

## AT A GLANCE

**TITLE:**

BIORAS\_SHRIMP

**CONSORTIUM:**

10 partners

**COORDINATOR:**

Universita del Salento

**DURATION:**

November 2022- December 2024

**TOTAL BUDGET:**

€ 200 000

**EU CONTRIBUTION:**

€ 150 000



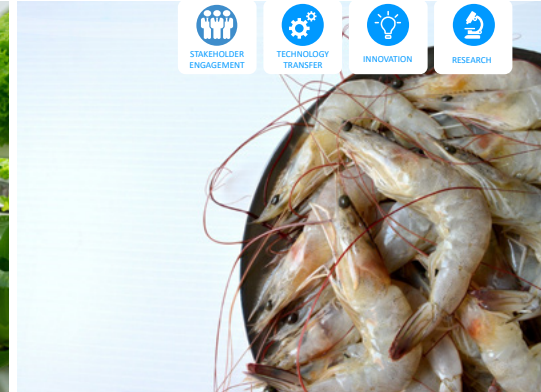
**BIORAS SHRIMP**

Improvement and innovation of a BIO-secure Recirculating Aquaculture System for SHRIMP and additional biomass circular production

### BIORAS\_SHRIMP CONSORTIUM

- Universita del Salento (Italy)
- NIBIO (Norway)
- AquaBioTech Group (Malta)
- University of Pisa (Italy)
- Biotecna s.r.l. (Italy)
- The Department of Fisheries and Aquaculture (DFA) (Malta)
- Biosyntex s.r.l (Italy)
- Kerala University of Fisheries and Ocean Studies (India)
- Omini Pharma srl (Italy)
- Akvaplan-niva AS (Norway)

This project is co-funded by the European Union's Horizon 2020 research and innovation programme under the ERA-Net Cofund project BlueBio (grant agreement No 817992). The funding agencies for the BIORAS\_SHRIMP project are Malta Council for Science and Technology (MCST) Malta, Ministry of Universities and Research (MUR) Italy and Norges forskningsråd (RCN) Norway



## BIORAS\_SHRIMP PROJECT

BIORAS\_SHRIMP project aims to develop, improve and innovate a bio-secure land based sustainable shrimp culture model to minimise waste, enhance productivity and recover energy and nutrient for additional biomass production, by applying integrated biosystems principles, in the view of a circular economy process. The high demand of shrimp for human consumption has led to rapid expansion of production all over the world. Development of sustainable, productive, climate-neutral and resilient farming systems is, nowadays, an obliged way to provide consumers with affordable, safe, traceable, healthy and sustainable food, while minimizing pressure on ecosystems.



**Recirculation Aquaculture Systems**

Increased shrimp density in safe and controlled environment with the ability to collect and treat the effluent



**Artificial Intelligence**

Optimization of the system design and facilitation of daily operations and data collection



**Effluent Treatment**

Reduction of load of nutrients discharged



**Biofloc**

Production of a protien-rich live feed



**Algae Culture and Aquaponics**

Integration of vegetal biomass in the production system

## Objectives of BIORAS\_SHRIMP

- Set up of a clear water RAS for shrimp culture with improved technology and husbandry efficiency.
- Development and test of a hybrid RAS-BFT farming system.
- Design, installation, and test of an innovative RAS effluent treatment system.
- Design, installation and test of a water quality monitoring system based in the AI applications for RAS and BFT.
- Development and testing of innovative protocols and methods for effluent solid waste and residual water reuse and valorization.
- Exploration of new bio-resources deriving from the additional biomass produced.
- High-quality shrimps for human consumption.
- A bio-fertilizer coming from the conditioned and thickened extracted solids.
- A set of bioactive compounds derived from the aquatic biomasses appropriately cultured in the nutrient-enriched residual water.

## AT A GLANCE

**TYPE:**

Research SME

**LOCATION:**

Mosta, MALTA G. C.

**CAPABILITIES:**

R&D / Consultancy / Engineering

**EXPERTISE:**

Aquaculture / Marine Research  
Blue Growth / Aquatic Environment



**AquaBioTech Group**

## Who We Are

**AquaBioTech Group** is an international consulting, engineering and R&D company with over 20 years of experience in aquaculture, fisheries and other aquatic sciences. Located in the center of the Mediterranean on the island of Malta, although operating globally with clients and projects in over fifty-five countries.

The vast majority of the organisation's work is related to the marine or aquatic environment, encompassing aquaculture developments, market research/intelligence through project feasibility assessments, finance acquisition, project management, technology sourcing, technical support and training.



## Our role in the BIORAS\_SHRIMP project

**AquaBioTech Group's** main tasks in the BIORAS\_SHRIMP project include:

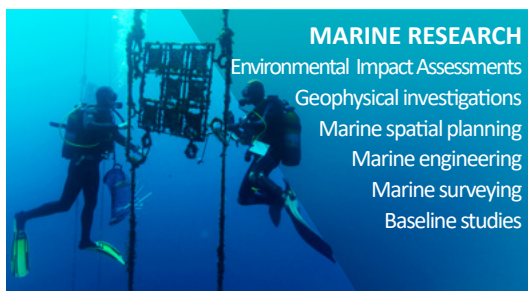
- Optimising RAS technology towards shrimp production
- Designing a modular biofloc system and connecting it to existing RAS water treatment units
- Testing a prototype hybrid shrimp RAS-Biofloc system
- Shrimp husbandry experiments in RAS
- Investigating the possibility of using video and computer vision for detection of abnormal behaviour related to water quality

## Our Research Activities



**AQUACULTURE R&D**

Fish & shellfish hatchery technology  
Health & disease prevention  
Nutraceutical development  
New species development  
Aquatic nutrition research  
Production techniques



**MARINE RESEARCH**

Environmental Impact Assessments  
Geophysical investigations  
Marine spatial planning  
Marine engineering  
Marine surveying  
Baseline studies



**WATER TECHNOLOGIES R&D**

Recirculation Aquaculture Systems  
Aquaponics  
Wastewater treatment  
Energy efficiency  
Sustainability  
Innovation



**AquaBioTech Group**

**Contact**

- ☎ +356 2258 4100
- ✉ [info@aquabt.com](mailto:info@aquabt.com)
- 🌐 [www.aquabt.com](http://www.aquabt.com)
- 📍 AquaBioTech Group

📍 Central Complex  
Naggar Street  
Targa Gap, Mosta  
MST 1761  
Malta G.C