Fresh and pure food from sustainable
highly efficient aquaponics technologies

by

aquaponics Iberia

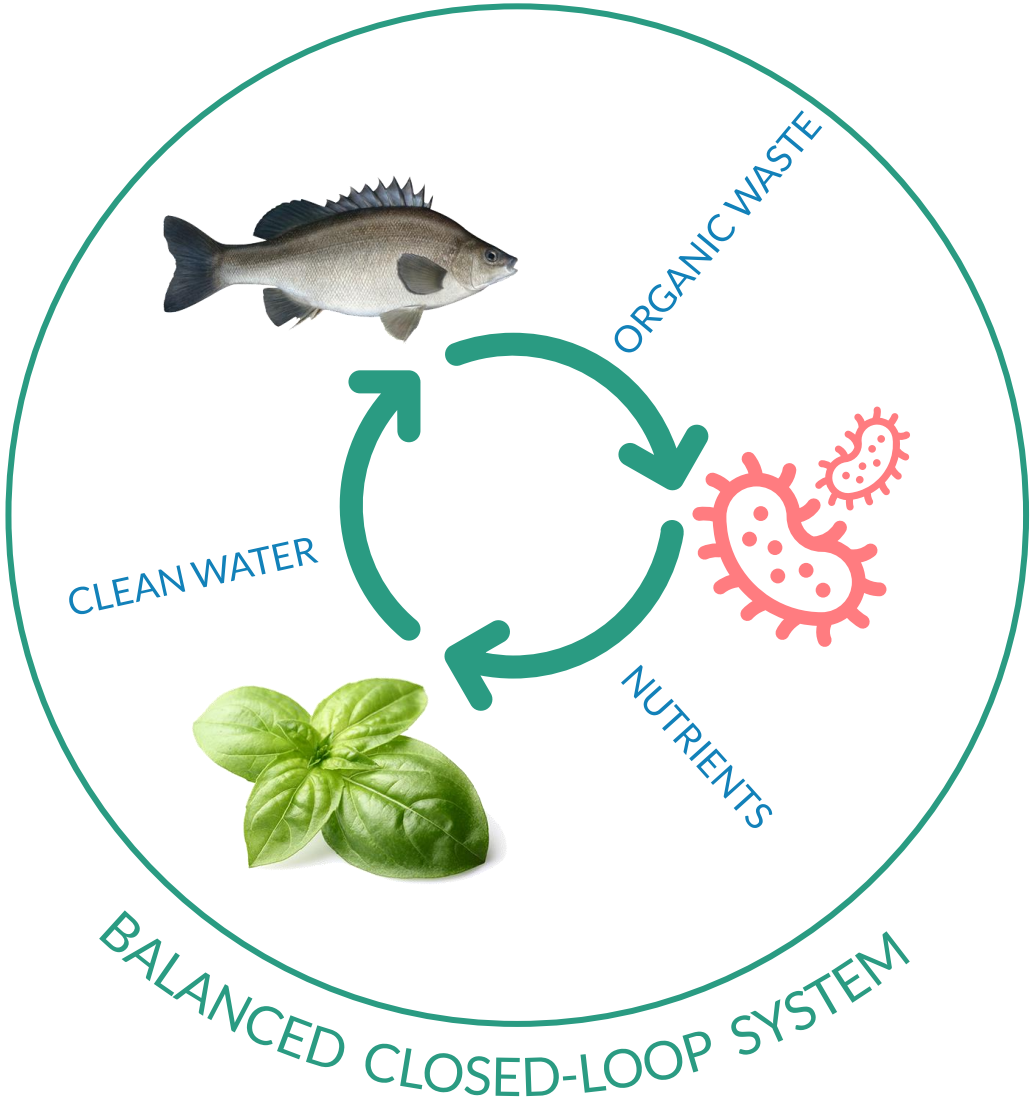
Recognized as an **R&D** entity by **ANI**, in the technical-scientific domains:

AGÊNCIA NACIONAL DE INOVAÇÃO

Agri-food – Healthy and sustainable food
Water and Environment – Waste reduction, management, treatment and recovery
Agri-food – Waste treatment and reuse

INTERNATIONAL BACKGROUND

HOW DOES AQUAPONICS WORK



SEAFOOD AND ORGANIC VEGETABLES

NO WATER WASTE

NO WASTEWATER

NO PESTICIDES

NO SYNTHETIC FERTILIZERS

NO FERTILE SOIL

NO NEGATIVE IMPACT ON ECOSYSTEMS AND BIODIVERSITY

NO TRANSPORTATION

NO GHG EMISSIONS

FRESHNESS AND PROXIMITY

WHY AQUAPONICS

Demand for fresh (sea)food & greens

Food retailers seek local solutions to avoid supply chain shortages

Water scarcity

The food system is high water-demanding

Aquaculture costs & impact

Aquaculture is investment and infrastructure demanding and not environmentally friendly

Impacts of food transportation

Nonlocal and centralized farming leads to food transportation, which generates GHG emissions and loss of freshness

WHY AQUAPONICS (cont.)

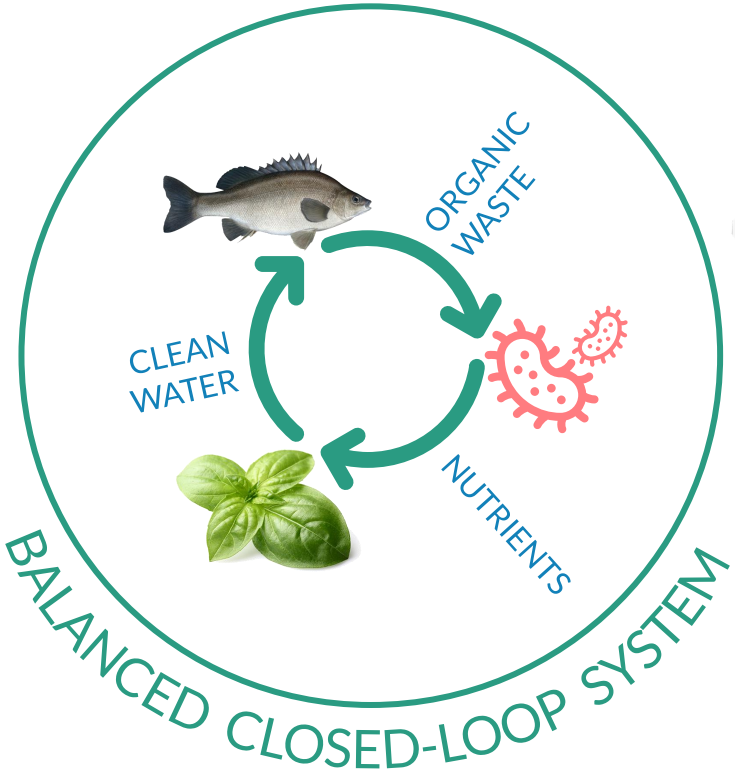
- **Rising consumer awareness**
  of environmental and food safety concerns
- **Taking advantage of seasonality**
  price fluctuations while being able to grow throughout the year
- **Exemption from emerging EU**
  environmental legal restrictions on conventional farming
- **Being climate-adaptive**
  Unpredictable weather has considerable negative impact on the food supply

MARKET OPPORTUNITY

Global Aquaponics Market to hit $1billion by 2031

- In 2022 global aquaponics market size was
  $493million
- Compound annual growth rate (CAGR) of
  9.8% forecast period of 2022-2031

CLASSIC AQUAPONICS



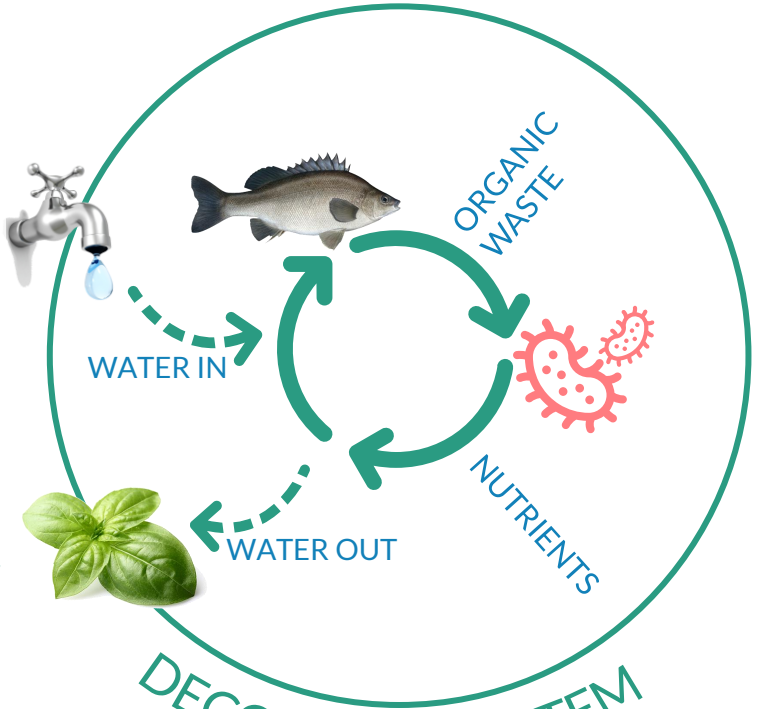
ORGANICITY
SUSTAINABILITY
PRODUCTIVITY/STABILITY
LOW MAINTENANCE

CLASSIC APPROACH

NOWADAYS COMMERCIAL APPROACH

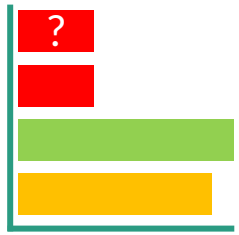
OUR TECHNOLOGY APPROACH

STATE-OF-THE-ART AQUAPONICS



CLASSIC APPROACH

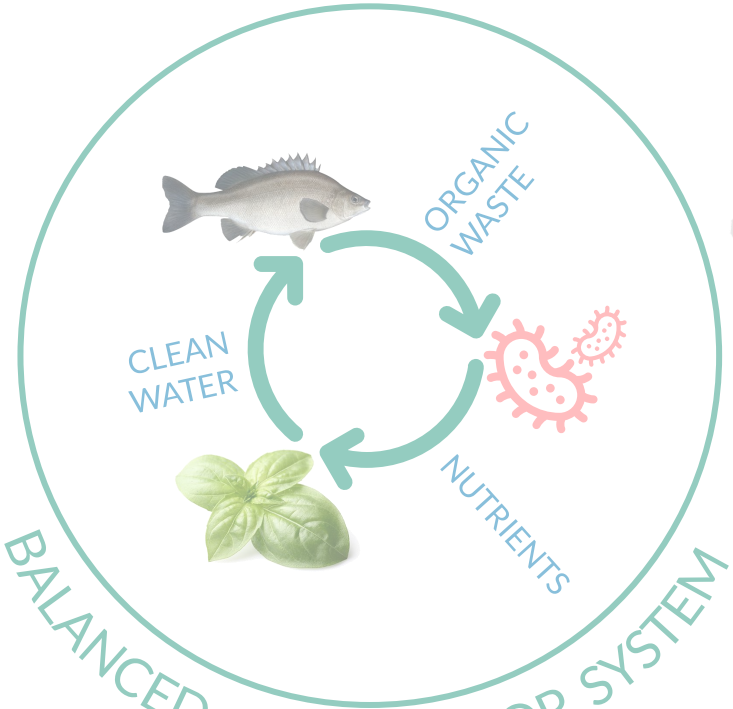
ORGANICITY
SUSTAINABILITY
PRODUCTIVITY/STABILITY
LOW MAINTENANCE



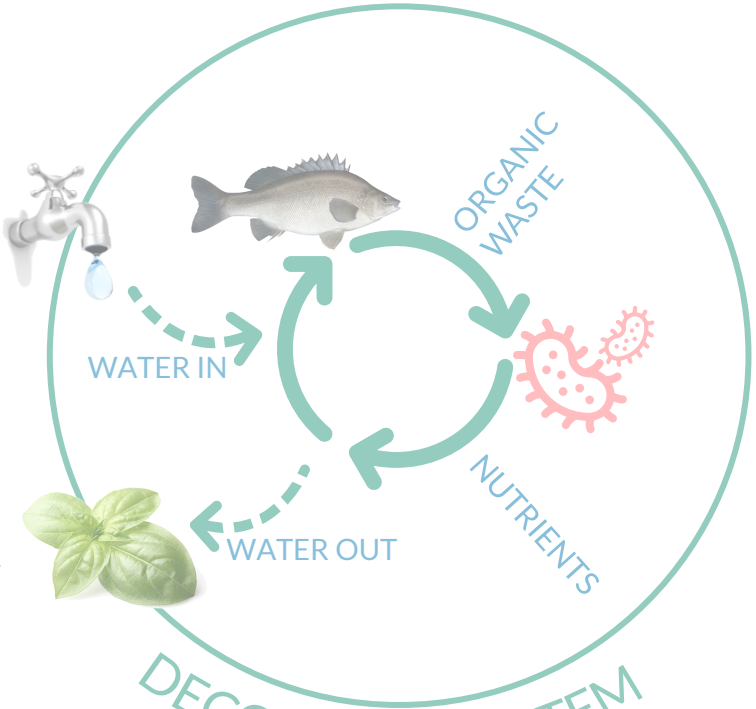
NOWADAYS COMMERCIAL APPROACH

OUR TECHNOLOGY APPROACH

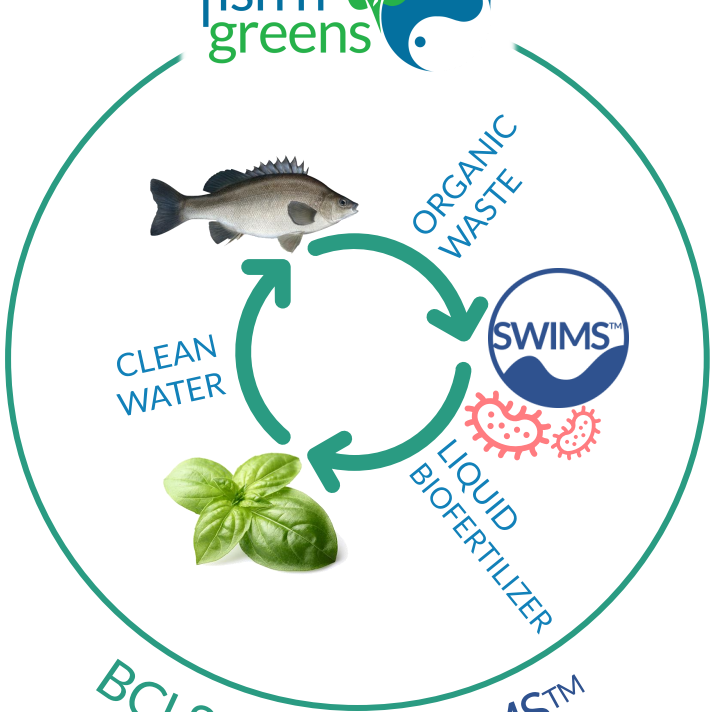
OUR TECHNOLOGY



BALANCED CLOSED-LOOP SYSTEM



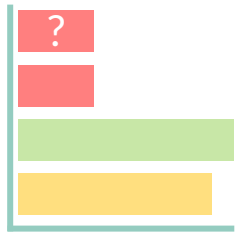
DECOUPLED SYSTEM



BCLS WITH SWIMS™

ORGANICITY
SUSTAINABILITY
PRODUCTIVITY/STABILITY
LOW MAINTENANCE

CLASSIC APPROACH



NOWADAYS COMMERCIAL APPROACH

OUR TECHNOLOGY APPROACH

SWIMS™

OUR TECHNOLOGICAL AND SUSTAINABILITY APPROACH

COMPETITION

OUR AQUAPONICS PROJECTS

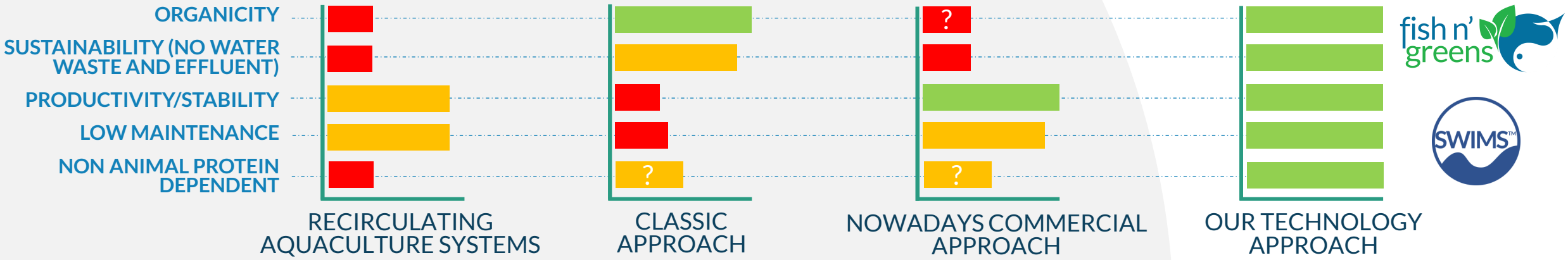
aquaponics Iberia

AQUACULTURE projects currently being invested

AQUAPONICS

Standard systems

Decoupled systems

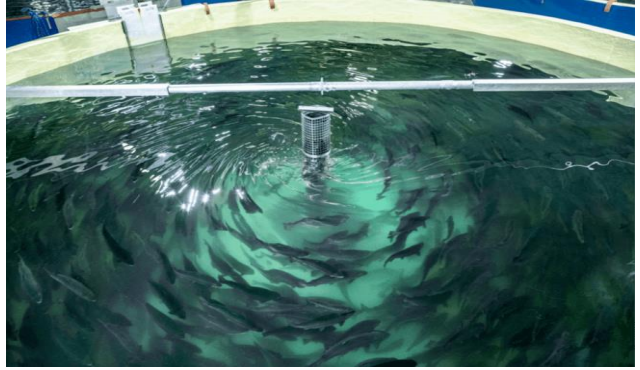


fish n' greens

SWIMS™

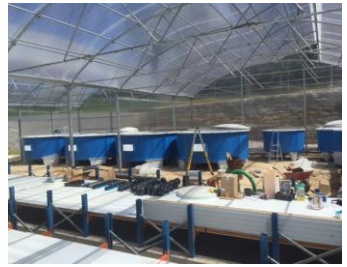
KNOW HOW

RAS, Aquaponics and Water treatment

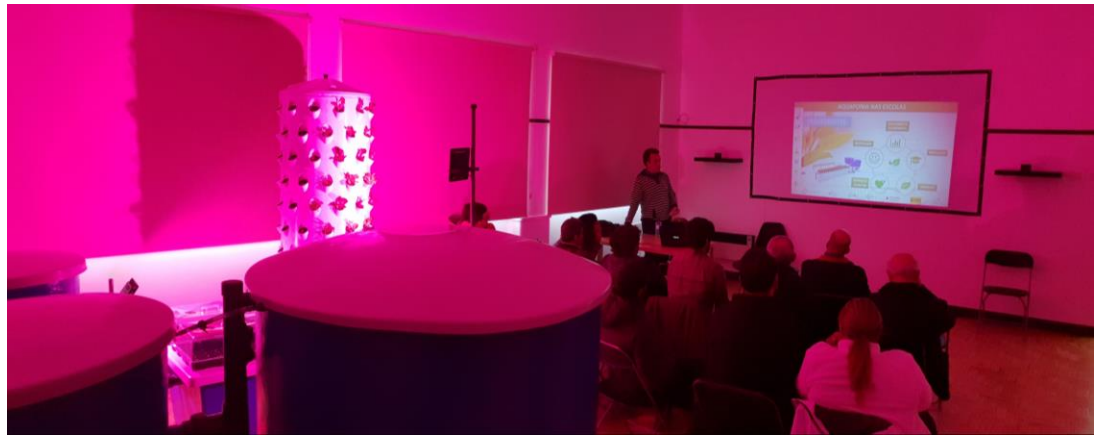












BUSINESS MODEL

Revenue sources

Fresh, local, tasty,
healthy and sustainable
fish and
vegetables!

100
tons/year

FARMED RESPONSIBLY asc CERTIFIED ASC-AQUA.ORG TM

FRIEND OF THE SEA

480
tons/year

FRIEND OF THE EARTH

BUSINESS MODEL

Revenue sources












and by-products (fish waste, organic compost, organic liquid fertilizer, carbon credits)

BUSINESS MODEL

B2B target customers

SECURED

- Municipality schools canteens
- Food Retailers
- Restaurants and hotels
- Local workplace offices
- Other industries

BUSINESS MODEL

B2C target customers

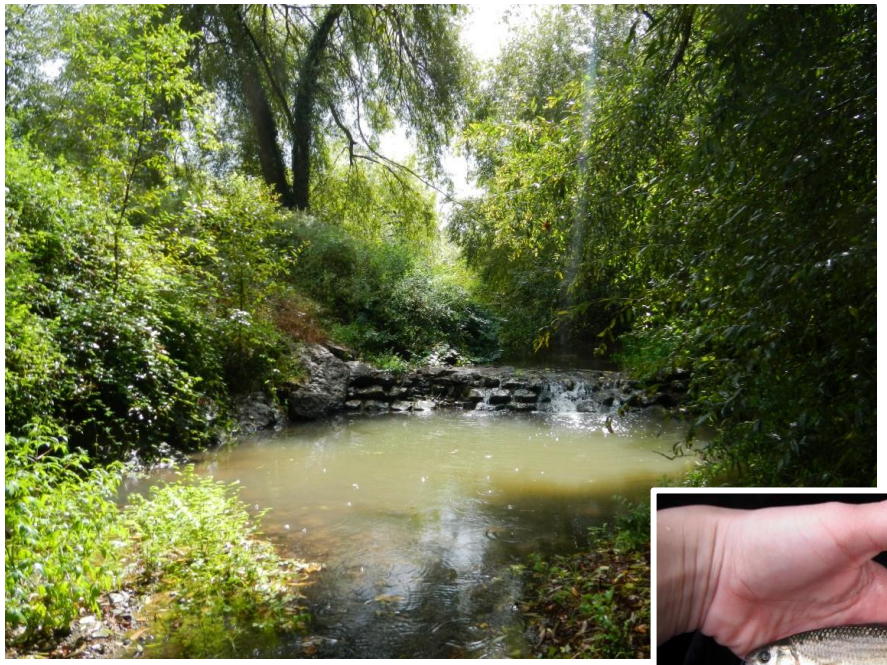
- Online consumers
- Weekly Farmers markets
- *Fish n' Greens*
  urban fresh food stores

END CONSUMER TRENDS

1. Healthy
2. Sustainable
3. Local

ENVIRONMENT AND IMPACT

- No waste residues
- No water waste
- Environmental education and awareness
- Carbon neutrality
- No fishmeal input
- Lean scalability and flexibility



OUR CONTRIBUTION TO THE SDGs

COMPETITION

Aquaponics small farmers and startups

Tilamur (Spain)

Les Nouvelles Fermes (France)

ECF Farmsystems (Germany)

Seafood importers

Several companies importing cod, Atlantic salmon, Atlantic seabass, gilthead seabream…

General hydroponics

Hydroponics farmers in Portugal and Spain

QUALITATIVE COMPARISON BETWEEN AQUAPONICS TECHNOLOGIES

Features	COMPETITORS: Standard balanced closed-loop aquaponics system	COMPETITORS: Decoupled aquaponics system	SWIMS™
Consumer trust in organicity (symbiotic ecosystem)	✓	✗	✓
Free of synthetic fertilizers (< input costs)	✓	✗	✓
Flexibility to increase/reduce plant production capacity	✗	✓	✓
Stability and control of nutrient concentration levels	✗	✓	✓
Long term plant high productivity and stability	✗	✓	✓
Long term dissolved oxygen availability and food safety	✗	*	✓
Low maintenance (cleaning) requirements	✗	✓	✓✓
Low water waste/consumption	✓	✗	✓✓
Decarbonizing effect in the food industry **	✓	✓	✓✓
			✓

* Depending on the option to use controlled oxygen input

** Rich CO_2 air from the fish room is pumped to the greenhouse and assimilated by plants; local production and consumption (reduced transportation)

ROADMAP

SWIMS™ R&D (TRL 8)
aquaponics Iberia

Lab scale R&D.
Designing and building commercial units for customers

Automation and digitalization of processes.
Securing market and regulation.
Fish species exclusivity.

fish n' greens
TODAY

2024

Implementing 1st FnG full-scale unit

Financing 1st full-scale unit

2025

Raise funding for 2nd FnG unit (2nd city)

FnG full-scale unit fully operational (TRL 9)

100 tons

480 tons

2026

Replicate units (5 units/cities before 2030)

2030

Market technologies

500 tons

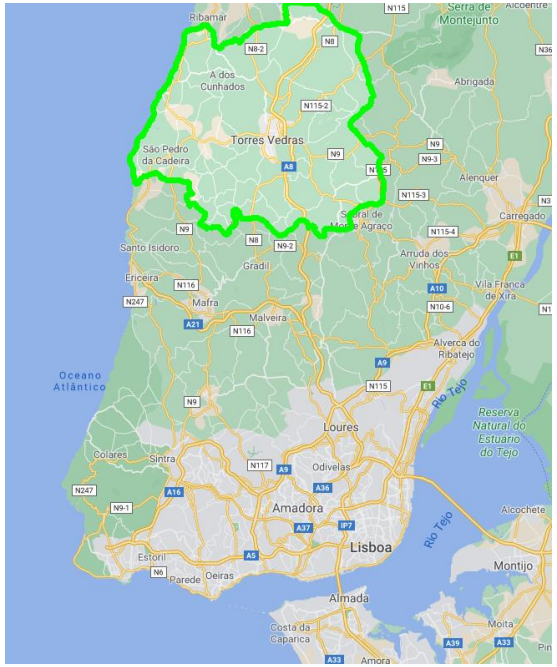
2 400 tons

WHERE

Torres Vedras
Câmara Municipal

Torres Vedras

Location of the first production unit.
A region of more than 2 million consumers (50 km radius). Less than 30 minutes from Lisbon.



Future expansion to other municipalities in Portugal and throughout Europe.

INVESTMENT (1st FULL COMMERCIAL SCALE UNIT)

Building (2 500 m²)
&
Greenhouse (9 000 m²)

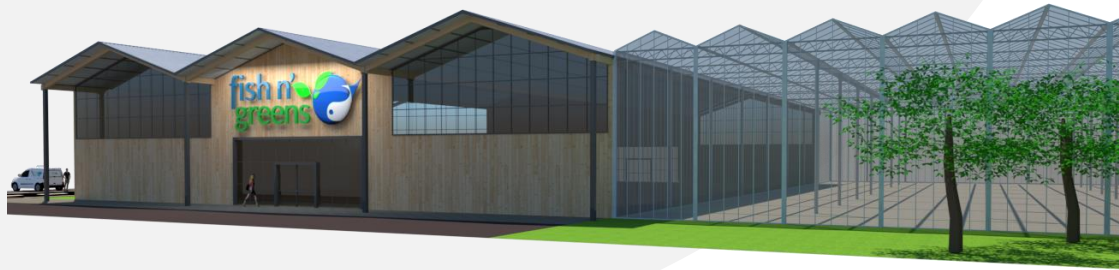
+ project
+ equipment, materials
+ technology
+ implementation and tests
+ team expansion and training
+ 15 month OPEX

5.8 million €

INVESTMENT IN SUSTAINABLE AQUACULTURE

ENVIRONMENTAL/SOCIAL IMPACT KEY NUMBERS

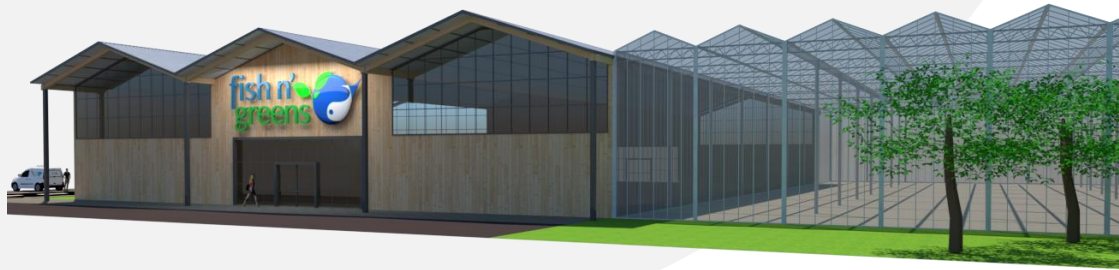
		1st full scale unit	Scale-up
Size	→	11 500 m^2	5 x 11 500 m^2
Carbon sequestration	→	740 tons $year^{-1}$	3 700 tons $year^{-1}$
Less overfishing (fish catches)	→	-420 tons $year^{-1}$	-2,100 tons $year^{-1}$
Water savings	→	32 500 m^3 $year^{-1}$	162 500 m^3 $year^{-1}$
Educational tours (# students)	→	2 640 $year^{-1}$	13 200 $year^{-1}$
Organic waste/wastewater	→	0	0
Synthetic fertilizers input	→	0	0
Inorganic pesticides input	→	0	0
Medication input	→	0	0



INVESTMENT IN SUSTAINABLE AQUACULTURE

ECONOMIC/FINANCIAL KEY NUMBERS

		1st full scale unit	Scale-up
Size	→	11 500 m^2	5 x 11 500 m^2
Fresh finfish	→	100 tons/year	500 tons/year
Organic fresh greens	→	480 tons/year	2 400 tons/year
Financing demand	→	5.8 M€	27 M€
Revenues per year	→	6 M€	31 M€
EBITDA-To-Sales Ratio	→	61%	64%
ROI	→	44%	47%
Payback period	→	3 years (2027)	3 years



OUR CORE TEAM

Participants in Climate-KIC 2017,
EIT Food FAN Bilbao 2019,
BlueInvest Readiness Assistance 2020,
EIT Innowise Scale Water Scarcity 2022,
Blue Bio Value Edition 2022,
Ignition Programme 2023

JOÃO COTTER

CEO

+20 years of experience in aquaculture & aquaponics

ORLANDO RODRIGUEZ

COO

+40 years of experience in aquaculture & aquaponics

PATRÍCIA COTTER

CCO

+10 years of experience in sales, food safety & processing

PAULO TORRES

CSO

+17 years of experience in marine biology & aquatic R&D

OUR FINANCE AND BUSINESS DEVELOPMENT TEAM

Participants in Climate-KIC 2017,
EIT Food FAN Bilbao 2019,
BlueInvest Readiness Assistance 2020,
EIT Innowise Scale Water Scarcity 2022,
Blue Bio Value Edition 2022,
Ignition Programme 2023

Nuno Bonifácio boasts over two decades of banking expertise, underpinned by a degree in Banking Management and a post-graduate degree in Financial Markets. His commitment to ongoing growth is reflected in his Master's in Executive Education from NOVA Business School. He spent 20 successful years in the banking industry focusing on financing companies and projects. For the last 6 years he has been working independently in the financial industry with a focus on scaling up startups and helping companies to restructure their financials. Nuno has worked with companies in a wide range of sectors including but not limited to agro-business, emerging technologies, construction and hospitality. He is fluent in Portuguese, English and Spanish.

Mia Baik has over three decades of business, government, and nonprofit expertise in global industry sectors such as, life sciences, real estate acquisitions, asset management, hospitality, media and entertainment, and executive training. Mia has consulted for organizations such as, The World Bank, CIGNA, Boeing, The Wrigley Corporation (MARS), The United States Department of Defense, and U.S. federal, state, and local government agencies. She has a post-graduate degree in Finance and International Business, along with a Master's in Communications and Public Affairs from American University, Washington, D.C.

OUR JOINT VISION

fish n' greens

aquaponics Iberia

www.aquaponicsiberia.com
www.fishngreens.eu
+351 918 784 620
info@fishngreens.eu

Partners and supporters

Torres Vedras Câmara Municipal
ECO CAMPUS TORRES VEDRAS
TORRES INØV-E
GHL
BLUE INVEST
OPENGROW.
food for sustainability
SMART FARM COLAB
Interreg Mediterranean BLUEfasma
Ciências ULisboa
POLITÉCNICO DE LEIRIA
BLUEBIO ALLIANCE
MARE
IPMA Instituto Português do Mar e da Atmosfera
IGNITION PROGRAMME
eit Community Water Scarcity
eit Food ACCELERATOR NETWORK
eit Climate-KIC
MARE STARTUP
GEOPARQUE OESTE
AVG AQUÁRIO VASCO DA GAMA