



*From the ocean's point of view*

A close-up photograph of a jellyfish, likely a Portuguese man-of-war, with a translucent blue body and bright yellow-orange patches. The jellyfish is set against a dark, blurred background. Overlaid on the right side of the image is white text.

## **our vision**

**A healthy ocean is essential  
for human development**

# The Challenge

---

A development model capable of decoupling economic growth from natural resource depletion, while ensuring the viability of innovative solutions that are carbon neutral and less harmful to the environment.

# The Blue Bioeconomy

---

It is essential in responding to this challenge: it promotes ocean conservation whilst generating wealth and jobs through sustainable solutions based on the use of marine bio-resources.

## **an environmentally friendly new blue economy**

In order to contribute to a new paradigm of a sustainable use of the ocean, where the economic exploration of the sea must go hand in hand with the protection of the marine environment, it is essential to create the right ecosystem where a **new, innovative and environmentally friendly blue economy may flourish.**

Facilitating the emergence of new sustainable blue companies and industries is a positive way to contribute to promote a new blue economy that generates economic growth and job creation. This is also a way of promoting ocean conservation, as more investment and opportunities will come from sustainable industries, as opposed to traditional and more harmful sectors.

Blue Bio Value aims to **create the right conditions for companies operating in the marine bio resources value chain**, where entrepreneurs, innovators, investors, public authorities will work together to help shape a new future “contributing to a healthy and productive ocean to the benefit of our planet”.

5<sup>th</sup> edition

# Blue Bio Value Acceleration



OCEANO AZUL  
foundation



CALOUSTE GULBENKIAN  
FOUNDATION





## Blue Biotechnology

---

**Biotechnology is based on the use of organisms for the development of products or services. Different factors determine the utilization of these biological agents, being organisms, cells or molecules. Blue biotechnology develops products or services via marine biotas.**

Blue biotechnology has grown significantly due to advancements in deep-water collection methods, extraction techniques and the increase in demand within the market, particularly for aquaculture and chemical synthesis. The great potential of marine biotechnology above all, is the enormous biodiversity found in the ocean.

# Blue bioeconomy barriers

Few companies operate in the blue bio resources related sectors

Existing ones are often ran by stem researchers lacking management skills

Lack of preparation hinders access to investors



A large indoor facility, likely a greenhouse or controlled environment, filled with rows of green algae growing on vertical racks. The racks are arranged in long, parallel lines, and the algae appears to be in various stages of growth. The structure is made of metal frames and translucent panels, with natural light filtering through. The overall scene conveys a sense of modern, sustainable agriculture.

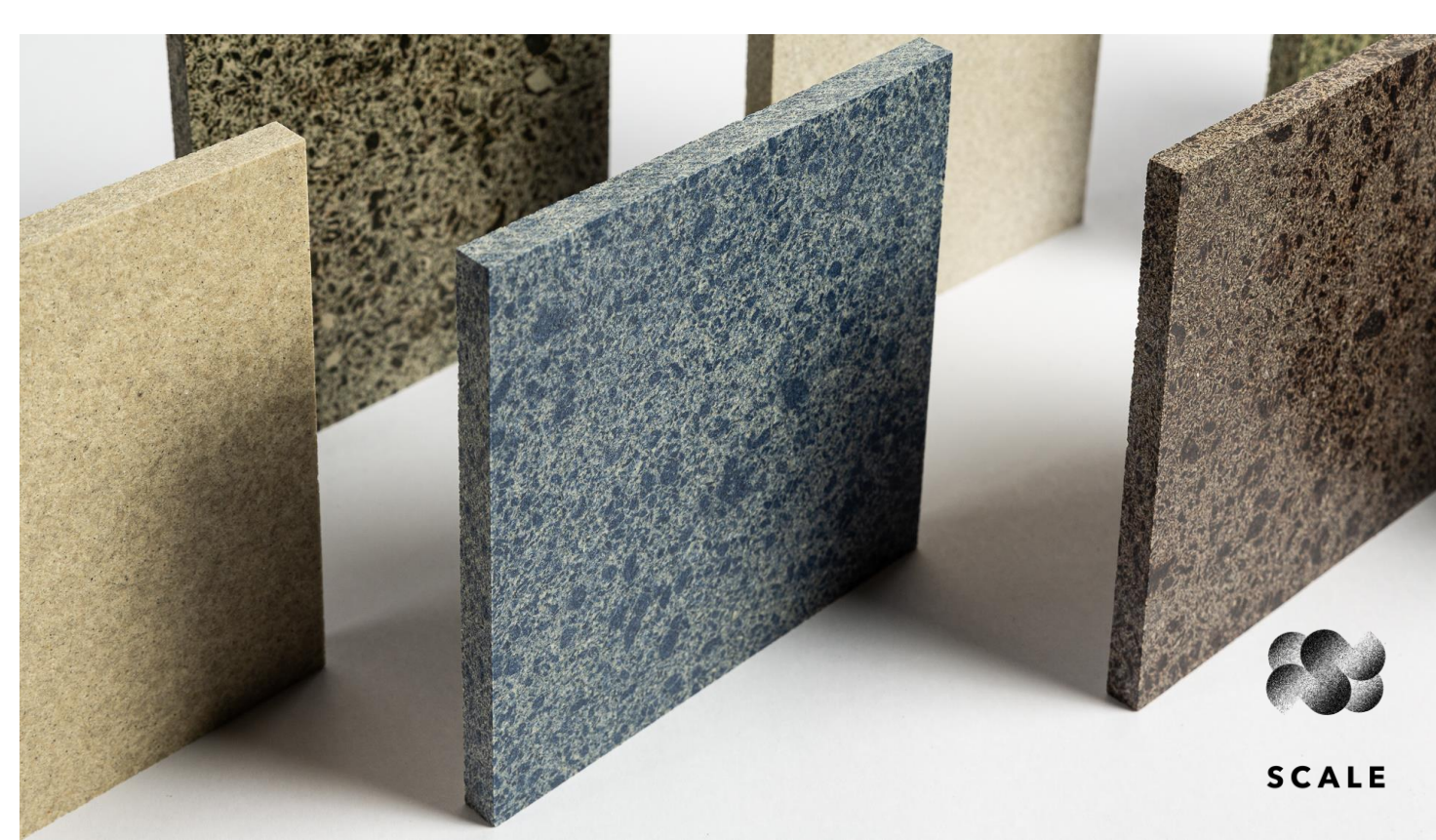
**Innovations driving the  
transformation towards a  
sustainable blue economy**

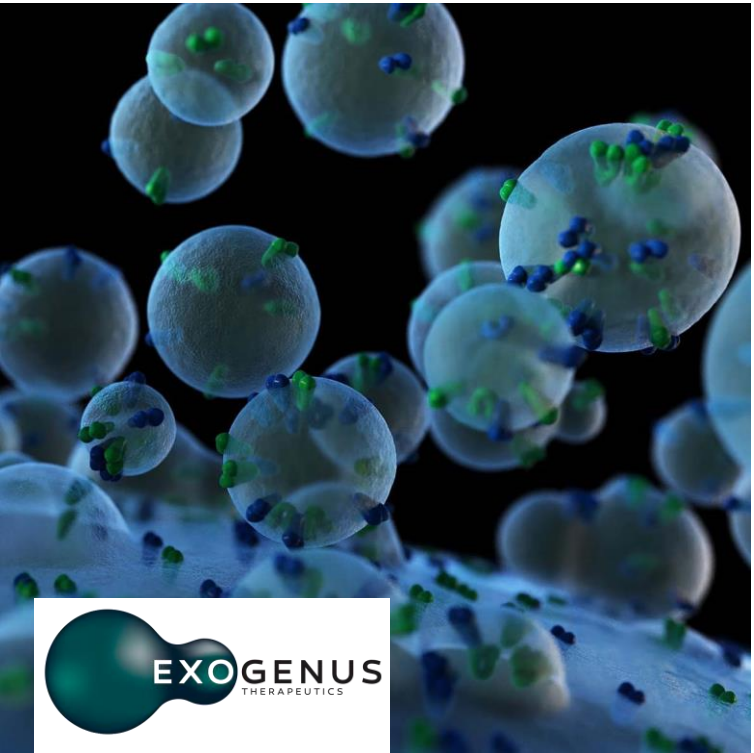
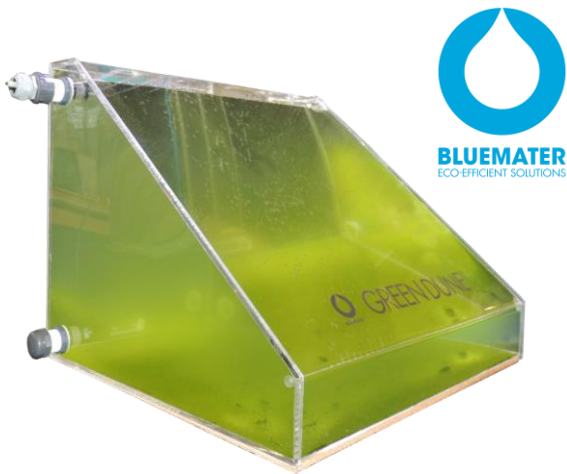
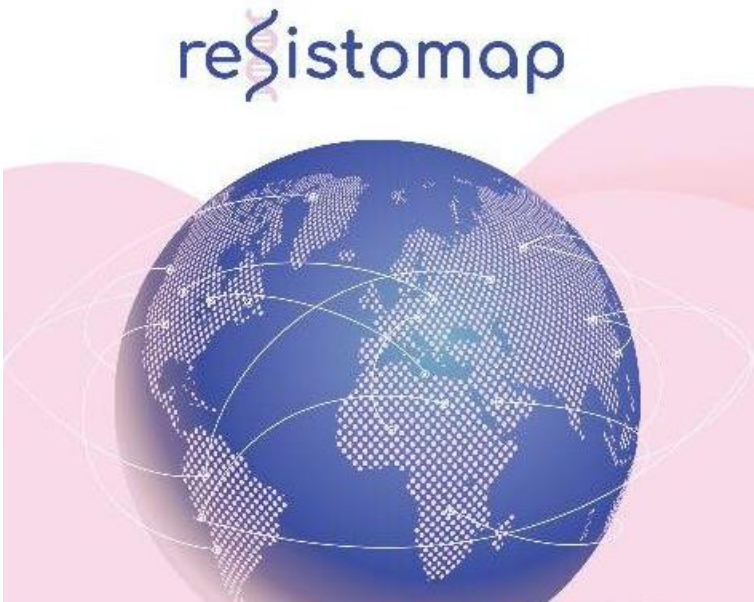
**Blue  
Bio  
Value**



SOPHIE'S  
BIONUTRIENTS







# Capacitating innovative solutions for great challenges

**Blue bioeconomy will play an important role in decarbonizing supply chains.** Through the investment in applied research and innovation, multiple new high added-value products and services are being developed. These can both be used in scaling up **emergent industries to yield biomass** (algae, biomaterials, bivalves' production) but also to be incorporated in sectors otherwise distant from the blue economy, namely **innovating traditional industries** (textiles, plastics, cork production).

It relies on **renewable, living aquatic resources** such as algae, sponges, jellyfish or microorganisms to deliver a wide variety of products, processes and services. To do this it capitalizes on unprecedented advances in life sciences and biotechnologies.

The market for blue biotech is estimated to be worth €200 billion by 2030,<sup>1</sup> which will contribute to an economy that will generate added value from and for the ocean. Portugal is contributing significantly due to having the **most biodiverse marine life** in Europe.

<sup>1</sup>VMission Starfish 2030: Restore our Ocean and Waters, one of the five EU Mission Boards, in its "Report of the Mission Board Healthy Oceans, Seas, Coastal and Inland Waters"

# Cooperation as a driver for success

Despite the large span of challenges, the main hurdles identified by stakeholders are associated with Cooperation<sup>1</sup>

---

## #1 CHALLENGE: NETWORKS IN-PLACE

Accessing bioresources, partners for industrial pilots and access to bioresources, enabled by increased communication between stakeholders, is vital to develop and sell new products or services

---

## #2 CHALLENGE: ACCESS TO FUNDING & COST OF OPERATIONS

Understanding the availability and appropriateness of funding schemes - so far insufficient for the high operation costs.

---

## #3 CHALLENGE: LEGAL GAPS & REGULATORY COMPLEXITY

Challenges on licensing and regulation required to start a business, to develop and sell new products or services and difficulties with intellectual property.

<sup>1</sup>Vasconcelos, V., Moreira-Silva, J. & Moreira, S. (eds) 2019. Portugal Blue Bioeconomy Roadmap - BLUEandGREEN. CIIMAR, Matosinhos, (pub), 68pp.

**Blue**  
**Bio**  
**Value**



**Thank you**

**Ana Brazão**

[abrazao@oceanoazulfoundation.org](mailto:abrazao@oceanoazulfoundation.org)

More information at [bluebiovalue.com](http://bluebiovalue.com)