



ALGÆUROPE 2024
10-13 DECEMBER ATHENS

TRADE SHOW PARTICIPANTS

www.a4f.pt

A4F Algae for Future is a Portuguese industrial group operating in the Bioeconomy and Chemical sectors, with biotechnology and sustainability in its DNA.

Based on a strong track record of R&D and innovation projects, and partnerships with over 900 international companies, universities, and international institutes, it offers complete solutions for the development and deployment of bioprocess technologies projects up to the industrial scale, using renewable raw materials (marine and aquatic biomass).

A4F is technology-driven in projects and technologies for the production and processing of seaweed, microalgae, and other microorganisms for industrial applications such as human and animal food, feed, cosmetics, pharmaceuticals, fertilizers, water treatment, soil remediation, biomaterials, biofuels, and others, in a Circular Economy and decarbonization logic.

The Group also nurtures symbiotic relationships with other industries to promote a sustainable production all within the circular economy and decarbonization model.

More recently, A4F has broadened its scope to include the seaweed, biorefinery and fermentation areas in its value proposition as a bioindustry, and has closed several contacts for the identification of substitute raw materials with major international players in the food, feed, energy, and utilities fields.

Member of the European Bio-based Industries Consortium (BIC), the European Algae Biomass Association, and the Bluebio Alliance (BBI) network, the A4F group aims to develop new processes and technologies for capturing CO₂, and other industrial effluents, and for the recovery of algae biomass, while affirming its leading role in sustainable industrial reconversion processes.

In a nutshell, A4F group strongly believes that farmed seafood can be the alternative source of protein for food and feed with low-carbon footprint that society needs.



www.algaeurope.org



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www.algoliner.de



Algoliner is a turnkey supplier for photobioreactors in any dimensions. Their lab reactors have volumes between 1 litre and 1,000 litres while their large scale have no limits.

With their unique production method, they produce the pipes for the large-scale reactors on site in any required length. Hence no packaging, transport and re-assembly with joints is necessary.

Algoliner is the only producer of photobioreactors with aseptically flanges.

The required raw material for our reactors is only 40 % of those of common systems, while the pipes can be easily recycled by 100%

Algoliner realized in the meantime many reactors in different sizes and concepts.

www.beckman.com



Life sciences. Research. Precision manufacturing. If your life's calling is in any of these or related fields, you need to know **Beckman Coulter Life Sciences**. Their mission is to empower those seeking answers to life's important scientific and healthcare questions. Since 1935, the Beckman name has been synonymous with technologies that simplify and automate complex biomedical testing. Decades later, the global organization also came to embody the scientific legacy of the Coulter name. Today, Beckman Coulter Life Sciences is a trusted, worldwide resource for tools to help optimize research and manufacturing efficiency. Centrifuges. Particle counters/analyzers. Automated liquid handlers. Flow cytometers. Genomic reagents. All these products—and many more—continue to make a difference in people's lives by improving the productivity of dedicated scientists, quality control experts and others. Wherever people need answers, from prestigious universities and major pharmaceutical companies, to small biotech startups, food/beverage and electronics manufacturing facilities, you can find Beckman Coulter Life Sciences.

www.biorea.fr

Bioréa



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www.brightwavellc.com



BrightWave specializes in the design and sale of indoor, industrial scale PBRs. They make it easy to co-locate feedstock production with manufacturing, and help organizations develop more sustainable and streamlined supply chains.

BrightWave's patented PBRs are powered by in-water grow lights that scale algae cultivation vertically and maximize production on the smallest footprint. And they self-clean, increasing production further by eliminating down time.

Their PBRs are already making waves in sectors like food and feed, pharma and nutraceuticals, biomaterials and fuels. They deliver customized solutions and substantial climate impacts to multiple industries, part of their mission to drive global adoption of algae as the world's most versatile feedstock.

www.celldeg.com



CellDEG GmbH is a Berlin-based biotech company that specializes in ultra-high-density cultivation systems for microalgae. Their patented technology utilizes thin-layer photobioreactors that integrate highly efficient membrane-mediated CO₂ supply with optimal light intensities and nutrient-enriched HD-media. This innovative approach enables them to achieve cell densities exceeding 30 g DW per liter and productivities of up to 10 g DW per liter and day, fully photoautotrophically, using numerous established model strains.

Designed for axenic cultivation, CellDEG's systems are suitable to both research and industrial applications. Their versatile control unit allows for the use of interchangeable cultivation platforms, ranging from 45x 10 ml through 9x 100 ml up to 1x 4000 ml, significantly reducing both time and costs while enhancing flexibility. These systems effectively eliminate CO₂ limitations at high densities under strong light, facilitate efficient oxygen removal, and minimize water vapor loss, positioning them as the ideal choice for rapid microalgae bioproduction.

Committed to delivering standardized, high-performance solutions, CellDEG serves institutions and biomass producers around the globe.

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www.dlg-benelux.com



DLG Benelux is part of DLG International: the leading German consulting company of the DLG group for the Agribusiness and Food Industry offering international expertise in setting up trade fairs and providing project management and consultancy services - national and international. It is organiser of numerous annual specialist exhibitions abroad.

DLG International is part of DLG e.V. the German Agriculture Society.

DLG Benelux supports the activities of the DLG Group and organizes its own activities in specific areas with specific partners. DLG Benelux is organiser of PotatoEurope in The Netherlands, the International Seaweed Conference Seagriculture EU, Seagriculture USA and the AlgaEurope Conference, which is being organized in cooperation with the European Algae Biomass Association (EABA).

www.eaba-association.org



The general objective of the **European Algae Biomass Association (EABA)** is to promote mutual interchange and cooperation in the field of biomass production and use, including biofuel uses and all other utilisations. It aims at creating, developing, and maintaining solidarity and links between its Members and at defending their interests at the European and international levels. Its main target is to act as a catalyst for fostering synergies among scientists, industrialists, and decision-makers in order to promote the development of research, technology, and industrial capacities in the field of Algae.

In this perspective EABA intends to constitute a basis for:

- Establishing a permanent liaison with EU and EU Member States' Institutions.
 - Defining and expressing a common position on EU issues (legislation, product specifications, trade and sustainability standards, etc.), acting as a technology-neutral platform.
 - Representing the European biomass industry and the scientific community at the international level.
 - Spreading scientific information and knowledge about biomass and biofuels production.
 - Making research and industry alive in public debate.
 - Promoting investment and financial support in the field of Algae.
 - Helping the structuring and planning of research and industrial development on Algae.
 - Fostering scientific freedom as well as responsibility.
 - Studying all economic and technical problems which may impact the sector in the European Union and related countries and studying all the direct and indirect environmental, social and economic effects of production and use.
 - Breaking scientific boundaries on Algae.
 - Promoting the exchange of scientific information and the publication of sound articles.
- Below is a complete summary detailing the draft scope, objectives, and the main draft structure of the EABA.

www.algaeurope.org



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www.gicon-consult.de

GICON®

The **GICON® Group** is a group of international, independently operating engineering service providers. Sustainability in the handling of resources, in the use of energy and in the extraction of raw materials as well as a responsible approach to risks in favour of a clean environment and a society worth living in - both today and in the future - these are the guidelines that guide their daily work and this is how they understand their service to their customers.

GICON® was founded in 1994 and is an owner-managed engineering office with its headquarters in Dresden, Germany. More than 500 employees work in more than 30 departments in several branches in Germany and worldwide.

Innovation through research is a GICON® trademark. Both as a service provider for their customers and for the further development of the company, they research and develop new processes, products and services. To this end, they have created an extensive network of cooperative relationships with leading research institutions.

GICON® engineers have planned a broad variety of photobioreactor plants ranging from R&D to commercial sized systems for 25 years using their detailed expertise in plant design, approval planning, process engineering, biotechnology, biology and bioenergy systems. As one of its main R&D areas, GICON® is active in several projects to further develop microalgae-based technology solutions.

www.greencolab.com

 **GreenCoLab**

GreenCoLab is a private collaborative non-profit research & innovation organization addressing academia and industry needs on the valorization of micro- and macroalgae. They provide specialized services tailored to the requirements of the algae-based industry and academia.

Their comprehensive Service Platforms cover fundamental research and applied solutions, including chemical analysis, biological activities, molecular biology, biorefinery, sustainability and contract research. Their laboratories are equipped with state-of-the-art technology, enabling them to achieve high precision and data quality in their analyses. With extensive knowledge of extraction and detection techniques for algal-typical compounds, they ensure the accurate identification and quantification of targeted molecules and compounds.

Whether you require support for cultivation, processing, or product prototype development, their dedicated research groups offer customized contract research solutions to meet your unique specifications.

www.algaeurope.org



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www.hidenanalytical.com

Hidden Analytical: Pioneering Algae Research

Hidden Analytical, founded in 1981, stands as a global leader in the scientific instrumentation sector. Their cutting-edge solutions, particularly the HPR-40 DSA (Dissolved Species Analyzer) and pQA, are at the forefront of advancing algae research.

Their analyzers accurately monitor dissolved gases such as oxygen and carbon dioxide in algal environments. This allows researchers to track algae's photosynthetic and respiratory rates, offering insights into their health and productivity. These insights, in turn, enable the optimization of growth conditions to boost algal yield and efficiency.

Furthermore, their devices are pivotal in exploring algae's potential as a renewable biofuel source, measuring hydrogen gas production. They also aid in ecological and climate change research by assessing changes in algal populations and their role in global carbon cycles.

At Hidden Analytical, they're committed to providing precise, real-time measurements, thereby supporting scientific endeavors in understanding algal metabolic processes and environmental responses. Through continuous innovation, they remain dedicated to empowering researchers and fostering a sustainable future.



www.holodetect.com

HUN-REN SZTAKI is a research institute with the fundamental task of performing basic and application-oriented research in an interdisciplinary setting in the fields of computer science, engineering, information technology, intelligent systems, process control, wide-area networking, and multimedia.

HOLODETECT instruments are developed by the Computational Optical Sensing and Processing Laboratory of SZTAKI. HOLODETECT instruments utilize Digital Holographic Microscopy (DHM) and artificial intelligence to automatically analyze volumetric liquid samples to detect, classify, measure and count objects, cells, and other microorganisms in the 3–100-micron range with specific algorithms developed for the microalgae industry.



www.algaeurope.org



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www.industrialplankton.com

**INDUSTRIAL
PLANKTON**

Founded in 2010, **Industrial Plankton Inc.** designs and manufactures turnkey bioreactors

Their technology is optimized for reliability, ease of use, and biosecurity. Customers operate their photobioreactors in 32 countries around the globe. Their equipment is highly automated, increasing reliability and saving operators countless hours. The result is trustworthy equipment capable of easily and reliably producing biosecure, algae.

www.nmzhs.com

**Z·S®
再回首**

Inner Mongolia Rejuve Biotech Co.,Ltd

- 2003 founded
- 20+ years of algae cultivation
- 248 acres of production area
- Spirulina product : 1600 mt
- Chlorella product:300 mt
- Phycocyanin product: 100 mt
- R&D: Own laboratory
- Global market
- OEM

www.lgem.com

Lgem

Lgem offers reliable systems for cultivating any algae at any scale. With over 16 years of experience with autotrophic algae, Lgem provides a solid basis of knowledge, skills, technology, and R&D.

Lgem's iconic two-phase PBR solutions have increased productivity and deliver stable algae production at lower operational costs. Lgem's patented PBR systems are automated, fully integrated, and industry 4.0-ready. Lgem's PBRs range from 20 litres to >1.000.000 litres.

At Lgem, investment risk reduction is a crucial success factor for its clients. The AlgaeHUB facility (>20 FTE, 7.000 m² with >10 production units available) allows customers to optimise and validate their business case on an industrial scale before making significant investments.

Currently, Lgem works for both established and new innovative food companies and the feed, pharma, and cosmetic industries. Lgem can successfully cultivate more than ten different microalgae strains, including some of the most fragile species/ variants.

www.algaeurope.org



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phytanatural

Phyta Natural, located in Tamil Nadu, India, is a prominent producer of top-tier Spirulina and Phycocyanin, recognized for their health-enhancing properties. Pioneering pilot-scale chlorella cultivation, they've achieved noteworthy success, propelling them towards a diversified product portfolio. Their commitment to innovation and unwavering quality positions them as leaders in the natural nutrition industry. As they forge ahead, Phyta Natural is poised to continue setting industry benchmarks, offering sustainable, premium products for a healthier tomorrow.

www.psi.cz



PSI (Photon Systems Instruments) is the world leader in development and manufacturing of cutting-edge instrumentation for imaging and monitoring of biological signals in plants and algae for more than 25 years. They were the first company to offer a chlorophyll fluorescence imaging system, and we remain at the forefront of technology for monitoring growth and physiological activity in samples that range from individual cells to large crop and tree species. Their products are used all over the world, at universities, research institutions and biotech industries as well. They are used in terrestrial and aquatic environments, in the laboratory and in the field, from the tropics to the high Arctic.

The quality of their products is impeccable. In 2017, the founder of PSI, Mr. Martin Trtílek, won the EY Technical Businessman of the Year, reflecting the success of PSI on the world stage, and the prestige in which the company is held by its clients. In addition to providing instrumentation, they offer dependable, and timely, worldwide support through our offices in Europe, Australia and North America.

Currently, PSI portfolio includes complete assortment for algal bio-technology from precise small and large scale photobioreactors and other cultivators, through a range of hand-held and bench-top devices for chlorophyll fluorescence detection and imaging, to fully automated phenotyping stations based on microplates and Petri dishes.

Please visit their website www.psi.cz for more information, and do not hesitate to contact them with any questions. Or visit them in Drásov, Brno region. They look forward to seeing you!



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www.runke.com.cn



Runke Bioengineering is a manufacturer dedicated to the research, development, and production of premium DHA, ARA, and nutritional supplements. As a trusted provider, Runke delivers cutting-edge bioengineering solutions tailored to the demands of the international market. With a solid reputation, Runke has established itself as the leading supplier of DHA and ARA in China, earning the trust of over 80 dairy enterprises for its reliability and quality.

Runke specializes in crude, refined and powder forms of DHA and ARA. With 24 years of experience, Runke serves a wide range of clients across the health, infant nutrition, and functional food sectors. As the current DHA market leader in mainland China, Runke Bioengineering is driven by a commitment to quality, a passion for innovation, and an unwavering focus on customer satisfaction.

www.sanimembranes.com



With the unique Vibro™ Technology, **SANI Membranes** offers a technology where harvest, separation, and concentration can all be done in one single unit. The Vibro™ units handle harvesting, thickening, dewatering, and even separation of algae debris and protein, as well as protein concentration.

The technology makes it possible to optimize several separation processes within the algae industry, where centrifuges, hollow fibers, ceramic membranes, and other separation techniques can be replaced. Vibro™ Technology is characterized by its ability to reach very high concentrations, such as nannocloropsis up to 190 g/l and chlorella up to 290 g/l.

With Vibro™ Technology, you also get a solution that gives you a reusable permeate, scales up easily, is user-friendly, is simple to install, and has low energy consumption.

www.schott.com



SCHOTT
glass made of ideas

SCHOTT is a global manufacturer of high-tech materials based on specialty glass. With pioneering spirit and passion, our experts are always opening up new markets and applications for 140 years. SCHOTT's Business Unit Tubing is one of the world's leading manufacturers of glass tubing, rods and profiles. SCHOTT Tubing provides customized products and services for international growth markets such as pharmaceuticals and electronics as well as industrial and environmental engineering, like photobioreactors (PBR). With DURAN® borosilicate glass tubing, U-bends and food-grade couplings, the BU Tubing provides ideal materials for algae cultivation in PBR systems: Smooth interior surfaces are easy to clean, protect against biocontamination and ensure food grade algae quality. With a lifetime of over 50 years and a consistently high light transmission, glass offers a cost effective and productive solution.

www.algaeurope.org