protein and high-value compounds such as pigments. Despite these advantages, they are underexploited as a crop. This is due to barriers of scale, which mean that microalgae products struggle to achieve the same economies as conventional products, such as palm oil or soybean.

MULTI-STR3AM addresses these challenges by scaling up and lowering costs, providing valuable products for large end users in the food, feed and fragrance sectors. The project reduces costs, increases scale and boosts sustainability, through:

- i) constant improvement of strains through non-GM methods, to increase their productivity and meet end user needs;
- ii) design and engineering improvements to cultivation and harvesting technologies to reduce CAPEX and OPEX of biomass production;
- iii) exploitation of industrial and own side streams during cultivation in a circular economy design;
- iv) synergistic integration of different technologies in a multi-strain, multi-method, multi-product biorefinery ('MULTI-biorefinery'); and
- v) valorisation of every fraction of the microalgal biomass in a zero-waste approach.

By engaging global actors from the industrial, academic and non-profit sectors, MULTI-STR3AM creates a roadmap for economically viable industrial-scale microalgae cultivation and Biorefinery processing, towards a sustainable future for European bio-based industries.

Development of microalgae-based consumer products

MULTI-STR3AM will demonstrate 7 microalgae-based consumer products, 6 of which are new, including: lipids for edible spreads; protein, carbohydrates and lipids for feed ingredients for poultry, pigs and ruminants; and protein and small organic compounds as building blocks for the fragrance industry.

The next partners' meeting will discuss progress so far and next steps towards the development of robust microalgae biorefineries.

Stay tuned for the developments of [MULTI-STR3AM](#).

Academic, industry and non-profit partners join forces

The MULTI-STR3AM project is coordinated by A4F – Algae for Future, a Portuguese biotechnology company specialized in algae production, and brings together 5 companies, 1 entities from academia and 2 from non-profit organizations.

A4F, Algae for future (PT) – <https://a4f.pt>

A4F incorporates the knowledge and experience of more than 20 years in the field of industrial microalgae biotechnologies. It is a bioengineering company, which Designs, Builds, Operates and Transfers (DBOT) microalgae industrial production and processing plants worldwide. A4F will coordinate the consortium, produce biomass autotrophically and build and operate the biorefinery according to the final product specifications for the end users.



IMIC CAS - Centre Algatech (CZ) – <https://www.alga.cz/en/>

IMIC, Institute of Microbiology – Centre Algatech was established in 1960 as a research institution for microalgal biotechnology research for wide application from food / feed industry to medical applications. Since then the Centre developed into internationally recognized research institution focus on both fundamental and applied research in microalgal biotechnology, genetics, physiology, metabolism, biochemistry, cultivation. The Centre team is responsible for searching new promising strains of microalgae, lab to pilot scale cultivation in both auto- and heterotrophic conditions and testing chromatographic technology for a large scale downstream processing.



For Farmers (NL) – <https://www.forfarmersgroup.eu/en/>

ForFarmers N.V. is an international organisation that offers complete and innovative feed solutions for livestock farming. With its “For the Future of Farming” mission, ForFarmers is committed to the continuity of farming and further sustainalising the agricultural sector.

ForFarmers is the market leader in Europe with annual sales of 10.1 million tonnes of animal feed. The company is operating in the Netherlands, Germany, Belgium, Poland and the United Kingdom. ForFarmers has approximately 2,600 employees. In 2019, the turnover amounted to approximately € 2.5 billion.



ForFarmers N.V. is listed on Euronext Amsterdam.

IBET (PT) – <https://www.ibet.pt/>

Instituto De Biologia Experimental e Tecnológica (iBET) is a private non-profit institution focused in bioprocess development services. As a Biotechnology Research Organization iBET acts as an interface between academic and private institutions while also creating and organizing autonomous knowledge and expertise. The IBET unit of Food and Health develops work in Food and Nutritional sciences, bringing together researchers with various expertise, including analytical and organic chemists, pharmacists, biochemists, microbiologists, biological and chemical engineers.

In the project, IBET will be responsible for Producing high value bioactive compounds from a large variety of complex natural matrices, namely recovery, purification and characterization of proteins, polar lipids and pigments and for Developing (bio)reactors and their integration with membrane processing for in-situ recovery of valuable bioactive products.



IFF (NL) – <https://www.iff.com/>

For over 130 years, IFF has been using artistry, science, and expertise to create unique and unexpected scents, tastes, experiences and ingredients for the products our world craves— from global iconic brands to indie startups. Driven by its purpose – To redefine & transform how we live in and care for the resources of our world – IFF is committed to do more good, question everything, and champion creators.



As part of IFF's long history of developing innovative solutions for a multitude of global challenges, the Company is proud to participate and support the Multistr3am project to pioneer materials for fragrance encapsulation and continue to expand its portfolio of renewable fragrance ingredients. The goal of IFF's R&D collaboration with the European Commission's CORDIS Horizon 2020 framework program is to validate whether algae materials can be incorporated into the Company's high-quality products, innovative solutions and partnerships with customers to deliver growth, and build the way to a more sustainable future.

Learn more at iff.com, Twitter, Facebook, Instagram, and LinkedIn.

LNEG (PT) – <https://www.lneg.pt/>

Laboratório Nacional de Energia e Geologia, I.P (LNEG), the Portuguese National Laboratory of Energy and Geology, is a State Laboratory attached to the Ministry of Environment and Energy Transition, which mission is to promote technological innovation in the fields of energy and geology focused on science and technology, with the overriding objective of raising company competitiveness within a framework of sustainable economic progress. LNEG will Implement innovative separation technologies for bioproducts extracted from microalgae biomass, pilot testing of biorefinery, refinery scale up support and industrialization and perform Life Cycle Environmental and Social Assessment, as well as techno-economic assessment of the whole value chain.



Phycom (NL) – <https://phycom.eu/>

Phycom is one of Europe's largest and most innovative producers of algae. Based on decades of experience in the biotech sector, Phycom has developed a sustainable and completely closed production system. Phycom's cultivation techniques and process technology are highly innovative in the international market. The result is high-quality, food-safe microalgae with superior purity and consistent quality. Phycom's food and feed safety management system is FSSC22000 and GMP+ certified. Within the Multi-stream project, Phycom will contribute to the production of the algae biomass, based on the selected algae-strains, and to the optimization of the algae production systems.



Upfield (NL) – <https://upfield.com/>

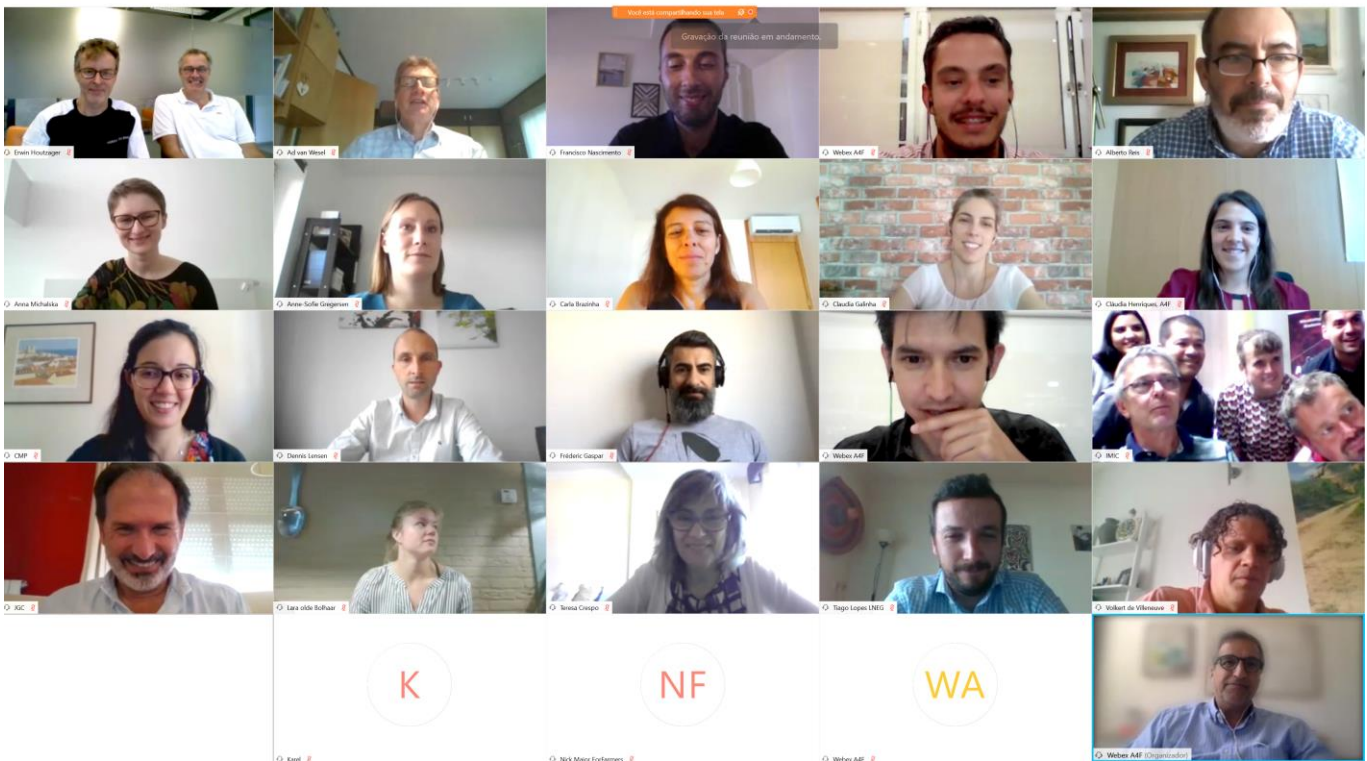
Upfield is the largest plant-based consumer products company in the world. Company's purpose is to make people healthier and happier with great tasting, all-natural, plant-based nutrition products that are good for consumers and the planet. Upfield is strongly committed to sustainable development that guides the entire value-chain taking into account responsible sourcing, no deforestation due to company's supply chain and minimizing the use of packaging. Upfield will take part in this proposal in its role as an end-user of oil/fat compounds that will be extracted from microalgae.



AG 9th
EN July
DA 2020



WEB KICK-OFF
MEETING
MULTI-STR3AM



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