Mapping innovation opportunities in fishing ports and fisheries ecosystems.

Interreg
Atlantic Area
FISHINN

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the European Union

INDEX

The objective of WP2 was to identify real-world examples of innovation that respond to the current and emerging challenges facing the blue economy. These examples were captured through a specially developed **Innovation Canvas**, which allowed for structured documentation and consistent analysis across regions.

The work included:

- Mapping of ecosystems and innovation activities across all partner territories.
- Development of a shared Innovation Canvas tool to document and categorise best practice.
- Collection of 44 innovation examples from within and beyond the Atlantic Area.
- Structured evaluation of the examples using a Capability Matrix, which assessed **desirability**, **viability**, **feasibility**, and **transferability**.
- Selection of 6 best practices per partner (24 total) to be carried forward to Work Package 3 for further roadmapping and replication potential.

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Project Summary and Context

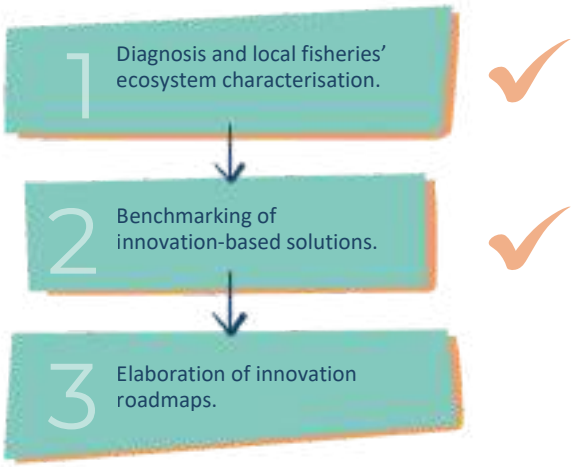
01

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THE FISHINN PROJECT

The objective of the Fishinn project is to **increase the competitiveness and resilience of the ports that form four local fisheries ecosystems** and value chains, in the Atlantic Area by reinforcing local actors' **collaboration and innovation capacities**. In order to stimulate the creation of new economic activities and to transition towards smart, circular and efficient business models as well as innovative solutions in local fisheries ecosystems to reverse their decline, knowledge exchange among stakeholders across different territories will be supported by technological centres and clusters. To increase the resilience and competitiveness of fisheries ecosystems, this project will address the following key challenges:

This project consists of 3 phases:





Cooperation and innovation



Digitalisation



Transition towards a circular economy



Co-existence with other blue economy sectors

Project Information

› **EU Programme:** Interreg Atlantic Area Programme 2021-2027
› **Acronym:** FISHINN
› **Code number:** EAPA_0021/2022
› **Title:** Innovation roadmap for local fisheries ecosystems recovery.
› **Type of project:** Traditional
› **Start date:** 01/11/2023
› **End date:** 31/10/2026
› **Duration in months:** 36

Area of Intervention

› **Programme Priority:** Blue innovation and competitiveness.
› **Programme specific objectives:** RS01.1 Developing and enhancing research and innovation capacities and the uptake of advanced technologies.
› **Fields of intervention:**
029 Research and innovation processes, technology transfer and cooperation between enterprises, research centres and universities, focusing on the low carbon economy, resilience and adaptation to climate change.

Project Budget

TOTAL BUDGET (€)	FUNDING AMOUNT (ERDF)
1.235.480,00€	926.610,00€

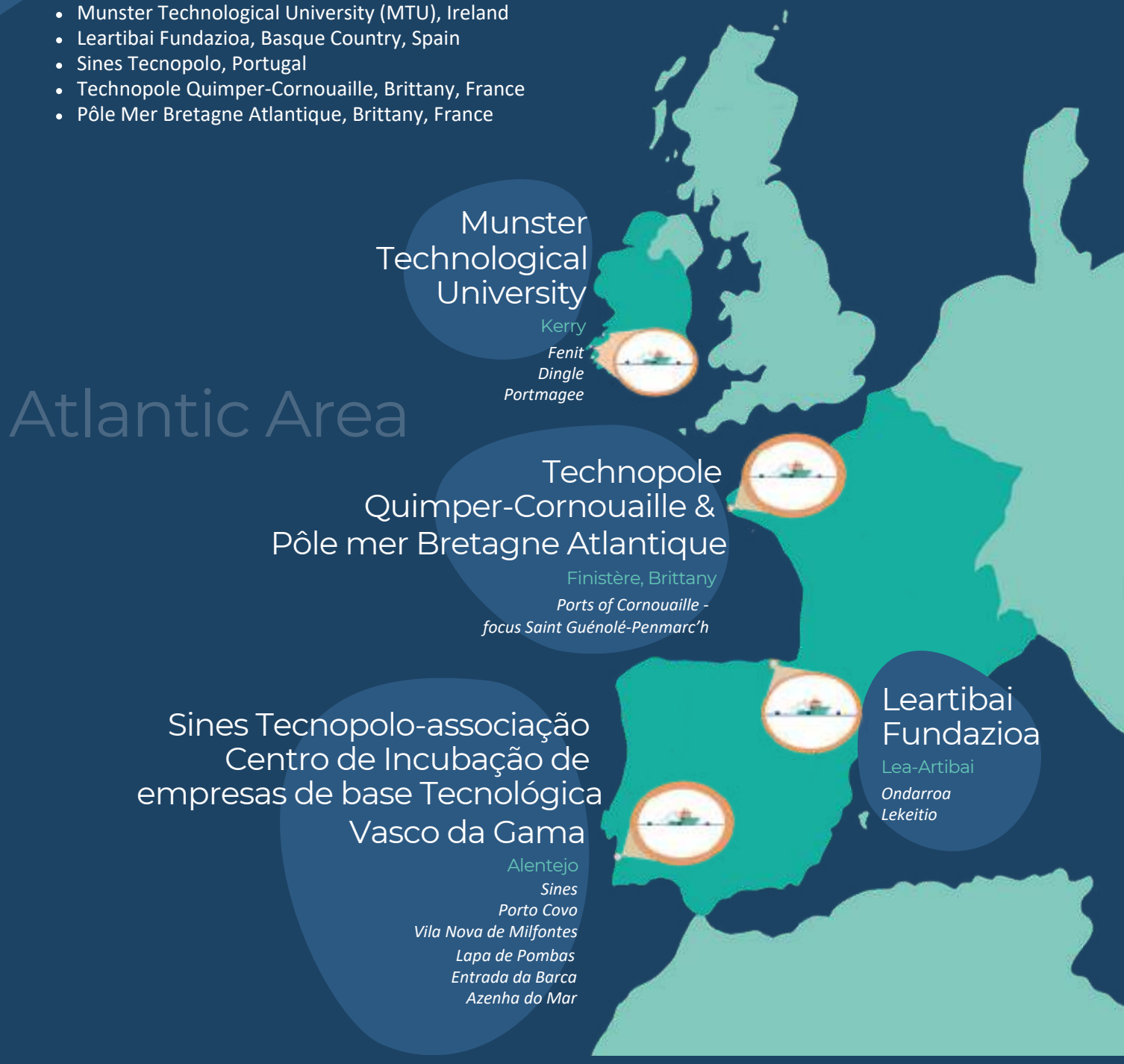
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Partner regions of the FISHINN Project

The FISHINN (Fisheries Innovation) Project, funded by the Interreg Atlantic Area programme (EAPA_0021_2022), supports innovation within the fisheries and wider blue economy across Atlantic coastal regions. Work Package 2 (WP2) specifically focused on identifying, analysing, and presenting best practice innovation examples across a diverse range of ecosystems, with a view to fostering knowledge exchange and creating a pipeline of potential solutions that can be adopted or adapted by other coastal communities.

This report delivers the final output of WP2 and brings together the research, mapping, and structured review processes undertaken by the four FISHINN partner organisations:

- Munster Technological University (MTU), Ireland
- Leartibai Fundazioa, Basque Country, Spain
- Sines Tecnopolo, Portugal
- Technopole Quimper-Cornouaille, Brittany, France
- Pôle Mer Bretagne Atlantique, Brittany, France



Mapping Blue Economy Ecosystems

02

This deliverable D2.1 is the output of Work Package 2

Recap from Previous WP1 Deliverable

Lea-Artibai, Basque Country (Ports of Ondarroa & Lekeitio)



Organisation: Leartibai Fundazioa (Lead Partner – FISHINN)
Territory: Lea-Artibai, Basque Country (Ports of Ondarroa & Lekeitio)
Role in Ecosystem: Regional innovation and economic development authority; driver of fisheries diversification and blue economy transition.

The Lea-Artibai region in northern Bizkaia is deeply rooted in fishing culture, historically shaped by the ports of Ondarroa and Lekeitio. Although both communities share a long maritime tradition, they have evolved differently: Ondarroa has become one of the most industrialised and high-volume fishing ports in the Basque Country, while Lekeitio leans toward artisanal and recreational activity. The region benefits from a remarkably complete fishing value chain—from catching to processing to retail—that positions it as a central hub for maritime economic activity.

Capacities

The region's strongest assets lie in its modern port infrastructure, especially Ondarroa's technologically advanced fish market, and in its wide range of specialised companies. Local firms possess deep skills in ship repair, seafood processing, and high-quality canning, complemented by a well-established network of wholesalers with strong international reach. The presence of a food technology research centre enhances innovation potential by supporting product development and knowledge transfer. Retail activity benefits from the strong reputation of "Ondarroa fish", reflecting consistent quality. These capacities are reinforced by a longstanding commitment from local enterprises, which have shown resilience through past crises and have preserved a valuable regional knowledge network.

Challenges

However, the ecosystem faces significant structural pressures. Many firms—especially suppliers and processors—operate with extremely tight margins, limiting their ability to invest or modernise. Generational renewal is a widespread concern, as an aging workforce and low sector attractiveness place future continuity at risk. Extractive fishing is constrained by strict EU quotas and shifting consumer habits, which reduce the profitability of traditional high-volume models. Digitalisation remains uneven across the chain, with many smaller companies lacking capacity to adopt new tools.

Distribution is another bottleneck: reliance on external transport providers and inadequate road access to Ondarroa raise costs and complicate logistics. Processing firms also face challenges related to waste management, environmental compliance, and seasonality.

Opportunities

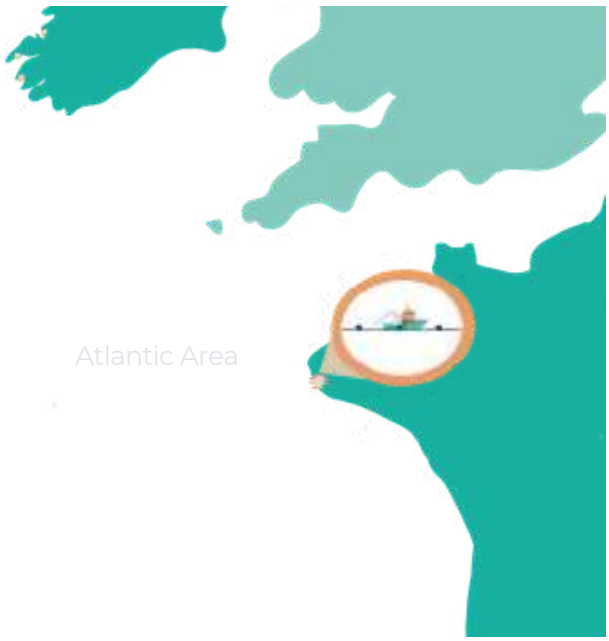
Despite these pressures, Lea-Artibai holds meaningful opportunities for renewal. The Blue Economy framework opens the door to diversifying port activities, from new aquaculture ventures to marine biotechnology and circular-economy initiatives. Available industrial space around the port and modern infrastructure provide a strong foundation for such developments. Digital transformation—through improved traceability, online sales, and automated processes—could enhance efficiency and strengthen the region's market position. Promoting the Ondarroa brand more strategically may also help differentiate local products and increase consumer trust. Research centres can support innovation by developing new fish-based products or valorising by-products. Finally, strengthening collaboration between public bodies, companies, and knowledge institutions would create shared momentum for investment, entrepreneurship, and long-term competitiveness.

Conclusion

Lea-Artibai combines robust maritime expertise with modern facilities and strong market connections, but its future depends on addressing margins, ageing demographics, and outdated business models. By embracing innovation, digitalisation, and Blue Economy diversification, the region can revitalise its fishing ecosystem and build a more resilient economic future.

Recap from Previous WP1 Deliverable

Brittany / Cornouaille port of Saint-Guénolé Penmarc'h



Organisation: Technopole Quimper-Cornouaille & Pole Mer Bretagne Atlantique
Territory: Brittany / Cornouaille (regional scope – supporting Saint-Guénolé Penmarc'h)
Role in Ecosystem: Entrepreneurship, SME mobilisation and early-stage, start-up & scale-up innovation support

The fishing ecosystem of Saint-Guénolé Penmarc'h, located on the southern Cornouaille coast of Brittany, is shaped by a long tradition of purse-seine and inshore fishing. Although landings have decreased over the last decade, the port remains an important contributor to regional fisheries, with a diversified fleet and a community whose identity is strongly tied to the sea. The port is surrounded by extensive coastline, valuable marine resources, and a cluster of activities ranging from fishing and processing to shipyards, tourism, and a small number of emerging blue-economy enterprises.

Capacities

Saint-Guénolé's main strengths lie in its high-quality natural resources, particularly the rich fishing grounds of the Bay of Biscay and access to abundant sardine, anchovy, pollock, langoustine, and other species. The port has substantial infrastructure—quays, auction halls, dock space, and sheltered areas—providing a solid physical foundation for maritime activity. The ecosystem benefits from deeply rooted maritime know-how: seasoned fishers, skilled shipyard workers, artisanal processors, and family-run canneries define a strong heritage of craftsmanship. Newer activities, such as biotechnology and specialised fishmongering, are beginning to complement this tradition. A shared cultural attachment to the port strengthens cohesion and provides local motivation to preserve fishing as the core activity. The presence of digital sales tools in the auction hall also demonstrates readiness for operational modernisation.

Challenges

Political and regulatory decisions at national and EU levels—including fleet reductions, fishing bans, and complex administrative requirements—have placed strain on local operators, who feel disconnected from top-down decision-making. Economic pressures continue to grow: rising operating costs, ageing fleets, and declining volumes make financial stability difficult. Port infrastructure is ageing; several buildings require renovation, decontamination, or reorganisation, while exposure to flooding and coastal hazards complicates planning. Climate change adds further stress, with changing species sizes and shifting stocks. Workforce renewal is another significant challenge, as many skilled fishers and processors approach retirement with few young entrants to replace them.

Consumer trends also create tension: demand for processed or convenience seafood is rising while understanding of local species and seasonality is declining.. Finally, there is a technological gap—modernisation and decarbonisation of vessels are costly, and access to financing is limited.

Opportunities

New business models could emerge in direct sales, short supply chains, and consumer-focused marketing, capitalising on strong interest in transparency and local products. Circular-economy initiatives—such as reusing materials, extracting value from by-products, and developing new niche products—represent another avenue for diversification. The region also shows potential for aquaculture pilot projects, small-scale seaweed cultivation, rewilding initiatives, and marine resource reseeding, pending scientific assessment. The port's energetic wave conditions may support exploration of marine renewable energy, adding a long-term economic dimension. Strong collaboration with the scientific community could help stakeholders better understand ecosystem changes and co-design sustainable futures. Tourism offers additional possibilities: the area's natural beauty, cultural heritage, and fishing identity could be integrated into marine-focused visitor experiences.

Conclusion

Saint-Guénolé Penmarc'h combines rich natural resources, strong local skills, and meaningful cultural identity, yet faces significant economic, environmental, and governance pressures. While challenges are complex and interlinked, the ecosystem also presents fertile ground for innovation, circularity, and small-scale diversification.

Recap from Previous WP1 Deliverable

Portugal – Alentejo Coast (Port of Sines)

Organisation: Sines Tecnopolo
Territory: Alentejo Coast (Ports of Sines)
Role in Ecosystem: Blue economy entrepreneurship and training enabler; connector between local fishing communities, policy actors and new business creation.

The Alentejo coastline—stretching across six traditional fishing ports including Sines, Porto Covo, Vila Nova de Milfontes, Lapa de Pombas, Entrada da Barca, and Azenha do Mar—forms a relatively small yet highly active fishing ecosystem. Although only four ports have auction facilities, the region maintains an important fishing tradition rooted in small-scale coastal activity. Fishing plays a significant role in local employment and cultural identity, while Sines Tecnopolo acts as a key connector across the local innovation and entrepreneurship landscape.



Capacities

The ecosystem benefits from an integrated local value chain in which extractive fishing, processing, and wholesaling coexist in close proximity. Local operators demonstrate strong specialised knowledge, particularly in trap, net, and seine fishing methods, which support the region's main species such as sardines, mackerel, blue whiting, and octopus. A notable capacity across the ports is their willingness to coordinate activities, for example by combining fishing with tourism services or by developing synergies between processing and wholesale operations.
Some firms have adopted advanced technologies and automation, increasing productivity and efficiency in fish processing and distribution. The region's wholesale and processing companies benefit from extensive distribution networks that extend into Portugal and Spain, supported by strategically placed storage facilities that ensure steady market access. Research bodies contribute additional capacity through work on marine biodiversity and resource sustainability, while also providing environmental education and public engagement. Deeply rooted local experience and an ability to adapt to fluctuating conditions create a form of operational resilience that helps the sector withstand seasonal and economic pressures.

Challenges

The regulatory environment is complex and frequently changing, creating barriers for new operators and complicating compliance for existing ones. Extractive fishing suffers from high operational costs, variable fish prices, and rising fuel expenses, all of which threaten financial stability. The region also experiences a shortage of skilled labour, and younger generations show limited interest in entering the fishing industry, which puts generational renewal at risk.

Technology adoption is uneven across the chain; although some companies use modern tools, many lack digital infrastructure or face restrictions due to outdated regulations. Waste management and pollution present ongoing challenges, especially as facilities for valorising or recycling fish waste remain limited.

Opportunities

Alentejo ecosystem holds significant potential for forward-looking development. The ports are well positioned to embrace innovation and digital tools, from enhanced stock-management systems to direct-to-consumer online sales. Diversifying product offerings, especially toward value-added or eco-labelled seafood, can attract new consumer segments and strengthen the local market. Expanding into the hospitality sector or creating experiences that combine fishing with tourism and gastronomy could generate new revenue streams and deepen the connection between visitors and local maritime culture. Circular economy practices—such as reducing waste, improving materials reuse, and valorising by-products—offer additional avenues for sustainability and profitability. Collaboration with environmental organisations and research institutions can help accelerate ecological transition and enable more effective marine resource management.

Conclusion

Alentejo retains considerable strengths: specialised knowledge, resilient operators, engaged research bodies, and supply-chain integration. By embracing innovation, expanding value-added activities, strengthening collaboration, and adopting sustainable practices, the region can modernise its maritime economy while preserving its coastal heritage and local livelihoods.

Recap from Previous WP1 Deliverable

Ireland – Kerry ports of Dingle, Fenit and Portmagee



Organisation: Munster Technological University
Territory: Kerry ports of Dingle, Fenit and Portmagee
Role in Ecosystem: Blue economy entrepreneurship and research development; connector between local fishing communities, policy actors and new business creation.

The Kerry fishing ecosystem, located in the South-West of Ireland, centres on the three ports of Dingle, Fenit, and Portmagee. Although different in scale and function, each contributes to a vibrant regional network where fishing remains intertwined with tourism, agriculture, and local identity. Dingle serves as the primary landing site with substantial marina facilities; Fenit combines commercial and recreational marine activity; and Portmagee maintains a small but longstanding fishing fleet.

Capacities

Kerry's key strengths lie in its rich marine biodiversity, which supports a varied catch including whitefish, lobster, crab, prawns, shrimp, and shellfish. The region also has an active and skilled community of fishers, many operating through family-based firms or long-standing cooperatives that combine traditional knowledge with modern techniques. Aquaculture has become a notable component of the ecosystem, with operations in salmon, oysters, mussels, seaweed, and periwinkles, making Kerry the ecosystem with the highest number of aquaculture enterprises among the FISHINN territories. Infrastructure in Dingle and Fenit provides added capacity: Dingle boasts an advanced marina and well-developed visitor services supporting a growing Blue Tourism industry, while Fenit benefits from safe harbour conditions, active sailing and swimming clubs, and modernised commercial facilities. Across the region, the seafood value chain is supported by established wholesalers, processing companies, retailers, and R&D actors, including officers focused on shellfish and marine development. The ecosystem is further strengthened by strong local reputation for high-quality seafood, by reliable distribution partnerships, and by a willingness among some stakeholders to adopt innovative tools such as mapping technologies, online retailing, and digital marketing.

Challenges

Despite these assets, the Kerry ecosystem faces significant pressures. Compliance with EU and national fisheries regulations creates administrative burdens, and rigid licensing systems limit entry into the sector. High operating costs—combined with ageing vessels, expensive maintenance, and rising fuel prices—undermine profitability, while climate change makes fishing seasons increasingly unpredictable. nfrastructure also constrains growth. Shortage of skilled labour and the lack of clear career pathways for new entrants.

The cost of entering the industry has risen sharply. Processing companies face high investment requirements. Distribution and logistics firms struggle with the cost of transport and energy, while the sector as a whole wrestles with volatile market channels, environmental designations (SAC/SPA), and competition from imported seafood. Consumers' perception of seafood as expensive or difficult to prepare further depresses demand, particularly when compared with cheaper or more convenient alternatives. Across the supply chain, many enterprises lack strategic business planning or investment-readiness, limiting their ability to attract capital, develop new products, or scale innovative ideas.

Opportunities

Kerry also holds substantial opportunities—particularly in diversification, innovation, and Blue Economy development. Value-added seafood processing represents another opportunity, allowing firms to move beyond raw product sales into smoked, prepared, or premium packaged goods. Digital tools—online platforms, direct-to-consumer models, and targeted social media—can expand market access and strengthen brand identity. Opportunities exist in emerging sectors such as marine health products, nutraceuticals, cosmetics, and biobased materials, making use of local marine by-products. Above all, maintaining the fishing sector while fostering complementary Blue Economy activities provides a pathway for Kerry to strengthen resilience, attract new talent, and sustain its coastal communities.

Conclusion

Kerry's fishing ecosystem combines diverse marine resources, strong traditional knowledge, and valuable infrastructure, but faces deep challenges related to labour shortages, regulatory pressures, climate impacts, and rising costs. Significant potential exists, however, to revitalise the sector through strategic diversification, Blue Tourism, innovation in processing, and stronger collaboration.

WP2 Innovation Canvas Tool and Methodology

03

This deliverable D2.1 is the output of Work Package 2

3.1 Rationale for the WP2 Innovation Canvas

One of the central challenges of Work Package 2 was to identify and evaluate innovation practices across diverse blue economy contexts in the Atlantic Area. While many innovations exist within aquaculture, fisheries, blue biotechnology, circular economy, and marine tourism, these are often scattered, under-documented, or difficult to compare due to regional, linguistic, and sectoral differences. A mechanism was therefore required to standardise how partners could identify, capture, and assess these innovations.

The Innovation Canvas was introduced as a solution. Adapted specifically for the FISHINN project, it was designed to be a practical and flexible tool to support the comparative mapping of best practices across all four regions. Its structure allows for the collection of both qualitative and semi-structured data across key dimensions of innovation, ensuring a holistic picture of how an initiative works, what supports it, and what impact it has.

This tool proved especially valuable in transnational cooperation, where differences in terminology, sector maturity, and innovation readiness can lead to misunderstanding or mismatches. By introducing a shared template, the project created a common reference point for all partners and stakeholders, enabling more meaningful collaboration and easier alignment during evaluation and roadmap development stages.

The canvas has thus proven not only to be a useful research and evaluation tool but also a strategic instrument for building a transnational innovation ecosystem in the blue economy. It served to harmonise the perspectives of different regional stakeholders, enhance visibility of promising initiatives, and promote mutual learning through structured reflection. Importantly, it helped bridge communication gaps by distilling complex innovation models into digestible, replicable formats that could be shared across languages and policy systems.

3.2 Innovation Canvas Headings and Their Purpose

The FISHINN Innovation Canvas included nine carefully selected headings. These allowed partners to comprehensively map and understand the dimensions of innovation from operational, technical, environmental, and socio-economic angles.

1. **Key Activities** – To identify the core innovation-driven operations and workflows.
2. **Key Partners and Suppliers** – To highlight collaboration mechanisms and strategic networks.
3. **Key Local Resources** – To map the place-based natural, human, and cultural assets.
4. **Technical Resources** – To describe supporting infrastructure, tools, and platforms.
5. **Energy Resources** – To examine energy consumption, generation, and carbon strategies.
6. **Value Proposition** – To clarify the main user-facing and market-facing benefits.
7. **Customer Targets and Communities** – To identify users, beneficiaries, and engagement strategies.
8. **Environmental & Climate-Smart USPs** – To evaluate alignment with sustainability, climate, and policy goals.
9. **Distribution and Upscaling** – To explore potential for replication, growth, and diffusion.

3.3 Deep Dive: Information Captured & WP2 Dataset Examples

1. Key Activities
This heading captured the everyday processes and innovation mechanisms at the heart of each initiative. Across the dataset, this included seaweed farming, selective fishing technologies, upcycling of marine by-products, circular logistics, biofermentation, and integrated coastal tourism experiences. Projects such as Alegina (France) detailed transformation of shell waste into eco-construction materials, while others focused on sensor-based marine monitoring.

2. Key Partners and Suppliers
This section illustrated how collaboration enabled innovation. Most canvases revealed strong ties to research institutions, SMEs, fishers' cooperatives, port authorities, and sustainability NGOs. Examples included cross-border technology transfer (e.g. sensors from Norway used in Spain), local procurement alliances, and joint ventures between municipalities and marine entrepreneurs.

3. Key Local Resources
The canvases reinforced the importance of place. Responses highlighted the role of coastal geography, species availability, traditional knowledge, and local policy frameworks. Several projects benefited from existing marine clusters or innovation-friendly governance (e.g. seaweed zoning or green public procurement).

4. Technical Resources
A range of technologies was reported: traceability systems (QR codes, blockchain), aquaculture tanks with automated controls, biotech laboratories, circular processing facilities, and small-scale production pilots. These resources were critical enablers but also revealed gaps in digital adoption and infrastructure equity.

5. Energy Resources
Canvas entries varied in detail, but several showcased innovations in energy management—like solar integration in drying facilities or electric fishing vessels. Others documented early-stage efforts toward net-zero operations, including use of biomass and tidal energy pilots.

6. Value Proposition
Many innovations responded to shifting market preferences: local sourcing, reduced carbon footprints, or novel textures and flavours. High-value outputs included algae-based health products, heritage seafood, recycled plastic products, and eco-design furnishings for public spaces.

7. Customer Targets and Communities
This section often included chefs, processors, tourists, educators, and niche international buyers. Some canvases also referenced community beneficiaries such as unemployed youth or small-scale producers, indicating social impact alongside economic value.

8. Environmental & Climate-Smart USPs
Most canvases reported reduced emissions, biodiversity protection, marine litter prevention, or nature-based solutions. Examples included fully compostable packaging, zero-waste fish processing, regenerative aquaculture, and restored seagrass meadows.

9. Distribution and Upscaling
Projects displayed a mix of direct-to-consumer, B2B, and institutional routes. Some used franchising or licensing (e.g. bio-based product formulas), while others were scaling through cluster support or digital platforms. Upscaling constraints often involved regulatory complexity or investment barriers.

3.4 Insights from the WP2 Innovation Canvas Dataset

From the 44 canvases collected, several cross-cutting insights were drawn:

- **Embedded regionalism**: Nearly all innovations were locally rooted and responsive to regional strengths and values. This increased community support, resilience, and policy alignment.
- **Knowledge flows are essential**: Strong projects were those embedded in learning networks—whether through universities, incubators, or intergenerational transmission of marine skills.
- **Circular economy is not a niche**: Circular principles are increasingly central, with many ventures based entirely on waste conversion, reuse, and cascading use of resources.
- **Ecosystem innovation dominates over individual innovation**: Innovation was rarely a product of one actor. Most successful examples combined private, public, civic, and academic efforts.
- **Algae and shellfish sectors are hotspots**: These sub-sectors appeared most frequently, offering high value with relatively low environmental impact.
- **Sustainability is a default expectation**: Most actors assumed sustainability had to be central—not as a marketing add-on but a fundamental design principle.
- **Digital underperformance**: Despite strong potential, relatively few canvases made full use of digital traceability, automation, or data analytics, indicating an area for targeted support.

These insights were critical in supporting partners to shortlist six best practices per region. By understanding innovation types, strengths, and gaps, the canvas dataset enabled more nuanced and evidence-based decision-making. It laid the groundwork for the Capability Matrix phase and the roadmap development in Work Package 3. innovation canvas were selected based on each ecosystems' challenges, resources and interests in specific themes.



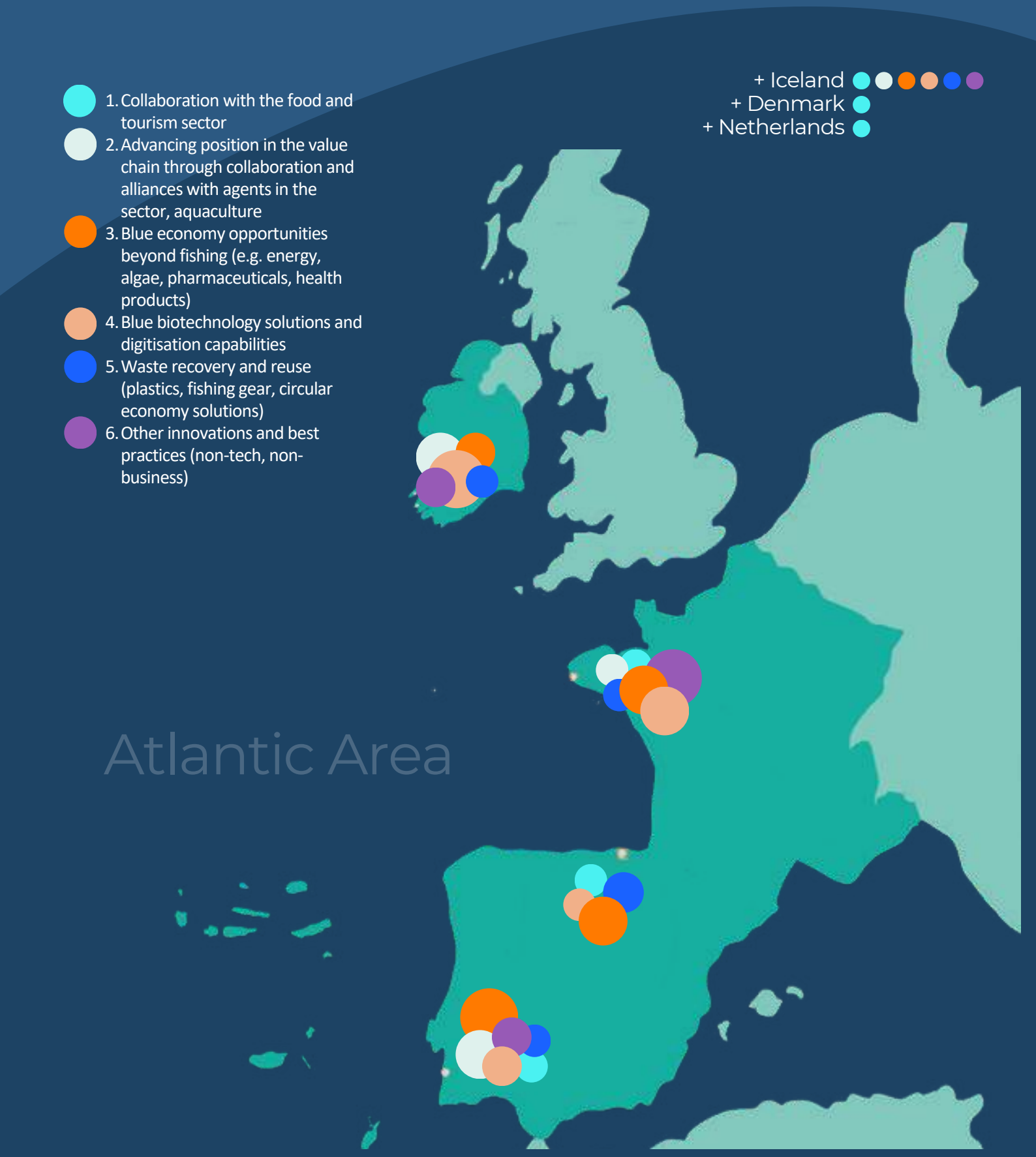
Selection of Best Practices & WP2 Capability Matrix

04

This deliverable D2.1 is the output of Work Package 2

Mapping of FISHINN themes

1. Collaboration with the food and tourism sector
2. Advancing position in the value chain through collaboration and alliances with agents in the sector, aquaculture
3. Blue economy opportunities beyond fishing (e.g. energy, algae, pharmaceuticals, health products)
4. Blue biotechnology solutions and digitisation capabilities
5. Waste recovery and reuse (plastics, fishing gear, circular economy solutions)
6. Other innovations and best practices (non-tech, non-business)



4.1 WP2 Regional Selection Process

Following the completion of 44 Innovation Canvases by companies and organisations across the four partner regions, each FISHINN project partner—Munster Technological University (MTU), Sines Tecnopolo (Portugal), Leartibai Fundazioa (Basque Country), and Pôle Mer Bretagne Atlantique/Technopole Quimper-Cornouaille (France)—undertook a collaborative process to identify six priority best practice cases for further evaluation. This process involved structured engagement with local stakeholders, drawing upon regional knowledge, strategic priorities, and thematic relevance across six FISHINN themes:

1. Collaboration with the food and tourism sector
2. Advancing position in the value chain through collaboration and alliances with agents in the sector, aquaculture
3. Blue economy opportunities beyond fishing (e.g. energy, algae, pharmaceuticals, health products)
4. Blue biotechnology solutions and digitisation capabilities
5. Waste recovery and reuse (plastics, fishing gear, circular economy solutions)
6. Other innovations and best practices (non-tech, non-business)

Through regional stakeholder workshops and internal expert assessments, each partner shortlisted six innovations that best reflected the strategic potential, relevance, and impact across these themes. This resulted in a total of 24 selected best practice cases.



4.2 Purpose of the Capability Matrix

To further refine and assess the shortlisted innovations, the FISHINN project developed and implemented a structured evaluation tool known as the Capability Matrix. This matrix was designed to:

- Provide a consistent and transparent scoring framework across regions.
- Enable comparative analysis of innovation maturity and implementation potential.
- Support the identification of scalable, transferable, and investable models.
- Prepare for Work Package 3, where three practices per region will be roadmapped for development.

The Capability Matrix served as a diagnostic instrument to determine which best practices were most promising in terms of replication, scale, and impact.

4.3 Structure of the Capability Matrix

Each of the 23 shortlisted best practices was evaluated by the relevant regional partner using four key dimensions:

- **Desirability (15 points):** Measures user demand, stakeholder interest, and alignment with market or societal needs.
- **Viability (15 points):** Assesses business case strength, economic sustainability, and market fit.
- **Feasibility (15 points):** Considers technical and operational capacity, resource availability, and readiness.
- **Transferability (3 points):** Evaluates the potential to replicate or adapt the innovation in other contexts or regions.

The total maximum score was 48 points. Evaluation was qualitative and quantitative, supported by regional knowledge and stakeholder feedback.



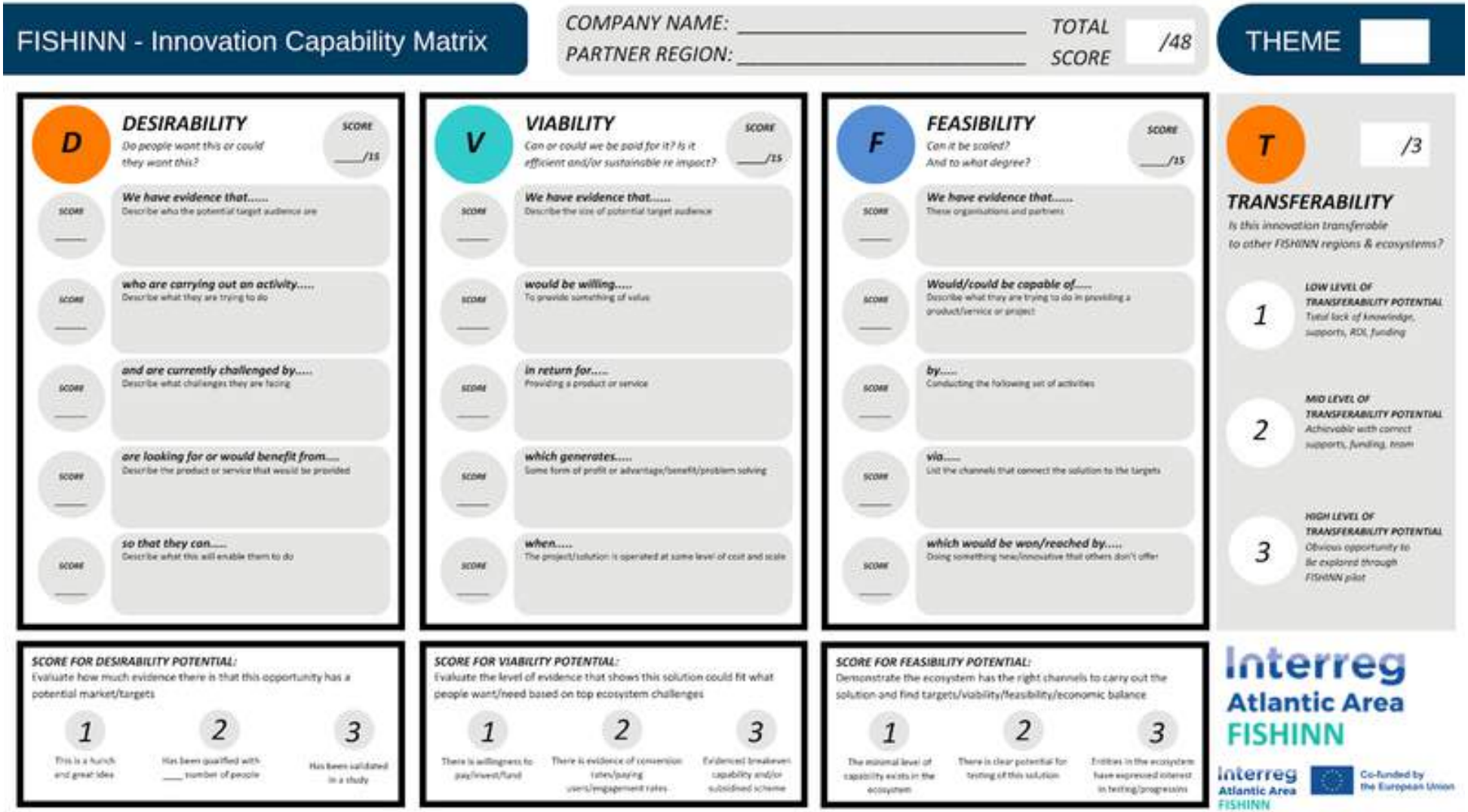
4.4 From Assessment to Roadmapping

The Capability Matrix results are now being used to inform the transition to Work Package 3, where each region will take forward the three most promising best practices for roadmapping and future implementation planning. The assessment process has:

- Identified high-potential cases with strong performance across all four dimensions.
- Highlighted innovation gaps, infrastructure needs, and policy barriers.
- Provided strategic clarity for partners and stakeholders.

Importantly, this structured evaluation allows the FISHINN partnership to move beyond anecdotal sharing of innovations and toward evidence-based regional development planning. It will support each region to design tailored implementation roadmaps that build on local strengths while learning from transnational insights. It positions each region to develop tailored implementation roadmaps that build on local strengths while learning from transnational insights.

FISHINN Innovation Capability Matrix Template



WP2 Regional Best Practice Profiles

05

This deliverable D2.1 is the output of Work Package 2

5.1 Methodology for Profile Development

Following the assessment of 44 innovation canvases, each partner organisation undertook a systematic process to select six best practice examples considered most relevant, impactful, and potentially transferable. This resulted in a total of 24 shortlisted innovations. The selection was informed by stakeholder input, local ecosystem relevance, alignment with FISHINN thematic priorities, and scoring under the Capability Matrix.

For each selected best practice, a two-part profile was developed:

- A summary of the innovation based on the completed Innovation Canvas.
- An evaluation based on the Capability Matrix, comprising scores and qualitative commentary.

These profiles serve as rich case studies of innovation across the Atlantic Area's blue economy, showcasing approaches to circularity, collaboration, digitisation, diversification, and low-carbon transition.



5.2 Profile Format and Evaluation Criteria

Overview - A narrative summary describing the innovation, its goals, and relevance to blue economy challenges.

Innovation Canvas Summary
Structured detail under each of the nine canvas headings, providing insights into operations, partnerships, technologies, sustainability practices, and growth potential.

Capability Matrix Evaluation
Scores across four criteria:

- Desirability (0–15)
- Viability (0–15)
- Feasibility (0–15)
- Transferability (0–3)

Each score is supported by qualitative comments.



Relevance to FISHINN
A short analysis of the innovation's significance to the goals and activities of the FISHINN project.

WP2 Capability Matrix & Scoring System

06

This deliverable D2.1 is the output of Work Package 2

Capability Matrix and Scoring System

Following the completion of the 44 Innovation Canvases, each partner was tasked with selecting six priority innovations to be further assessed through the FISHINN Capability Matrix. This phase represented a more analytical stage in WP2, moving from descriptive documentation to structured evaluation. Each FISHINN partner reviewed their collected canvases together with regional stakeholders, selecting six best practice examples per region. This resulted in a total of 23 selected innovations, each assessed using a standardised scoring model. The Capability Matrix allowed partners to evaluate each innovation against four key dimensions:

1. **Desirability** – Up to 15 marks
2. **Viability** – Up to 15 marks
3. **Feasibility** – Up to 15 marks
4. **Transferability** – Up to 3 marks

The maximum possible score per innovation was 48 points.

- **Desirability** assessed stakeholder need, environmental impact, and social relevance.
- **Viability** considered business model strength, financial resilience, and long-term sustainability.
- **Feasibility** examined technical readiness, regulatory clarity, and resource availability.
- **Transferability** measured how easily the innovation could be adapted or replicated in different Atlantic Area contexts.

Scoring was completed by each partner in consultation with relevant regional actors and stakeholders. The goal was not only to identify high-performing innovations, but also to understand which dimensions were strongest or weakest in each region's ecosystem. These 23 evaluated innovations are now set to move into Work Package 3, where partners will deepen engagement with the original stakeholders, refine assessments, and ultimately select **three final best practice models per region** for roadmap development. The Capability Matrix exercise also created a shared scoring language between partners, reinforcing alignment and supporting future joint actions under WP3 and beyond.

Application and Impact of the Innovation Canvas

Using the Canvas, partners were able to compile a database of 44 completed innovation profiles. These canvases provided structured, comparable visual overviews of initiatives — ranging from seaweed biorefineries to community-led traceability systems — that would otherwise be difficult to benchmark across regions.
The Canvas format proved especially effective in:

- Allowing partners to **compare innovations regardless of origin or type**
- Providing a **quick-reference visual summary** of complex business and governance models
- Ensuring **completeness of analysis**, so that value chains, sustainability, and transferability were not overlooked
- Supporting stakeholder engagement, as the Canvas became a talking tool in workshops and partner reviews

Strategic Benefits of the Canvas for Atlantic Area Collaboration

One of the greatest challenges in cross-regional collaboration across the Atlantic Area is the diversity of languages, governance systems, and economic conditions — which makes it difficult to fully understand, let alone transfer, localised best practices. The FISHINN Innovation Canvas directly addressed this challenge by:

- Establishing a **shared framework** for innovation description across four countries
- Offering a **visual and easily translatable tool** that broke through language and terminology barriers
- Enabling each region to **understand the logic and mechanics** behind innovations developed elsewhere

As such, the Canvas served as a foundational tool for shared learning, paving the way for structured comparison, capability assessment, and — ultimately — the selection of innovations for piloting and upscaling in Work Package 3.
It was a key enabler in fulfilling the core mission of FISHINN: to connect and empower fisheries communities in the Atlantic Area to learn from each other and innovate toward a more sustainable, inclusive blue economy.

Application of the Capability Matrix
Following canvas development, each partner facilitated a stakeholder engagement process to identify the **six most relevant or promising innovations** for their region. These 23 shortlisted cases were further evaluated using the Capability Matrix aiming to inspire the local and regional ecosystems.

6a - Best Practice Innovation Canvas & FISHINN Capability Matrix

Submitted by Leartibai Fundazioa



Best Practice: ACAV Cooperative

Region: Vendée, France | **Submitted by:** Leartibai Fundazioa
FISHINN Theme: #6 – Other innovations and best practice (non-tech, non-business)

Overview

ACAV - Armement Coopératif Artisanal Vendéen is a cooperative model supporting artisanal fishermen in the Vendée area in France. The organisation facilitates co-ownership of fishing vessels, offering financial, legal, administrative and insurance support to help fishers gradually acquire boats. In parallel, ACAV promotes fleet modernisation, encourages generational renewal, and supports sustainable fishing practices. The cooperative model ensures job stability and maintains the cultural identity of small-scale fisheries in the face of rising costs and complex regulations. ACAV demonstrates a non-technological, community-based innovation in support of coastal resilience.

Innovation Canvas Summary

Key Activities
Co-financing and co-ownership of fishing vessels
Legal and insurance services for artisanal fishers
Fleet renewal and modernisation in collaboration with shipyards
Administrative support for vessel operations

Key Partners and Suppliers
Shipyards (Socarenam, Piriou) : Build modern boats for ACAV
The "Île Vertime" trawler-seiner built by Socarenam
Equipment Suppliers: Providing tools and technologies
to improve fishing and crew safety
Local communities (fishermens etc.) sharing of expertise & best practice

Key Local Resources
Existing artisanal fishing fleet and fishing culture
Local youth interested in joining the fishing sector
Community trust in cooperative governance models
Port infrastructure and regional expertise in vessel construction

Technical Resources
Access to modern shipbuilding technologies via partners
Shared administrative and legal service structures
Knowledge of sustainable fishing methods and vessel efficiency
Training materials and mentoring systems for new entrants

Energy Resources
Support for fleet energy transition (e.g., fuel-efficient vessels)
Energy-saving designs in collaboration with shipyards

Value Proposition
Removes financial barriers to vessel ownership for fishers
Preserves local maritime traditions and coastal jobs
Promotes a fair, inclusive, and cooperative business model
Facilitates fleet modernisation without excluding new entrants

Customer Targets and Communities
Aspiring fishers seeking vessel access
Fishing cooperatives and community groups
Existing fishing companies

Environmental & Climate-Smart USPs
Supports transition to energy-efficient vessels
Encourages sustainable fishing practices
Reduces carbon footprint via vessel modernisation
Prevents overfishing by enabling regulated, community-based fleets

Distribution and Upscaling
Potential for replication in other coastal regions
Collaborative model adaptable to different national policies
Scalable through EU support mechanisms for fisheries and youth

Capability Matrix Evaluation

Total Score: 38 / 48

POTENTIAL Desirability
14/15
Strong alignment with generational renewal, fishers' needs, and local development; validated through multi-stakeholder support.

POTENTIAL Viability
12/15
Demonstrates economic viability with co-financing and shared ownership; public interest in maintaining artisanal fishing.

POTENTIAL Feasibility
10/15
Effective local partnerships in place, but may require tailored funding schemes for wider application.

POTENTIAL Transferability
2/3
Model has good adaptability but would require contextualisation and local regulatory alignment.

Relevance to FISHINN

ACAV offers a social innovation that goes beyond technology to address deep-rooted structural challenges in the artisanal fishing sector. By focusing on access to ownership, cooperative governance, and sustainable fleet renewal, it empowers communities and enables generational transition. For the FISHINN project, ACAV provides a replicable, inclusive blueprint for other Atlantic Area regions seeking to secure jobs, heritage, and marine sustainability through local collaboration.



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FISHINN CAPABILITY MATRIX: ACAV Cooperative
Submitted by: Leartibai Fundazioa
FISHINN Theme: #6 – Other innovations and best practice (non-tech, non-business)



DESIRABILITY: 14/15
VIABILITY: 12/15
FEASIBILITY: 10/15
TRANSFERABILITY: 2/3
Total Score: 38/48

POTENTIAL DESIRABILITY

·Describe who the potential target audience are
Aspiring artisanal fishermen, existing captains seeking fleet renewal, shipyards, local fishing communities, and public institutions invested in sustainable coastal development.

·Describe what they are trying to do
Facilitate access to vessel ownership, modernize fishing fleets, and create stable and sustainable livelihoods in artisanal fishing.

·Describe what challenges they are facing
High vessel acquisition costs, aging fleets, difficulty attracting young fishermen, limited financial access, and regulatory complexity.

·Describe the product or service that would be provided
Co-ownership of fishing vessels plus legal, administrative, financial, and insurance support to new and existing fishermen.

·Describe what this will enable them to do
Reduce financial risk for new fishers, support generational renewal, preserve maritime heritage, ensure community economic stability, and promote fair and sustainable fishing practices.

POTENTIAL **VIABILITY**

·Describe the size of potential target audience of ACAV Cooperative
Artisanal fishermen and young captains in the Lea-Artibai region, particularly those seeking vessel access, modernization support, or cooperative-based ownership.

·To provide something of value
ACAV's value lies in lowering barriers to vessel ownership and promoting sustainable and resilient fishing livelihoods.

·Providing a product or service
Co-financing, administrative and legal support, insurance facilitation, and fleet modernization guidance.

·Some form of profit or advantage/benefit/problem solving
Reduces economic barriers, encourages sector renewal, improves environmental practices, and stabilizes coastal community economies.

·The project/solution is operated at some level of cost and scale
The model is viable once cooperative structures, funding sources, and support services are established and operational.

POTENTIAL **FEASIBILITY**

·These organisations and partners
Ondarroa & Lekeitio Fishermen's Guilds, Basque Government Fisheries Department, Antiguako Ama Ondarroa Fishing School, Lekeitio & Ondarroa Town Councils.

·Describe what they are trying to do in providing product/service
Support vessel ownership access, promote sustainable fishing, train new captains, preserve cultural identity, and ensure long-term viability of the sector.

·Conducting the following set of activities
Secure funding, establish cooperative governance, collaborate with shipyards, provide training, offer legal and administrative support, and monitor economic and environmental outcomes.

·List the channels that connect the solution to the targets
Guild networks, fishing schools, local media, and digital platforms to engage fishers, communities, and stakeholders.

·Doing something new/innovative that others don't offer
Gradual vessel ownership pathway + comprehensive support services in a cooperative, community-led model centered on long-term sector sustainability.

POTENTIAL **TRANSFERABILITY**
Mid Level of Transferability: Achievable with coordinated support, funding, cooperative governance, and cross-region knowledge-sharing.

Best Practice: PortXL

Region: Rotterdam, Netherlands | **Submitted by:** Leartibai Fundazioa
FISHINN Theme: #6 – Other innovations and best practice (non-tech, non-business)

Overview

PortXL is an internationally recognised maritime accelerator based in Rotterdam, dedicated to bridging the gap between innovation and industry in the port, maritime, energy, and logistics sectors. As a pioneering start-up ecosystem, PortXL connects emerging maritime technologies with large-scale corporates, creating powerful collaborations that fast-track the adoption of sustainable, tech-driven solutions. The accelerator plays a key role in shaping the future of ports and marine transport by facilitating startup scale-up, market integration, and pilot development across key hubs such as Rotterdam, Antwerp, and Singapore.

Innovation Canvas Summary

Key Activities
PortXL focuses on accelerating innovation in the maritime industry by connecting startups and scale-ups with corporate partners. Main objectives are to drive innovation in logistics, green energy and maritime industries.
Organizing masterclasses, workshops, accelerator programmes & mentorship
Developing pilot projects with industry leaders.
Creating networking opportunities through events.
Tangible business value through collaborations and strategic connections.

Key Partners and Suppliers
Corporate partners like Vopak, Van Oord, Boskalis
Universities, R&D centres, and startup incubators
Interreg and EU-funded projects (e.g., SPEED)
Mentor and investor networks across Europe and Asia

Key Local Resources
Access to Europe's largest port and its logistics infrastructure
Highly specialised maritime knowledge and technical institutions
Govt support for green and digital transition in the port sector

Technical Resources
Innovation hubs in Rotterdam, Antwerp, and Singapore
Access to port testbeds, pilot sites, and labs
Digital infrastructure for maritime data analysis, robotics, AI
IoT, machine vision, and energy management software are critical.

Energy Resources
Focus on energy innovation — including emissions reduction, clean fuels, and efficiency
Partnerships with energy transition pioneers and clean tech startups

Value Proposition
Accelerates technology adoption in ports and maritime sectors
Connects startups directly with customers and funding channels
Provides corporates with access to cutting-edge innovation without internal R&D costs
Enables faster, more agile climate and sustainability adaptation

Customer Targets and Communities
Startups and scale-ups in the maritime, logistics, and energy fields
Corporate actors needing green or digital transformation
Investors, city authorities, innovation clusters, port operators

Environmental & Climate-Smart USPs
Supports maritime decarbonisation through emission-reducing technologies
Drives sustainability in port logistics and operations
Enables adoption of eco-innovation in traditionally conservative sectors

Distribution and Upscaling
Programme replication in key maritime hubs (e.g. Singapore, Antwerp)
Strong communication, branding, and international reach
Access to investor communities for startup scale-up
Collaborative dissemination through EU-funded initiatives

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Capability Matrix Evaluation

Total Score: 39 / 48

POTENTIAL Desirability
13/15
Highly desirable due to strong demand for innovation in ports; connects emerging tech with high-impact customers.

POTENTIAL Viability
12/15
Funding secured through private investment and EU support; strong corporate buy-in and active pilots.

POTENTIAL Feasibility
11/15
Proven delivery capability, though startup success varies and depends on sector fit and pilot uptake.

POTENTIAL Transferability
3/3
Replicable in other Atlantic ports with startup presence and innovation appetite. Already working across three international hubs.

Relevance to FISHINN

PortXL is a flagship example of how to systematically drive innovation in traditional maritime sectors. Its model—built around co-creation, acceleration, and collaborative piloting—offers a blueprint that FISHINN partners can adapt to regional contexts. By linking entrepreneurs with corporate challenges, it helps overcome risk-aversion in ports and unlocks climate-smart and efficiency-driven maritime solutions. PortXL's international scope and proven success make it a strong candidate for replication or partnership across the Atlantic Area.



FISHINN CAPABILITY MATRIX: PORT-XL
Submitted by: Leartibai Fundazioa
FISHINN Theme: #6 – Other innovations and best practice (non-tech, non-business)



DESIRABILITY: 13/15
VIABILITY: 12/15
FEASIBILITY: 11/15
TRANSFERABILITY: 3/3
Total Score: 39/48

POTENTIAL **DESIRABILITY**

·Describe who the potential target audience are
Startups and scale-ups in maritime logistics, industry innovation actors, and funders such as private investors and EU programs.

·Describe what they are trying to do
Create a collaborative innovation ecosystem connecting change-makers and corporate maritime industry stakeholders.

·Describe what challenges they are facing
Addressing major environmental and operational challenges in the maritime sector while accelerating technology adoption in a traditionally slow-moving industry.

·Describe the product or service that would be provided
Acceleration programs, scouting of innovation, access to mentoring, corporate match-making, pilot development support, and community engagement.

·Describe what this will enable them to do
Develop and scale maritime startups, support sustainability and digital transformation, and create synergies between innovators and industry partners.

POTENTIAL **VIABILITY**

·Describe the size of potential target audience
Global maritime and port innovation ecosystems across Europe and hubs such as Rotterdam, Singapore, and Antwerp.

·To provide something of value
PortXL reduces R&D costs for corporates and accelerates commercialization opportunities for startups.

·Providing a product or service
Facilitates technology pilots in emission reduction, robotics, data analytics, and sustainable maritime technology.

·Some form of profit or advantage/benefit/problem solving
Accelerates environmental innovation and improves competitiveness of maritime industry partners.

·The project/solution is operated at some level of cost and scale
Operates as a scalable platform model connecting industry, investors, and innovators across multiple regions.

POTENTIAL **FEASIBILITY**

·These organisations and partners
PortXL collaborates with major maritime companies such as Vopak and Van Oord, among others.

·Describe what they are trying to do in providing product/service
Provide tools and networks that accelerate market adoption of new technology for maritime competitiveness and sustainability.

·Conducting the following set of activities
Masterclasses, workshops, pilot project development, and networking events connecting innovators to industry leaders.

·List the channels that connect the solution to the targets
Online platforms, sector exhibitions, conferences, and partner networks.

·Doing something new/innovative that others don't offer
A dedicated maritime innovation accelerator enabling rapid technology introduction in a traditionally slow-adoption industry.

POTENTIAL **TRANSFERABILITY**
High Level of Transferability: The model can be replicated in maritime regions interested in innovation and industry transformation.

Best Practice: Ocean Ecostructures

Region: Catalonia, Spain | **Submitted by:** Leartibai Fundazioa
FISHINN Theme: #3 – Blue economy opportunities other than fishing (energy, algae, pharmaceuticals, nutraceuticals, health products)

Overview

Ocean Ecostructures is a marine regeneration company based in Barcelona, developing innovative biomimetic solutions to restore biodiversity in degraded marine ecosystems. Their flagship product, Life Boosting Units® (LBUs), mimics natural reef structures to support marine life colonisation. Combined with real-time monitoring using underwater robotics and AI-powered analytics, their approach offers scalable, science-driven restoration that promotes both ecological recovery and economic opportunities in coastal and industrial marine settings.

Innovation Canvas Summary

Key Activities
Design and manufacture of Bio Boosting Systems® (e.g., LBUs)
Ecosystem restoration through marine installations
AI-powered monitoring and biodiversity analysis
Partnership building and stakeholder engagement
Regulatory compliance and impact assessment

Key Partners and Suppliers
Marine technology companies (robotics, data systems)
Offshore maintenance and diving service providers
Port authorities and industrial marine actors
Environmental NGOs and universities (e.g., AZTI-Tecnalia, Leartiker)
Regional government and innovation networks

Key Local Resources
Urban coastal infrastructure (ports, shipyards)
Regional expertise in materials science and environmental R&D
Biomimetic Micro-Reefs: Composed of calcium carbonate substrates, these panels are derived from local byproducts or waste materials that would otherwise go unused, promoting circular economy practices.

Technical Resources
Proprietary Life Boosting Units® made of calcite carbonate
AI-based analytics platform for marine biodiversity
Underwater drones and sensors for ecosystem monitoring
Tracks parameters such as oxygen levels, acidity, chlorophyll content and temperature, enabling comprehensive environmental insights.

Energy Resources
Low-energy product manufacturing
Solutions designed for passive deployment with minimal energy input
Energy use is primarily linked to robotic monitoring systems and data processing platforms like iOceans

Value Proposition
Restoration of degraded marine habitats using artificial structures
Improved biodiversity, water quality, and carbon sequestration
Creation of local green jobs and coastal resilience infrastructure

Customer Targets and Communities
Port authorities, offshore operators, and industrial developers
Environmental regulators and climate resilience projects
Research institutions and biodiversity-focused NGOs

Environmental & Climate-Smart USPs
Supports carbon sequestration in restored ecosystems
Reduces pressure on marine biodiversity through habitat regeneration
Innovative application of nature-based solutions and circular materials

Distribution and Upscaling
Potential for replication across Europe's industrialised coasts
Strong communication strategy via digital platforms (e.g., iOceans)
Compatible with green infrastructure and ESG frameworks for ports and industry

Capability Matrix Evaluation

Total Score: 34 / 48

POTENTIAL Desirability
11/15
Strong appeal to public authorities and blue economy sectors, but installation complexity may narrow market.

POTENTIAL Viability
12/15
Demonstrated value for multiple sectors, including tourism, shipping, and biodiversity offset schemes.

POTENTIAL Feasibility
9/15
Technical feasibility proven, but deployment requires expert teams and regulatory navigation.

POTENTIAL Transferability
2/3
Transferable with support in regions with industrial marine zones; needs technical and regulatory facilitation.

Relevance to FISHINN

Ocean Ecostructures brings together marine science, biomimicry, and AI to offer a replicable solution for ecosystem recovery across the Atlantic Area. The approach aligns with FISHINN's goals of stimulating innovation that diversifies blue economy activity while supporting environmental resilience. It also presents a robust example for FISHINN Work Package 3, where regions may pilot coastal restoration linked to tourism, port revitalisation, or climate adaptation funding streams.



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FISHINN CAPABILITY MATRIX: Ocean Ecostructures

Submitted by: Leartibai Fundazioa
FISHINN Theme: #3 – Blue economy opportunities other than fishing (energy, algae, pharmaceuticals, nutraceuticals, health products)



DESIRABILITY: 11/15
VIABILITY: 12/15
FEASIBILITY: 9/15
TRANSFERABILITY: 2/3
Total Score: 34/48

POTENTIAL **DESIRABILITY**

·Describe who the potential target audience are
Companies in fishing, shipbuilding, sustainable tourism, renewable energy, and marine innovation sectors.
·Describe what they are trying to do
Provide biomimetic marine restoration solutions using Life Boosting Units® that mimic natural habitats to support biodiversity.
·Describe what challenges they are facing
Supply-chain constraints for calcite carbonate, regulatory complexity, uncertain ecological outcomes, and need for specialized installation expertise.
·Describe the product or service that would be provided
Marine ecosystem restoration services including Life Boosting Units®, consulting, monitoring, and tailored restoration planning.
·Describe what this will enable them to do
Restore degraded marine ecosystems, support CO_2 sequestration, create coastal employment, and promote sustainable blue economy practices.

POTENTIAL **VIABILITY**

·Describe the size of potential target audience
Public agencies, marine R&D institutes such as AZTI, material innovation centers like Leartiker, and private sector marine-dependent industries.
·To provide something of value
Stakeholders value biodiversity restoration, coastal sustainability, and climate mitigation solutions.
·Providing a product or service
Provision of Life Boosting Units® and marine ecosystem restoration solutions.
·Some form of profit or advantage/benefit/problem solving
Improved ecosystem health, new marine industry opportunities, strengthened coastal economies, and innovation-led environmental value.
·The project/solution is operated at some level of cost and scale
Benefits scale after installation when ecological processes begin enhancing biodiversity and ecosystem function.

POTENTIAL **FEASIBILITY**

·These organisations and partners
Offshore maintenance companies, rope access specialists, diving teams, shipyard operators, and marine construction firms.
·Describe what they are trying to do in providing product/service
Support installation, maintenance, and monitoring of marine restoration structures and associated marine infrastructure.
·Conducting the following set of activities
Build multidisciplinary teams, collaborate with research institutions, secure funding, and navigate marine permitting processes.
·List the channels that connect the solution to the targets
Sector events, maritime industry networks, digital outreach, and local/regional media visibility.
·Doing something new/innovative that others don't offer
Combines biomimetic materials, AI monitoring, and marine habitat restoration into a scalable coastal regeneration solution.

POTENTIAL **TRANSFERABILITY**

Mid Level of Transferability: Achievable with correct supports, funding, and interdisciplinary team.

Best Practice: Algaloop

Region: Basque Country, Spain | **Submitted by:** Leartibai Fundazioa
FISHINN Theme: #3 – Blue Economy opportunities other than fishing (e.g., algae, pharmaceuticals, nutraceuticals, health products)

Overview

Algaloop is a pioneering biotechnology company based in Asteasu, Gipuzkoa, focused on the industrial cultivation of freshwater microalgae to produce high-value bioproducts for sectors such as nutraceuticals, agriculture, aquaculture, and cosmetics. The company leverages circular economy principles by using CO_2 and organic waste as inputs, thus contributing to climate mitigation, sustainable agriculture, and food system transformation. Their innovation fosters rural development, green job creation, and bio-based economic diversification in coastal and inland regions alike.

Innovation Canvas Summary

Key Activities
Cultivation of microalgae (e.g., Spirulina, Chlorella, Scenedesmus etc)
Harvesting, drying, and processing for biomass extraction
Product development for biofertilisers, supplements, and cosmetics
R&D into circular economy applications using CO_2 and organic waste
Engagement in regional innovation and sustainability initiatives

Key Partners and Suppliers
Basque Government and Bizkaia Provincial Council
HAZI Fundazioa, AZTI, NEIKER, and Basque Food Cluster
Universities and technology centres supporting biotech R&D
Agricultural cooperatives and aquaculture actors

Key Local Resources
High biodiversity and water availability in the region
Innovation-friendly public institutions and funding streams
Existing agri-food infrastructure in Gipuzkoa and Biscay

Technical Resources
Photobioreactors and controlled cultivation systems
Pilot infrastructure for biomass drying and encapsulation
Laboratories for extraction and formulation of bioactives

Energy Resources
Energy-conscious cultivation systems
Circular inputs reducing resource consumption (e.g., CO_2 capture)

Value Proposition
Eco-innovative, traceable, and circular products derived from microalgae
Bioproducts addressing sustainability in agriculture, nutrition, and cosmetics
Low environmental impact, bio-based alternatives to synthetic additives

Customer Targets and Communities
Food and supplement manufacturers seeking natural ingredients
Cosmetic brands investing in green product portfolios
Agricultural producers seeking organic biofertilisation options
Public agencies and climate innovation networks

Environmental & Climate-Smart USPs
Reduces CO_2 through biological capture
Turns waste into value-added bio-based products
Strengthens resilience through diversification of input sources

Distribution and Upscaling
Digital marketing and sector-specific events
Modular production systems enabling step-by-step scaling
Replicable in other inland or coastal bioeconomy contexts

Capability Matrix Evaluation

Total Score: 39 / 48

POTENTIAL Desirability
10/15
Targets sectors with growing demand for bio-based inputs; awareness-building still required in traditional markets.

POTENTIAL Viability
13/15
Solid commercial logic with diverse applications across food, agriculture, and cosmetics.

POTENTIAL Feasibility
14/15
Strong ecosystem support and R&D infrastructure; circular production model lowers costs and risks.

POTENTIAL Transferability
2/3
Adaptable to other European regions with agricultural and biotechnological capacity.

Relevance to FISHINN

Algaloop exemplifies how microalgae-based innovation can support coastal and rural sustainability goals. Its integration of biotechnology, agriculture, and circular economy thinking offers a roadmap for Atlantic regions aiming to build climate-resilient and diversified blue economies. The model is particularly relevant for regions seeking to valorise waste, reduce emissions, and open new bioeconomic pathways with high social and environmental impact.



see page 68 for more information

FISHINN CAPABILITY MATRIX: Algaloop
Submitted by: Leartibai Fundazioa
FISHINN Theme: #3 – Blue economy opportunities other than fishing (energy, algae, pharmaceuticals, nutraceuticals, health products)



DESIRABILITY: 10/15
VIABILITY: 13/15
FEASIBILITY: 14/15
TRANSFERABILITY: 2/3
Total Score: 39/48

POTENTIAL **DESIRABILITY**

·Describe who the potential target audience are

Companies based in Lea Artibai engaged in food processing, fishing, refrigeration, agriculture, and industrial manufacturing. Also potential customers across Bizkaia: food and nutraceutical companies, cosmetics brands, agricultural cooperatives, aquaculture/animal feed manufacturers, universities, and R&D centers.

·Describe what they are trying to do

Develop sustainable and high-value products from microalgae for use in food, cosmetics, agriculture, and aquaculture industries.

·Describe what challenges they are facing

Scalability and cost-efficiency, building strong stakeholder collaboration networks, regulatory compliance barriers, market adoption and awareness challenges, and ongoing need for funding and investment for scale-up.

·Describe the product or service that would be provided

Sustainable biotechnology solutions based on microalgae cultivation, including biomass and extracts for food/nutraceuticals, cosmetics, agriculture biofertilizers, and aquaculture feed.

·Describe what this will enable them to do

Reduce environmental impact, support sustainable agriculture, create green jobs, promote circular economy practices, and improve public health and nutrition.

POTENTIAL ***VIABILITY***

·Describe the size of potential target audience

Large and diverse, from local SMEs in Lea Artibai and Biscay to national and international food, agriculture, aquaculture, and cosmetics markets.

·To provide something of value

Industries are increasingly willing to adopt sustainable, natural, and biosourced ingredients.

·Providing a product or service

ALGALOOP provides sustainable microalgae-based raw materials and bioactive compounds.

·Some form of profit or advantage/benefit/problem solving

Reduces carbon footprint, supports waste valorization, and provides sustainable alternatives to marine-derived compounds.

·The project/solution is operated at some level of cost and scale

Currently suitable for small-to-medium scale with modular and scalable production systems.

POTENTIAL **FEASIBILITY**

·These organisations and partners

Basque Government, Provincial Council of Bizkaia, HAZI Fundazioa, AZTI, NEIKER, Basque Food Cluster, universities and technology centers.

·Describe what they are trying to do in providing product/service

Support sustainable aquaculture, bioeconomy research, product innovation, and circular economy business model development.

·Conducting the following set of activities

R&D, pilot testing, access to infrastructure, business support, and public funding facilitation.

·List the channels that connect the solution to the targets

Sector events, fairs, digital marketing, local media engagement, and direct industry partnerships.

·Doing something new/innovative that others don't offer

Using microalgae to create circular, sustainable alternatives to synthetic and marine-extracted products.

POTENTIAL **TRANSFERABILITY**

Mid Level of Transferability: Achievable with correct supports, funding, and team.

Best Practice: Kofradia – Itsas Etxea

Region: Basque Country, Spain | **Submitted by:** Leartibai Fundazioa

FISHINN Themes:

- #1 – Collaboration with the food and tourism sector
- #6 – Other innovations and best practice (non-tech, non-business)

Overview

Kofradia – Itsas Etxea is a multi-functional innovation in Donostia/San Sebastián that preserves and promotes the maritime heritage and artisanal fishing culture of the Basque Country. Coordinated by OPEGI (Organisation of Coastal Fishing Producers of Gipuzkoa), this initiative blends gastronomy, education, and cultural preservation into a dynamic space for residents and visitors alike. Through seafood restaurants, workshops, educational programmes, cultural events, and sustainability initiatives, Kofradia brings visibility and value to traditional coastal fishing practices while boosting local food systems and sustainable tourism.

Innovation Canvas Summary

Key Activities
Mgmt of a seafood restaurant serving fresh catch from local fishers
Organisation of educational tours and workshops on marine life and fishing
Cultural events "KOFRADIA EGUNA" celebrating Basque maritime traditions
Awareness campaigns on sustainability and generational renewal in fisheries
Stakeholder engagement (food, tourism, education sectors)

Key Partners and Suppliers
OPEGI and local fishers
Food and beverage producers
Sustainability educators and cultural institutions
Tourism boards and educational institutions

Key Local Resources
Traditional maritime knowledge of Basque coastal communities
Access to Cantabrian seafood (mackerel, anchovy, etc.)
Cultural capital of San Sebastián
Community support for heritage-based tourism

Technical Resources
Culinary and hospitality facilities
Digital platforms for marketing and education
Exhibition spaces for maritime culture
Event and workshop infrastructure

Energy Resources
Low-carbon food service model (local seafood supply chain)
Emphasis on sustainable fishing and short supply chains

Value Proposition
Authentic Basque seafood gastronomy grounded in tradition
Unique educational and cultural experiences tied to maritime heritage
A living example of sustainable fisheries and rural-urban blue economy links

Customer Targets and Communities
Tourists, food lovers, schools, and cultural tourists
Local residents and fishers seeking recognition and income diversification
Stakeholders interested in sustainability education

Environmental & Climate-Smart USPs
Promotion of artisanal and sustainable fishing techniques
Protection of biodiversity through selective fishing and education
Contribution to ocean literacy and low-impact tourism

Distribution and Upscaling
Local restaurant and event model with strong tourist appeal
Potential for replication in other coastal regions with strong marine identity
Digital channels and strategic alliances support visibility and outreach

Capability Matrix Evaluation

Total Score: 34 / 48

POTENTIAL Desirability
10 / 15
Strong engagement with tourists and locals; value placed on cultural and gastronomic experiences.

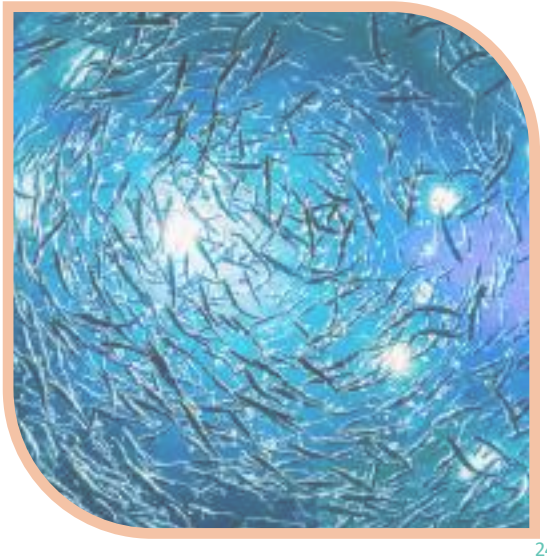
POTENTIAL Viability
10 / 15
Viable through direct revenue (restaurant) and support from cultural/tourism institutions.

POTENTIAL Feasibility
11 / 15
Developed with strong local partnerships and infrastructure, with clear educational and tourism models.

POTENTIAL Transferability
3 / 3
High transferability to other coastal regions with seafood, heritage, and tourism assets.

Relevance to FISHINN

Kofradia – Itsas Etxea exemplifies how traditional fishing practices, when embedded in a wider tourism, education, and cultural model, can revitalise coastal economies and promote sustainable development. This initiative is particularly valuable for FISHINN regions seeking to blend non-tech innovation with community engagement and gastronomy-driven economic development. It also demonstrates the power of stakeholder collaboration in raising awareness of sustainability and heritage in blue economy ecosystems.



see page 71 for more information

FISHINN CAPABILITY MATRIX: Kofradia – Itsas Etxea

Submitted by: Leartibai Fundazioa
FISHINN Theme: #1 – Collaboration with the food and tourism sector & #6 – Other innovations and best practice (non-tech, non-business)



DESIRABILITY: 10/15
VIABILITY: 10/15
FEASIBILITY: 11/15
TRANSFERABILITY: 3/3
Total Score: 34/48

POTENTIAL **DESIRABILITY**

·Describe who the potential target audience are
Local food and beverage producers, sustainability and cultural heritage partners, educational institutions, policy makers, and local suppliers.

·Describe what they are trying to do
Promote cooperation across the food and tourism sectors while encouraging innovation and sustainable practices within artisanal fisheries.

·Describe what challenges they are facing
Balancing tourism growth with sustainability, maintaining marine identity, ensuring economic viability, and preserving community cultural values.

·Describe the product or service that would be provided
High-quality seafood gastronomy, cultural events, educational activities on fishing heritage, marketing initiatives, and digital knowledge-sharing platforms.

·Describe what this will enable them to do
Support the local economy, promote sustainable artisanal fishing, preserve maritime cultural heritage, and encourage generational continuity in fisheries.

POTENTIAL **VIABILITY**

·Describe the size of potential target audience
Thousands of local residents, visitors, tourists, students, gastronomy enthusiasts, and professionals across the region and beyond.

·To provide something of value
Consumers value authentic Basque seafood culture, sustainable food, and immersive cultural/educational experiences.

·Providing a product or service
Seafood gastronomy, training and cultural workshops, tours, and community marine heritage events.

·Some form of profit or advantage/benefit/problem solving
Preserves cultural identity, supports sustainable fishing, strengthens local supply chains, and encourages youth engagement in the sector.

·The project/solution is operated at some level of cost and scale
Functions as a cultural and gastronomic offering within the premium tourism and local identity market segment.

POTENTIAL **FEASIBILITY**

·These organisations and partners
Local producers, fishermen's guilds, sustainability experts, heritage organisations, training centres, and regulatory bodies.

·Describe what they are trying to do in providing product/service
Position Basque maritime culture and sustainable gastronomy as a benchmark and visitor attraction.

·Conducting the following set of activities
Events, workshops, guided tours, cultural celebrations such as KOFRADIA EGUNA, and knowledge-sharing initiatives.

·List the channels that connect the solution to the targets
Restaurant interaction, educational programs, website and social media, and partnerships with tourism and cultural networks.

·Doing something new/innovative that others don't offer
Combines gastronomy, education, cultural heritage, and sustainability into an integrated visitor and community experience.

POTENTIAL **TRANSFERABILITY**

High Level of Transferability: The model is culturally grounded, economically viable, and ready for replication across coastal communities.

Best Practice: Oceano Fresco

Region: Nazaré, Portugal | **Submitted by:** Leartibai Fundazioa
FISHINN Theme: #2 – Advancing Position in the Value Chain (via collaboration and alliances)

Overview

Oceano Fresco is a pioneering aquaculture company based in Nazaré, Portugal, and is the first in the world to undertake large-scale sustainable open-ocean cultivation of native European clam species: *Venerupis corrugata* and *Ruditapes decussatus*. The innovation not only enhances biodiversity and regenerates marine habitats, but also improves protein diversification in European diets through the supply of premium shellfish. Oceano Fresco merges marine biology, biotechnology, and sustainable business models to deliver scalable and environmentally responsible seafood production. Their vertically integrated model includes a cutting-edge BioMarine Center and a 100-hectare offshore farm in the Algarve. With a potential production capacity of up to 600 tonnes annually, Oceano Fresco sets a new benchmark for regenerative aquaculture across the Atlantic Area.

Innovation Canvas Summary

Key Activities
Sustainable open-ocean aquaculture of native clams
Biotechnological research and genetic breeding
BioMarine Center R&D operations
Integrated hatchery, nursery, and offshore cultivation
Partnership building with chefs, seafood distributors, and scientific networks

Key Partners and Suppliers
Regional and national authorities (e.g. Portuguese marine regulators)
Research institutes and biotechnology collaborators
Distribution partners and high-end seafood markets
Environmental NGOs and aquaculture networks

Key Local Resources
Rich biodiversity and suitable ocean conditions off the Algarve coast
Existing aquaculture zones and maritime infrastructure
Local knowledge of shellfish ecosystems and harvesting
Skilled marine workforce and regional support

Technical Resources
BioMarine Center with advanced facilities for R&D
Genetic improvement and biotechnology tools
Hatchery and nursery systems for early-stage cultivation
Monitoring systems for environmental impact and health metrics

Energy Resources
Use of low-impact, energy-efficient offshore systems
Renewable integration in aquaculture logistics and operations
Focus on reducing GHG emissions relative to traditional protein sources

Value Proposition
First large-scale supplier of native clams with year-round availability
Environmentally responsible, traceable seafood product
Enhances marine ecosystems while diversifying protein supply
Product differentiation through taste, sustainability, and biodiversity impact

Customer Targets and Communities
Chefs, premium restaurants, and seafood distributors
Health-conscious and eco-aware consumers
Researchers and public sector entities promoting food security
Local fishing communities and regional aquaculture clusters

Environmental & Climate-Smart USPs
Reduces reliance on overfished natural clam stocks
Native species cultivation boosts marine regeneration
Bivalves improve water quality through natural filtration
Decreases emissions compared to land-based animal protein production

Distribution and Upscaling
Integrated production allows direct-to-market and B2B distribution
Brand storytelling via sustainability credentials and traceability
Expandable to other suitable coastal regions with similar ecological profiles

Capability Matrix Evaluation

Total Score: 42 / 48

POTENTIAL Desirability
13/15
High interest among aquaculture stakeholders, chefs, and sustainability-oriented buyers. Strong public and private sector interest in protein diversification.

POTENTIAL Viability
14/15
Large-scale potential with an existing operational model, robust market, and clear economic impact in the blue economy.

POTENTIAL Feasibility
12/15
R&D capacity, public support, and offshore infrastructure are in place; requires continued regulatory compliance and technological development.

POTENTIAL Transferability
3/3
Easily transferable to other coastal zones in the Atlantic Area with environmental, technical, and regulatory adaptations.

Relevance to FISHINN

Offers a model for value chain advancement in aquaculture through cross-sector collaboration. Integrates innovation in biotechnology with ocean-based food production, aligning with climate and biodiversity goals. Presents a transformative case study in scaling regenerative aquaculture, enhancing local economies, enabling marine conservation, and seafood traceability.



see page 72 for more information

FISHINN CAPABILITY MATRIX: Oceano Fresco
Submitted by: Leartibai Fundazioa
FISHINN Theme: #2 – Advancing Position in the Value Chain (via collaboration and alliances)



DESIRABILITY: 13/15
VIABILITY: 14/15
FEASIBILITY: 12/15
TRANSFERABILITY: 3/3
Total Score: 42/48

POTENTIAL **DESIRABILITY**

·Describe who the potential target audience are
Local fishers, shellfish gatherers, aquaculture producers, hospitality sector, eco-conscious consumers, educational institutions, and regulators.

·Describe what they are trying to do
Develop and supply premium native European clams using sustainable open-ocean aquaculture and advanced breeding biotechnology.

·Describe what challenges they are facing
Scaling production while maintaining sustainability, securing ongoing investment, navigating complex marine regulations, and advancing aquaculture technologies.

·Describe the product or service that would be provided
High-quality, sustainably farmed native European clams with year-round availability, backed by biotechnology research and strong distribution partnerships.

·Describe what this will enable them to do
Restore marine ecosystems, reduce pressure on overfished wild clam stocks, support coastal employment, and strengthen the blue economy.

POTENTIAL **VIABILITY**

·Describe the size of potential target audience
Large and international, spanning consumers, hospitality markets, aquaculture industries, researchers, and investors across Europe and beyond.

·To provide something of value
Sustainably farmed, traceable, high-quality seafood with strong environmental and biodiversity benefits.

·Providing a product or service
Reliable supply of native clams produced using ecological restoration-based aquaculture methods.

·Some form of profit or advantage/benefit/problem solving
Reduces exploitation of wild stocks, improves water quality, supports local economies, and advances sustainable protein production.

·The project/solution is operated at some level of cost and scale
Scale is achieved through optimized production processes, expanded market reach, and partnerships that reduce operational costs over time.

POTENTIAL **FEASIBILITY**

·These organisations and partners
Basque Government, Lea-Artibai Regional Council, AZTI, UPV/EHU, aquaculture companies, fisheries sectors, and seafood distribution networks.

·Describe what they are trying to do in providing product/service
Support sustainable aquaculture growth, marine research, and market adoption of regenerative seafood products.

·Conducting the following set of activities
R&D collaboration, funding facilitation, technological innovation, distribution partnerships, and market development.

·List the channels that connect the solution to the targets
Industry events, digital outreach, local media, seafood distribution channels, hospitality partnerships, and sustainability networks.

·Doing something new/innovative that others don't offer
First large-scale cultivation of native European clams, biotechnology-supported breeding, ecosystem-regenerative aquaculture operations.

POTENTIAL ***TRANSFERABILITY***
High Level of Transferability: The model can be replicated in coastal regions with suitable marine environments and industry support.

6b - Best Practice Innovation Canvas & FISHINN Capability Matrix

Submitted by Technopole Quimper-Cornouaille & PMBA



Best Practice: GIE Île d'Yeu / AMAP Poissons

Region: Pays de la Loire, France | **Submitted by:** Pôle Mer Bretagne Atlantique & Technopole Quimper-Cornouaille

FISHINN Theme: #1 – Collaboration with the food and tourism sector

Overview

The GIE Ile d'Yeu/AMAP Poissons initiative is a grassroots innovation combining small-scale fisheries with community-supported agriculture (CSA) to establish a direct seafood sales model. Since 2010, a collective of five local fishing vessels and supporting staff have supplied fresh, seasonal fish directly to AMAP (Association for the Maintenance of Peasant Agriculture) shops. This model not only secures fair prices for fishers, but also reconnects consumers with regional maritime food systems. The solution ensures product traceability, shortens value chains, and revitalises coastal economies. It fosters solidarity between producers and consumers while preserving traditional artisanal fisheries in the Atlantic Area. It has grown to 17 distribution points serving approximately 1,400 consumers, demonstrating both social and economic resilience.

Innovation Canvas Summary

Key Activities
Daily artisanal fishing and small-scale processing
Subscription-based distribution of fresh fish to AMAP members
Coordination of logistics and local sales points
Community engagement, pricing stability, and traceability systems

Key Partners and Suppliers
Local fishers operating out of Île d'Yeu
AMAP regional networks and distribution hubs
Fish processing units and logistics providers

Key Local Resources
Rich coastal fishing grounds around Île d'Yeu
Artisanal knowledge and generational fishing skills
Committed community and consumer base
Established small-scale processing infrastructure on the island

Technical Resources
Cold chain logistics for fresh fish delivery
Subscription management systems and traceability tools
Processing units for gutting, filleting, and packaging
Communications tools for customer updates and recipes

Energy Resources
Logistics systems for regional distribution
Focus on minimising waste and optimising routes
Efficient processing practices

Value Proposition
Locally caught, seasonal, traceable fish at fair prices
Strengthens artisanal fishing economies
Builds transparent, trust-based seafood value chains
Supports regional food security and maritime heritage

Customer Targets and Communities
Consumers in search of fresh, sustainable seafood
AMAP members committed to local food systems
Community groups advocating for food sovereignty

Environmental & Climate-Smart USPs
Low-impact fishing practices preserve marine ecosystems
Seasonal catch reduces pressure on other stocks
Localised model reduces transport emissions
Encourages consumption of local fisheries resources vs imported

Distribution and Upscaling
AMAP subscription model easily adaptable to other coastal areas
Replicable partnerships between fishers and CSAs across Europe
Scalable through community outreach and education
Potential integration into food tourism experiences

Capability Matrix Evaluation

Total Score: 34 / 48

POTENTIAL Desirability
12/15
Strong appeal among fishers and consumers seeking local, traceable seafood; enhances community connection and pricing fairness.

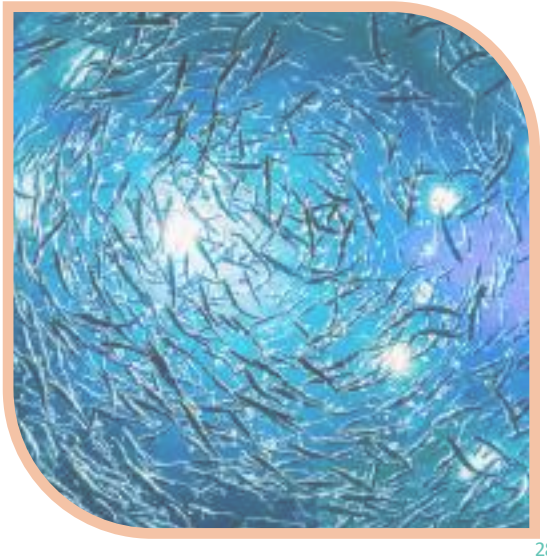
POTENTIAL Viability
11/15
Demonstrated track record with 10% of fishers' production going through AMAP; however, national AMAP membership is decreasing, which introduces vulnerability.

POTENTIAL Feasibility
9/15
Existing logistics and small processing facilities are operational, though expansion relies on strong AMAP networks and local demand.

POTENTIAL Transferability
2/3
Achievable in other regions with the right support, though requires adaptation to local distribution systems and consumer readiness.

Relevance to FISHINN

This best practice bridges fisheries and food sovereignty through a socially grounded model. It aligns with FISHINN's goals of empowering local value chains and increasing income stability for small-scale fishers. The GIE/AMAP initiative demonstrates how Atlantic coastal communities can collaboratively innovate within their food systems, bringing social, economic, and environmental value in tandem.



see page 80 for more information

FISHINN CAPABILITY MATRIX: GIE Île d'Yeu / AMAP Poissons

Submitted by: Pôle Mer Bretagne Atlantique & Technopole Quimper-Cornouaille
FISHINN Theme: #6 – Other innovations and best practice (non-tech, non-business)



DESIRABILITY: 12/15
VIABILITY: 11/15
FEASIBILITY: 9/15
TRANSFERABILITY: 2/3
Total Score: 34/48

POTENTIAL **DESIRABILITY**

-Describe who the potential target audience are

Key players across the fisheries value chain are seeking better ways to valorise local fish products through new models of commercialisation and processing. Fishermen are particularly interested in direct-sales models as a means of diversifying income. End consumers benefit from locally sourced, high-quality, seasonal products. The model strengthens links between producers and consumers and supports the preservation of artisanal fishing skills.

-***Describe what they are trying to do***

They seek to implement a direct-sales model that stabilises prices, increases the value of local catch, and creates more predictable and diversified income for fishers.

-***Describe what challenges they are facing***

Challenges include volatility in market prices, the need for diversification, dependency on strong consumer networks, and ensuring consistent demand to maintain viability.

-***Describe the product or service that would be provided***

Provision of direct-to-consumer fish baskets through an AMAP-style subscription model, enabling part of the local catch to be channelled directly to consumers while maintaining a stable selling price.

-***Describe what this will enable them to do***

This enables fishermen to secure stable income (equivalent to one additional month per year), strengthen consumer relationships, diversify activity, and better valorise local quality fisheries resources.

POTENTIAL **VIABILITY**

-Describe the size of potential target audience

Operating since 2010 with five member vessels and three employees. It serves ~1,400 consumers through 17 distribution points and sells around 14 tonnes of fish annually, representing ~10% of member vessels' production—indicating an established and sizeable audience.

-***To provide something of value***

Regular access to fresh, local, seasonal fish, while supporting fishers with improved valorisation and more predictable revenue.

-***Providing a product or service***

Distribution of locally sourced fish through an organised subscription-based direct-sales network, supported by a processing unit that handles buying, processing, and preparation.

-***Some form of profit or advantage / benefit / problem solving***

Local employment, stabilises prices, strengthens community-based food systems, and contributes to economic resilience of artisanal fishers.

-***The project/solution is operated at some level of cost and scale***

Revenues are sufficient to fund employee wages and support a dedicated processing unit on the island, though viability depends on maintaining sufficient subscription volume and adapting to weakening AMAP networks.

POTENTIAL **FEASIBILITY**

·***These organisations and partners***

The territory already has key resources: high-quality fisheries products, processing capacity, existing consumer bases, and local actors interested in new direct-sales and valorisation models. Skills required for the activity are present locally.

-***Describe what they are trying to do in providing a product/service***

Support fishers via a structured, subscription-based market channel. Increases value capture and maintains local fisheries employment.

-***Conducting the following set of activities***

Activities include direct sales, subscription management, processing and preparation of fish, and operation of distribution points.

-***List the channels that connect the solution to the targets***

Environmentally conscious customers who seek locally-sourced products. Communication channels : AMAPs, websites and local news.

-Doing something new/innovative that others don't offer

Coordination of logistics and local sales points. Community engagement, pricing stability, and traceability systems

POTENTIAL **TRANSFERABILITY**

Mid Level of Transferability: Achievable with correct supports, funding, and team.

Best Practice: ACAV – Cooperative Fishing Vessel Ownership

Region: Pays de Loire, France | **Submitted by:** Pôle Mer Bretagne Atlantique & Technopole Quimper-Cornouaille

FISHINN Theme: #2 – Advancing Position in the Value Chain (via collaboration and alliances)

Overview

ACAV is a long-standing maritime cooperative offering an innovative cooperative ownership model that addresses major structural challenges in small-scale fisheries. It enables fishermen—particularly young or first-time entrants—to gradually acquire vessels while developing their management and business skills. By mutualising resources, risks, and knowledge, ACAV supports generational renewal in a sector threatened by high capital costs, ageing fleets, and limited access to credit. The cooperative model blends technical, financial, and administrative support mechanisms, making it a powerful example of sustainable fisheries governance in the Atlantic Area. The approach has led to lower fleet age (15 years average compared to 31 in Brittany) and improved resilience

Innovation Canvas Summary

Key Activities
Structured vessel co-ownership and risk-sharing
Financial and technical support for new entrants
Management training (admin, finance, HR) for members
Fleet renewal and maintenance planning

Key Partners and Suppliers
Member fishers and shipowners
Shipyards and maritime equipment providers
Maritime training centres and high schools
Fisheries committees, local authorities, and cooperative banks

Key Local Resources
Established fishing communities
Skilled workforce and knowledge in shipbuilding
Strong institutional support for professional training

Technical Resources
Shipyard partnerships for fleet renewal and retrofitting
Administrative and accounting infrastructure within the co-op
Digital tools for vessel management and planning

Energy Resources
Improvements in fleet energy performance via new builds
Opportunity to integrate low-emission vessels in renewal plans

Value Proposition
Lower barriers to entry for fishers
Reduced turnover and stable employment
Modernised, younger fleet contributing to safety and sustainability
Governance rooted in collaboration, solidarity, and resilience

Customer Targets and Communities
Early-career fishermen and cooperatives
Maritime training graduates
Small-scale vessel operators and their communities
Local seafood value chains benefitting from continuity and quality

Environmental & Climate-Smart USPs
Newer vessels with improved environmental performance
Long-term commitment to sustainable fleet practices
Maintains small-scale fishing heritage and local seafood supply

Distribution and Upscaling
Replicable co-op model for vessel ownership
Applicable to other EU regions facing generational transition
Maintains artisanal fishing and local seafood supply

Capability Matrix Evaluation

Total Score: 37 / 48

POTENTIAL Desirability
12/15
High interest from fishers and shipyards, it could meet real financial and generational needs.

POTENTIAL Viability
12/15
The cooperative has operated since 1967 with continued success; includes new entrants and 2nd-gen members.

POTENTIAL Feasibility
11/15
Strong ecosystem of cooperatives and shipyards in Brittany; model functions well but needs financial backers.

POTENTIAL Transferability
2/3
Model is replicable in other regions with moderate support and tailored guidance.

Relevance to FISHINN

ACAV's cooperative model supports social, economic, and environmental sustainability in fisheries. It addresses succession, fleet modernisation, and employment, all critical for resilient maritime communities. It represents a scalable solution for Atlantic Area territories seeking to renew and strengthen small-scale fishing infrastructure without compromising ecological or cultural integrity.



see page 87 for more information

FISHINN CAPABILITY MATRIX: ACAV – Cooperative Fishing Vessels Ownership

Submitted by: Pôle Mer Bretagne Atlantique & Technopole Quimper-Cornouaille
FISHINN Theme: #6 – Other innovations and best practice (non-tech, non-business)



DESIRABILITY: 12/15
VIABILITY: 12/15
FEASIBILITY: 11/15
TRANSFERABILITY: 2/3
Total Score: 37/48

POTENTIAL **DESIRABILITY**

-Describe who the potential target audience are

The primary target audiences are fishermen—both existing shipowners and prospective newcomers aiming to acquire their first vessel—and regional shipyards that could benefit from renewed construction and maintenance activity. These groups face shared challenges including high entry costs, ageing fleet infrastructure, and generational turnover.

-Describe what they are trying to do

Modernise the fleet, reduce barriers to entry, and support new fishermen in accessing vessels and learning managerial and operational skills.

-Describe what challenges they are facing

High capital requirements for vessel ownership, ageing fleet, lack of access to credit, and the need to renew skillsets within the territory.

-Describe the product or service that would be provided

A cooperative ship ownership model that mutualises risk, provides structured financial mechanisms, supports training and management skills development, and facilitates progressive acquisition of fishing vessels.

-Describe what this will enable them to do

This enables new fishers to enter the sector more smoothly, supports intergenerational transmission of knowledge, reduces fleet age, promotes innovation in shipbuilding, and stabilises local fishing activity.

POTENTIAL **VIABILITY**

-Describe the size of potential target audience

The Cornouaille maritime district hosts 365 fishing vessels and 1,559 professional fishermen. Several shipyards and service providers operate locally, and training centres continue to attract new generations despite pressures from Brexit and fleet exit plans.

-To provide something of value

The model provides a viable path into vessel ownership, preserves artisanal fishing capacity, and supports younger fishers with technical and administrative tools needed for long-term success.

-Providing a product or service

It offers shared ownership structures, financial mechanisms, and capacity-building services that reduce investment risk and maintain fleet operations.

-Some form of profit or advantage / benefit / problem solving

Stabilises employment, reduces turnover, supports fleet modernisation, and ensures continuity of artisanal fishing skills within the territory.

-The project/solution is operated at some level of cost and scale

The model's longevity (since the 1960s) and its continued use across various fleet types demonstrate operational stability, scalability, and low failure rates.

POTENTIAL **FEASIBILITY**

·These organisations and partners

Key stakeholders are already present: maritime cooperatives, professional organisations, local fisheries committees, and maritime training centres. Local resources align well with the cooperative model, and the solution has proven successful in other territories.

-Describe what they are trying to do in providing a product/service

Structured mechanism that lowers the barriers to vessel ownership and fishers managerial, administrative, and technical competencies.

-Conducting the following set of activities

Mutualising financial risk, supporting vessel acquisition, training new fishers, stabilising crews, and facilitating the transfer of operational responsibilities over time.

-List the channels that connect the solution to the targets

ACAV promotes its sustainable practices, aligned and gains visibility through articles published in specialized media like Sea to Sea, Mer et Marine, Coopération Maritime and other platforms.

-Doing something new/innovative that others don't offer

ACAV provides modern, eco-friendly vessels to its members through a network of partners, including Socarenam and Piriou, Île Vertime.

POTENTIAL **TRANSFERABILITY**

Mid Level of Transferability: Achievable with correct supports, funding, and team.

Best Practice: Oceano Fresco

Region: Brittany, France | **Submitted by:** Pôle Mer Bretagne Atlantique & Technopole Quimper-Cornouaille
FISHINN Theme: #2 – Advancing Position in the Value Chain (via collaboration and alliances)

Overview

Oceano Fresco is a pioneering aquaculture company based in Portugal (included as a transnational example for Brittany), focused on sustainable, high-value production of native European clam species — Ruditapes decussatus and Venerupis corrugata. These species are threatened by invasive alternatives and environmental change, yet they are premium seafood products in high demand. The company's environmentally friendly approach includes low energy use, zero freshwater input, and no artificial feed. Their open-sea farms actually enhance biodiversity and support ecosystem restoration. Oceano Fresco's innovation aligns with circular bioeconomy principles and addresses multiple SDG targets, positioning it as a key actor in future-proof protein systems.

Innovation Canvas Summary

Key Activities
Sustainable open-ocean aquaculture of native clams
Biotechnological research and genetic breeding
BioMarine Center R&D operations
Integrated hatchery, nursery, and offshore cultivation
Partnership building with chefs, seafood distributors, and scientific networks

Key Partners and Suppliers
Regional and national authorities (e.g. Portuguese marine regulators)
Research institutes and biotechnology collaborators
Distribution partners and high-end seafood markets

Key Local Resources
Rich biodiversity and suitable ocean conditions off the Algarve coast
Existing aquaculture zones and maritime infrastructure
Local knowledge of shellfish ecosystems and harvesting
Skilled marine workforce and regional support

Technical Resources
BioMarine Center with advanced facilities for R&D
Genetic improvement and biotechnology tools
Hatchery and nursery systems for early-stage cultivation
Monitoring systems for environmental impact and health metrics

Energy Resources
Use of low-impact, energy-efficient offshore systems
Renewable integration in aquaculture logistics and operations
Focus on reducing GHG emissions relative to traditional protein sources

Value Proposition
First large-scale supplier of native clams with year-round availability
Environmentally responsible, traceable seafood product
Enhances marine ecosystems while diversifying protein supply
Product differentiation through taste, sustainability, and biodiversity impact

Customer Targets and Communities
Chefs, premium restaurants, and seafood distributors
Health-conscious and eco-aware consumers
Researchers and public sector entities promoting food security
Local fishing communities and regional aquaculture clusters

Environmental & Climate-Smart USPs
Native species cultivation boosts marine regeneration
Bivalves improve water quality through natural filtration
Decreases emissions compared to land-based animal protein production

Distribution and Upscaling
Integrated production allows direct-to-market and B2B distribution
Brand storytelling via sustainability credentials and traceability
Expandable to other suitable coastal regions with similar ecological profiles

Capability Matrix Evaluation

Total Score: 32 / 48

Desirability
POTENTIAL 12/15
High demand for premium native clams; valued by chefs and sustainability markets.

POTENTIAL Viability
11/15
Supported by business angels and investors; positioned for growth in the global clam market.

POTENTIAL Feasibility
7/15
High scientific and environmental requirements; scaling constrained by access to clean marine space.

POTENTIAL Transferability
2/3
Moderate—viable with right environmental and R&D support in other Atlantic regions.

Relevance to FISHINN

Oceano Fresco showcases how aquaculture can evolve beyond commodity farming toward biodiversity restoration and ecosystem-aligned protein production. Its focus on native species, circular inputs, and market differentiation provides a template for FISHINN regions to consider blue growth opportunities that regenerate rather than deplete marine systems.



see page 72 for more information

FISHINN CAPABILITY MATRIX: Oceano Fresco

Submitted by: Pôle Mer Bretagne Atlantique & Technopole Quimper-Cornouaille
FISHINN Theme: #2 – Advancing Position in the Value Chain (via collaboration and alliances)



DESIRABILITY: 12/15
VIABILITY: 11/15
FEASIBILITY: 7/15
TRANSFERABILITY: 2/3
Total Score: 32/48

POTENTIAL **DESIRABILITY**

·Describe who the potential target audience are

Oceano Fresco proposes sustainable and innovative aquaculture of native European clams (Ruditapes decussatus and Venerupis corrugata). These species are highly sought after yet declining due to invasive species pressure. The target audience includes seafood buyers, consumers seeking sustainable high-quality bivalves, local coastal communities, and environmental stakeholders.·

-Describe what they are trying to do

They aim to develop high-value and ecologically responsible aquaculture that restores native species while supplying premium seafood grown in high-quality plankton-rich open-sea environments.

·Describe what challenges they are facing

Challenges include pressure from invasive species, the need for high-quality marine water, sustainable aquaculture management, and ensuring biodiversity benefits within protected areas.

·Describe the product or service that would be provided

Provision of sustainably cultivated native European clams requiring no freshwater, artificial feed, or antibiotics. As filter feeders, they have low environmental impact, contribute to CO_2 absorption, and support marine ecosystem health.

·Describe what this will enable them to do

Enable local ecosystems to benefit from biodiversity restoration, provide high-value seafood, and strengthen regional economic activity through added-value products built on sustainability and native species recovery.

POTENTIAL **VIABILITY**

·Describe the size of potential target audience

There is clear and growing demand for high-quality native clams. Oceano Fresco has strong R&D partnerships, access to investors, and operates within a global market valued at USD 108.4 billion (oysters & clams, 2022) with projected growth (CAGR 3.5%).

·To provide something of value

They deliver sustainably farmed, high-value native clams known for premium taste, quality, and strong environmental credentials.

·Providing a product or service

Production and sale of native European clams grown in optimal marine conditions and supported by scientific knowledge partnerships.

·Some form of profit or advantage/benefit/problem solving

Their products help reduce exploitation of threatened native species, provide ecological benefits, and create market value through superior, traceable and sustainable seafood.

·The project/solution is operated at some level of cost and scale

Viability is reinforced by investor backing, market demand, and the potential to scale sustainable clam farming systems over time.

POTENTIAL **FEASIBILITY**

·These organisations and partners

Success requires access to high-quality seawater, scientific expertise (e.g., Concarneau Marine Station), marine biology research networks, and adequate offshore space compatible with Natura 2000 requirements

·Describe what they are trying to do in providing product/service

They aim to produce native clams through sustainable open-sea cultivation while leveraging regional scientific resources to validate and improve aquaculture performance. .

·Conducting the following set of activities

Using high-quality marine environments, collaborating with scientific institutes, operating within marine protected areas, and establishing open-sea cultivation infrastructure.

·List the channels that connect the solution to the targets

Industry events, digital outreach, local media, seafood distribution channels, hospitality partnerships, and sustainability networks.

·Doing something new/innovative that others don't offer

First large-scale cultivation of native European clams, biotechnology-supported breeding, ecosystem-regenerative aquaculture operations.

POTENTIAL ***TRANSFERABILITY***

Mid Level of Transferability: Achievable with correct supports, funding, and team

Best Practice: Kofradia – Itsas Etxea

Region: Basque Country | **Submitted by:** Pôle Mer Bretagne Atlantique & Technopole Quimper-Cornouaille
FISHINN Theme: #6 – Other Innovations & Best Practice (non-tech, non-business)

Overview

KOFRADIA is a multi-functional platform promoting sustainable artisanal fishing, combining gastronomy, retail, education, and community engagement. Originally developed in the Basque Country, it serves as a replicable model for coastal regions such as Cornouaille in Brittany. KOFRADIA connects small-scale fishers directly with consumers and tourists, raising awareness about sustainable seafood through immersive experiences. It includes a seafood restaurant, an educational centre, an online sales platform, and local outreach programmes—demonstrating how the fishing sector can innovate through cultural and social entrepreneurship rather than purely technical advancement.

Innovation Canvas Summary

Key Activities
Daily transformation of fresh artisanal catches into meals
Operation of a seafood-focused restaurant and shop
Organisation of *pescatourism* experiences and guided visits
Educational programmes for youth and general public
Specific actions include organizing events, conducting workshops, developing marketing campaigns, and managing an online platform to connect members and facilitate knowledge exchange

Key Partners and Suppliers
Fishermen's organisations (e.g. producer organisations - OPs)
Local chefs and culinary institutes
Schools and universities
Tourism boards and local government

Key Local Resources
Rich local fishing traditions in the region
Existing artisanal fishing fleets
Cultural identity rooted in sustainable marine practices

Technical Resources
Online seafood marketplace and physical retail infrastructure
Educational materials and exhibition spaces
Facilities for seafood preparation and culinary education
E-learning Systems: Interactive technologies for delivering workshops and online training.
Supply Chain Management Tools: Applications to ensure efficiency and reduce waste in sourcing and logistics

Energy Resources
Focus on minimising waste and optimising local sourcing
Low carbon footprint compared to industrial seafood chains

Value Proposition
Traceable, sustainably sourced seafood with cultural relevance
Education-based gastronomy experiences
New routes for fishers to sell directly and retain value

Customer Targets and Communities
Local consumers and restaurants
Tourists interested in experiential learning and sustainability
Young people exploring maritime careers

Environmental & Climate-Smart USPs
Advocacy for responsible fishing practices
Valorisation of underutilised species
Contribution to awareness of marine biodiversity conservation
Promotes local sourcing, reducing emissions from long supply chains
Encourages reuse, recycling, and waste reduction in the food sector

Distribution and Upscaling
Local and regional replication potential
Integration with tourism and education sectors
Digital expansion through e-commerce and storytelling

see page 71 for more information

Capability Matrix Evaluation

Total Score: 30 / 48

POTENTIAL Desirability
12/15
Strong interest from consumers and educators; aligns with awareness of sustainable seafood and local identity.

POTENTIAL Viability
9/15
Multiple income streams (restaurant, retail, events), but economic model still relies on public funding.

POTENTIAL Feasibility
8/15
Led by experienced fishers and OPs; structures may vary in different territories.

POTENTIAL Transferability
1/3
Concept is valuable but requires support and adaptation at port-level integration, as well as public funding.

Relevance to FISHINN

KOFRADIA presents a socially innovative way to increase consumer awareness, strengthen fisher incomes, and promote fisheries and ocean based literacy. Its combination of culinary tourism, direct seafood sales, and education is well-suited to the goals of FISHINN, especially in building connections between stakeholders and the public. While transferability varies, the model demonstrates strong alignment with Atlantic Area goals for inclusive, sustainable blue growth.



FISHINN CAPABILITY MATRIX: KOFRADIA – Promoting Sustainable Artisanal Fisheries
Submitted by: Pôle Mer Bretagne Atlantique & Technopole Quimper-Cornouaille
FISHINN Theme: #6 – Other innovations and best practice (non-tech, non-business)



DESIRABILITY: 12/15
VIABILITY: 9/15
FEASIBILITY: 8/15
TRANSFERABILITY: 1/3
Total Score: 30/48

POTENTIAL **DESIRABILITY**
-Describe who the potential target audience are
Both local consumers (B2C) and businesses (B2B). The model strengthens links between artisanal fisheries and local markets through direct sales and B2B provision. It also engages the public through pescatourism, educational visits, and local culinary experiences.
-***Describe what they are trying to do***
Promote and valorise artisanal fishing by connecting the public directly with fishers, offering authentic seafood experiences, and showcasing sustainable fishing practices.
-***Describe what challenges they are facing***
Challenges include increasing the visibility of artisanal fishers, differentiating local sustainable seafood from conventional products, and generating sufficient year-round demand—particularly in areas with strong seasonality.
-***Describe the product or service that would be provided***
Combination of services: restaurant dining using fresh daily catches, guided tours, workshops, educational content, and both physical and online retail of sustainably sourced local fish.
-***Describe what this will enable them to do***
It enables consumers to better understand sustainable fishing, supports the valorisation of local species, and allows producers to strengthen their identity and gain improved market visibility.

POTENTIAL **VIABILITY**
-Describe the size of potential target audience
There is strong potential demand from coastal tourists, local consumers, and food enthusiasts, all of whom are present in Cornouaille. The model fits regions with artisanal fishing traditions and growing interest in sustainable gastronomy. Revenue potential is diversified across multiple channels, though questions remain regarding long-term viability as the initiative benefitted from initial European funding.
-***To provide something of value***
The initiative provides unique, high-quality seafood experiences rooted in sustainability and local identity.
-***Providing a product or service***
It offers fresh seafood meals, educational content, guided visits, experiential tourism, and direct seafood sales.
-***Some form of profit or advantage / benefit / problem solving***
The model creates economic and social value, strengthens community ties, improves market visibility for fishers, and supports responsible consumption.
-***The project/solution is operated at some level of cost and scale***
The multi-activity model provides several revenue streams but requires significant operational capacity, and its economic stability may depend on ongoing support or strong seasonal income.

POTENTIAL **FEASIBILITY**
·***These organisations and partners***
Cornouaille already possesses touristic infrastructure, interest in local fisheries culture, and existing educational facilities (e.g., interpretation centres and auction-hall tours), providing a supportive environment for such a model.
-***Describe what they are trying to do in providing a product/service***
Engage consumers and visitors in the culture of artisanal fishing, promoting sustainable local seafood through a diverse activity model.
-***Conducting the following set of activities***
Activities include running a restaurant, managing seafood retail (physical and online), offering guided tours, hosting events, and delivering educational programmes.
·***List the channels that connect the solution to the targets***
Restaurant interaction, educational programs, website and social media, and partnerships with tourism and cultural networks.
·***Doing something new/innovative that others don't offer***
Combines gastronomy, education, cultural heritage, and sustainability into an integrated visitor and community experience.

POTENTIAL **TRANSFERABILITY**
Mid Level of Transferability: Achievable with correct supports, funding, and team.

Best Practice: Selo de Mar

Region: Portugal | **Submitted by:** Pôle Mer Bretagne Atlantique & Technopole Quimper-Cornouaille
FISHINN Theme: #1 – Collaboration with the food and tourism sector

Overview

Selo de Mar is a gourmet innovation blending culinary heritage, sustainability, and circular production. Reviving the Roman tradition of Garum (a fermented fish sauce once prized across the Roman Empire), the company produces high-quality, additive-free, natural condiments from 100% locally sourced Portuguese fish using zero-waste principles. Though Portuguese in origin, the model has captured interest in Saint-Guénolé and Cornouaille (Brittany) due to the region's Roman archaeological heritage, culinary culture, and available marine raw materials. The initiative reconnects fishing communities with lost techniques, engaging consumers through flavour, heritage, and ecological values.

Innovation Canvas Summary

Key Activities
Fermentation and production of Garum
Heritage research and collaboration with archaeologists
Online and in-person sales and events
Recipe development, storytelling, and customer engagement

Key Partners and Suppliers
Local fishers and seafood processors
Historians, archaeologists, marine scientists (e.g. CNRS)
Chefs and culinary schools
Local authorities, port actors, and regional innovation networks

Key Local Resources
Fish species suited to fermentation (available in Cornouaille)
Cultural memory and archaeological interest in Roman heritage
Local chefs, food culture, and eco-conscious consumers

Technical Resources
Fermentation facilities and
Digital marketing platforms
Artisan food production know-how

Energy Resources
Small-scale, low-impact energy usage
Focus on local supply chains and waste-free production

Value Proposition
Premium culinary product rooted in tradition and sustainability
Zero-additive, nutrient-rich sauce with wide culinary applications
Strong cultural branding and heritage alignment

Customer Targets and Communities
Gourmet food consumers
Chefs and gastronomy schools
Eco-conscious retailers and experience-seekers
Cultural tourists and culinary heritage audiences

Environmental & Climate-Smart USPs
Zero waste: 100% of raw fish is used
Packaging is recyclable or reusable
Supports marine resource efficiency and awareness

Distribution and Upscaling
Online platforms, local restaurants, and food fairs
Scalable through partnerships with chefs, cities, and tourism bodies
Replicable in other culturally rich coastal regions

Capability Matrix Evaluation

Total Score: 38 / 48

POTENTIAL Desirability
12/15
Appeals to high-end consumers valuing tradition, sustainability, and health; strong link to cultural identity.

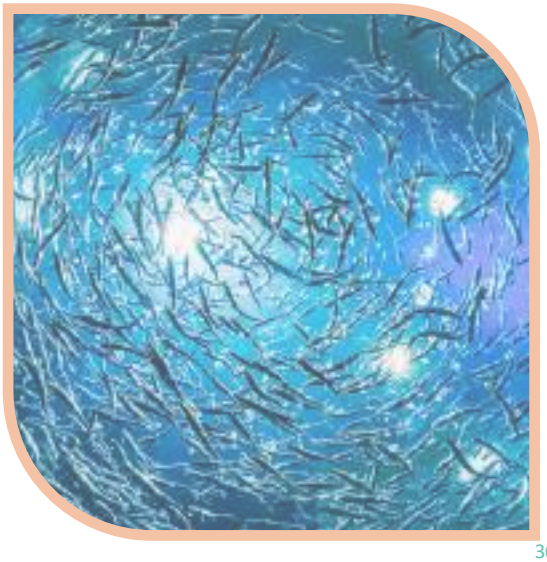
POTENTIAL Viability
12/15
Generates income through direct sales, events, and tourism experiences; product is positioned as premium.

POTENTIAL Feasibility
12/15
Production is technically simple and supported by local resources; requires artisanal and scientific knowledge.

POTENTIAL Transferability
2/3
Transferable to coastal areas with culinary heritage and access to necessary fish species and partners.

Relevance to FISHINN

Selo de Mar illustrates how cultural heritage can be reactivated through modern food innovation. It connects marine biodiversity, ancient knowledge, and new consumer markets, contributing to rural and coastal revitalisation. For FISHINN, it offers a low-footprint, high-value example of non-technological innovation that deepens public connection to fisheries, promotes resource efficiency, and enhances the identity of the Atlantic Area.



see page 108 for more information

FISHINN CAPABILITY MATRIX: Selo de Mar

Submitted by: Pôle Mer Bretagne Atlantique & Technopole Quimper-Cornouaille
FISHINN Theme: #1 – Collaboration with the food and tourism sector



DESIRABILITY: 12/15
VIABILITY: 12/15
FEASIBILITY: 12/15
TRANSFERABILITY: 2/3
Total Score: 38/48

POTENTIAL **DESIRABILITY**

-Describe who the potential target audience are

Selo de Mar appeals to consumers with higher purchasing power who value sustainability, natural ingredients, and artisanal food.

-***Describe what they are trying to do***

They aim to reintroduce a culturally significant, sustainable, artisanal fish-based condiment to modern markets while promoting local marine resources and culinary heritage.

-***Describe what challenges they are facing***

building consumer awareness of a historical product that has not been in mainstream cuisine for centuries, scaling production while maintaining artisanal quality, and ensuring consistent access to suitable raw materials and high-quality seawater.

-***Describe the product or service that would be provided***

A premium, natural, heritage-based gourmet seasoning (Garum) produced using artisanal techniques, local fish, and zero-waste methods.

-***Describe what this will enable them to do***

Consumers will gain access to a unique, historically rooted, eco-responsible culinary product. Producers benefit from added-value creation, heritage valorisation, and market differentiation through an exclusive, story-rich product.

POTENTIAL **VIABILITY**

-Describe the size of potential target audience

Interest in Garum is reviving more broadly, with multiple project leaders exploring similar products. Revenue is generated through multiple channels: direct sales, restaurant partnerships, and educational events. Consumers and professional buyers show willingness to invest in high-quality, traceable products with cultural value.

-***To provide something of value***

Offers an authentic, artisanally crafted product linked to local history, marine resources, and sustainable gastronomic practices.

-***Providing a product or service***

Carefully crafted seasoning made using ancient methods and modern scientific precision, complemented by consumer education and culinary engagement.

-***Some form of profit or advantage / benefit / problem solving***

Delivers economic value through premium pricing, cultural value through heritage revival, and environmental value through zero-waste practices.

-***The project/solution is operated at some level of cost and scale***

The model has already shown viability through product sales, event-based experiences, and partnerships, demonstrating feasibility at small to moderate scale.

POTENTIAL **FEASIBILITY**

·These organisations and partners

Raw materials available in Saint-Guénolé and Cornouaille match those required for Garum production. The region also benefits from a synergy of Roman heritage sites, scientists, and local fisheries resources.

-***Describe what they are trying to do in providing a product/service***

To recreate a historically accurate, high-quality culinary product using sustainable techniques, engaging both gastronomic and cultural audiences.

-***Conducting the following set of activities***

Activities include artisanal production, collaboration with scientific partners, raw material sourcing, culinary partnerships, educational outreach, and online engagement.

-***List the channels that connect the solution to the targets***

Channels include e-commerce, restaurant collaborations, events, culinary workshops, and interpretive content.

-Doing something new/innovative that others don't offer

Combining archaeology, science, and gastronomy in an innovative, culturally significant way.

POTENTIAL **TRANSFERABILITY**

Mid Level of Transferability: Achievable with correct supports, funding, and team.

6c - Best Practice Innovation Canvas & FISHINN Capability Matrix

Submitted by Munster Technological University



Best Practice: Iceland Ocean Cluster - "100% Fish"

Region: External (Iceland) | Submitted by: Munster Technological University
FISHINN Themes: #1–#6 (Cross-cutting innovation example)

Overview

The Iceland Ocean Cluster (IOC), based in Reykjavík, is an internationally recognised hub for blue economy innovation. It acts as a catalyst for the sustainable utilisation of marine resources, connecting over 60 companies and institutions involved in seafood, biotechnology, design, tourism, and more. The IOC is a pioneer in promoting the full utilisation of marine biomass, transforming waste into commercial value, and fostering a circular economy model that has been replicated globally. Through collaborative incubation, research support, and industry matchmaking, it enables entrepreneurship, knowledge transfer, and export growth. Its model strengthens local value chains while inspiring responsible innovation across international blue economy ecosystems.

Innovation Canvas Summary

Key Activities
Building collaborative networks between marine actors
Supporting product development from fish by-products
Incubation and mentoring for startups and innovators
Facilitating knowledge exchange and international replication
Public communication and advocacy for full resource use

Key Partners and Suppliers
Fishing cooperatives and processors
Biotech, fashion, and nutrition startups
Universities and marine research centres
Icelandic government and innovation agencies
International members of the Ocean Cluster Network

Key Local Resources
High-volume fisheries production in Iceland
Strong national innovation culture and policy alignment
Rich by-product stream: skins, bones, enzymes, collagen
Historical ties to cod fishing and coastal entrepreneurship

Technical Resources
Access to processing and biotech labs
Product development support for cosmetics, nutraceuticals
Cluster incubation and innovation spaces
Prototyping and small-batch manufacturing infrastructure

Energy Resources
Focus on low-impact production and waste reduction
Utilisation of Iceland's renewable geothermal and hydro energy
Energy-efficient processing technologies encouraged in startups

Value Proposition
Transforming marine by-products into economic, environmental, and social value
A holistic "ecosystem" of innovations supported by a shared vision
Proven model that strengthens rural resilience and job creation
Branding Iceland as a global leader in circular blue economy

Customer Targets and Communities
Fishing communities seeking value retention
Sustainable entrepreneurs and circular economy innovators
Policy makers, blue economy accelerators, funders
Consumers of marine health products, bioplastics, and eco-fashion

Environmental & Climate-Smart USPs
Massive reduction in marine waste and disposal
Circularity integrated into fisheries value chain
Carbon savings through material substitution
Demonstrated scalability and life cycle sustainability

Distribution and Upscaling
Cluster model already replicated in other countries (e.g. USA, Canada, Norway)
Ocean Cluster Network provides framework for knowledge transfer
Engagement through international blue economy platforms and media
Commercialisation via member companies with global reach

see page 90 for more information

Capability Matrix Evaluation

Total Score: 38 / 48

POTENTIAL Desirability
14/15
Strong stakeholder network; high alignment with community needs and market demand.

POTENTIAL Viability
11/15
Proven success of model in Iceland and replication abroad; clear business case.

POTENTIAL Feasibility
11/15
Strong enabling ecosystem in Iceland; similar support structures developing in partner regions.

POTENTIAL Transferability
2/3
Considered highly promising but would require adaptation and coordination in each partner context.

Relevance to FISHINN

While Iceland lies outside the core geography of the FISHINN project, the Iceland Ocean Cluster provides a powerful, transferable model of how to structure marine innovation around local assets, cross-sector collaboration, and circular economy principles. It serves as both inspiration and template for partner regions seeking to build their own blue economy innovation hubs in Work Package 3.



FISHINN CAPABILITY MATRIX: Iceland Ocean Cluster - "100% Fish"

Submitted by: Munster Technological University
FISHINN Theme: #1–#6 (Cross-cutting ecosystem development)



DESIRABILITY: 14/15
VIABILITY: 11/15
FEASIBILITY: 11/15
TRANSFERABILITY: 2/3
Total Score: 38/48

POTENTIAL **DESIRABILITY**

-Describe who the potential target audience are

The target audience consists of Ireland's national network of blue economy stakeholders, accessed through the Circular Bioeconomy Cluster. Companies and institutions seeking to maximise the value of marine resources through improved utilisation, collaboration, and innovation.

-***Describe what they are trying to do***

Stakeholders range from primary producers and processors to blue biotechnology, marine product development, maritime services, agrifood and feed, and blue tourism. Connect these sectors to valorise side streams, collaborate on emerging technologies and ocean observation.

-***Describe what challenges they are facing***

Challenges include: scaling production sustainably; volatility in primary product volumes; infrastructure and capital investment needs in rural regions; ltd access to R&D support; low public awareness of blue economy potential; complex regulatory environments; and digitalisation.

-***Describe the product or service that would be provided***

A structured cluster model offering consultancy, coordination, innovation brokering, cross-sector collaboration, and support for full utilisation of marine resources—modelled on the Iceland Ocean Cluster approach.

-***Describe what this will enable them to do***

This will enable Ireland's blue economy actors to collaborate more effectively, unlock higher-value uses for marine resources, enhance innovation capacity, and create an ecosystem that supports sustainable growth and diversification.

POTENTIAL **VIABILITY**

-Describe the size of potential target audience

Ireland's blue economy encompasses a wide set of actors: primary sectors, processors, biotechnology, marine tech, tourism, and more. The model has relevance across all coastal regions, and the Icelandic example demonstrates proven international transferability.

-***To provide something of value***

The model would deliver significant value through high-impact innovation services, support for by-product utilisation, and improved cooperation between fragmented sectors.

-***Providing a product or service***

A structured cluster providing consultancy, networking, innovation pipelines, shared access to business, scientific, sustainability expertise.

-***Some form of profit or advantage / benefit / problem solving***

The model supports increased value creation, solves fragmentation across the ecosystem, boosts innovation productivity, and enhances Ireland's competitive positioning in blue and circular bioeconomy sectors.

-***The project/solution is operated at some level of cost and scale***

Cluster models typically scale effectively through membership, partnerships, and project pipelines, operational reference for scaling.

POTENTIAL **FEASIBILITY**

·These organisations and partners

Local government, research institutions, universities (MTU, UCC), Bantry Marine Research Station, FLAG groups, aquaculture companies, fishers, processors, and blue biotechnology companies.

-***Describe what they are trying to do in providing a product/service***

Bring together multi-disciplinary expertise—to drive innovation and sustainable utilisation of marine resources.

-***Conducting the following set of activities***

Activities include R&D, innovation brokering, targeted funding mobilisation, cross-sector collaboration, entrepreneurial support, and development of high-value uses for marine by-products.

-***List the channels that connect the solution to the targets***

Established HEI and RPO networks, fisheries and aquaculture links through FLAG groups and BIM, national enterprise agencies (Enterprise Ireland, IDA), venture capital networks, and relevant government departments.

-Doing something new/innovative that others don't offer

A unified cross-border marine cluster capable of assessing and supporting regional blue economy.

POTENTIAL **TRANSFERABILITY**

Mid Level of Transferability: Achievable with correct supports, funding, and team.

Best Practice: Oceano Fresco

Region: Portugal | Submitted by: Munster Technological University
FISHINN Theme: #2 – Advancing position in the value chain through collaboration and alliances with aquaculture sector agents

Overview

Oceano Fresco is a pioneering Portuguese company engaged in the sustainable large-scale cultivation of native European clam species. Operating from Nazaré and offshore sites in the Algarve, it combines advanced biotechnology with responsible aquaculture practices. Its mission is to regenerate marine biodiversity, diversify sustainable protein sources, and build value-added partnerships across the seafood value chain. Its innovation directly supports the goals of climate-smart aquaculture and circular blue economy development.

Innovation Canvas Summary

Key Activities
Sustainable open-ocean aquaculture of native clams
Biotechnological research and genetic breeding
BioMarine Center R&D operations
Integrated hatchery, nursery, and offshore cultivation
Partnership building with chefs, seafood distributors, and scientific networks

Key Partners and Suppliers
Regional and national authorities (e.g. Portuguese marine regulators)
Research institutes and biotechnology collaborators
Distribution partners and high-end seafood markets
Environmental NGOs and aquaculture networks

Key Local Resources
Rich biodiversity and suitable ocean conditions off the Algarve coast
Existing aquaculture zones and maritime infrastructure
Local knowledge of shellfish ecosystems and harvesting
Skilled marine workforce and regional support

Technical Resources
BioMarine Center with advanced facilities for R&D
Genetic improvement and biotechnology tools
Hatchery and nursery systems for early-stage cultivation
Monitoring systems for environmental impact and health metrics

Energy Resources
Use of low-impact, energy-efficient offshore systems
Renewable integration in aquaculture logistics and operations
Focus on reducing GHG emissions relative to traditional protein sources

Value Proposition
First large-scale supplier of native clams with year-round availability
Environmentally responsible, traceable seafood product
Enhances marine ecosystems while diversifying protein supply
Product differentiation through taste, sustainability, and biodiversity impact

Customer Targets and Communities
Chefs, premium restaurants, and seafood distributors
Health-conscious and eco-aware consumers
Researchers and public sector entities promoting food security
Local fishing communities and regional aquaculture clusters

Environmental & Climate-Smart USPs
Reduces reliance on overfished natural clam stocks
Native species cultivation boosts marine regeneration
Bivalves improve water quality through natural filtration
Decreases emissions compared to land-based animal protein production

Distribution and Upscaling
Integrated production allows direct-to-market and B2B distribution
Brand storytelling via sustainability credentials and traceability
Expandable to other suitable coastal regions with similar ecological profiles

Capability Matrix Evaluation

Total Score: 39 / 48

POTENTIAL Desirability
12/15
High value for seafood, tourism, and biodiversity stakeholders across Atlantic Area.

POTENTIAL Viability
12/15
Premium market alignment with scalable production model and strong value chain partners.

POTENTIAL Feasibility
12/15
Strong institutional and technical infrastructure; ecosystem ready for testing in Ireland.

POTENTIAL Transferability
3/3
High potential for replication through pilot projects, especially in regions with aquaculture ambitions.

Relevance to FISHINN

Oceano Fresco offers a compelling model for Atlantic Area aquaculture development. Its integrated business model aligns with EU biodiversity and protein diversification strategies, while its open-sea farming techniques and biotech innovations provide actionable inspiration for coastal regions looking to boost local aquaculture. The model is particularly relevant for FISHINN partner regions seeking to build stronger links between innovation, biodiversity, gastronomy, and rural development.



see page 72 for more information

FISHINN CAPABILITY MATRIX: Oceano Fresco

Submitted by: Munster Technological University
FISHINN Theme: #2 – Advancing position in the value chain (aquaculture & sector alliances)



DESIRABILITY: 12/15
VIABILITY: 12/15
FEASIBILITY: 12/15
TRANSFERABILITY: 3/3
Total Score: 39/48

POTENTIAL **DESIRABILITY**

-Describe who the potential target audience are

Education and training providers (BIM, Bantry Marine Research Station, universities, FLAG/CLAM groups), local fishers, aquaculture and shellfish producers, processors, hotels, restaurants, food producers, and hospitality/blue tourism enterprises

-***Describe what they are trying to do***

Enhance aquaculture health, quality, and volumes by adopting advanced biotechnological breeding approaches and proven best practices.

-***Describe what challenges they are facing***

Expanding production while ensuring environmental sustainability, securing sufficient investment, operating within complex and evolving environmental and maritime regulations, and maintaining technological competitiveness.

-***Describe the product or service that would be provided***

It would supply year-round production to high-end buyers and invests in biotechnology and genetic enhancement research.

-***Describe what this will enable them to do***

Sustainable clam farming supports marine ecosystem restoration, improves water quality via natural filtration, reduces pressure on wild stocks, creates coastal employment, and strengthens the blue economy.

POTENTIAL **VIABILITY**

-Describe the size of potential target audience

The potential audience spans local consumers, European and international seafood markets, sustainable aquaculture enterprises, investors, researchers, and industry stakeholders.

-***To provide something of value***

Replicating Oceano Fresco's model in Ireland would allow delivery of premium native European clams through sustainable aquaculture supported by biotechnology, ensuring traceability, environmental responsibility, and consistent high-quality supply.

-***Providing a product or service***

The offering includes high-value, traceable, sustainably farmed clams produced using responsible aquaculture methods aligned with marine conservation and ecosystem enhancement.

-***Some form of profit or advantage / benefit / problem solving***

The model helps relieve pressure on wild stocks, preserves marine biodiversity, reduces carbon intensity versus land-based protein sources, creates jobs, and strengthens the resilience of coastal economies.

-***The project/solution is operated at some level of cost and scale***

Scalability is supported by improvements in farming efficiency, production streamlining, market expansion, partnership-building, and declining operational costs over time. Securing suitable maritime estate and identifying local promoters, cost-effective deployment.

POTENTIAL **FEASIBILITY**

·***These organisations and partners***

Ireland already has the institutional foundation for collaboration: local government, Munster Technological University, University College Cork, University of Galway, Bantry Marine Research Station, FLAG groups, aquaculture firms, and fishers and processors.

-***Describe what they are trying to do in providing a product/service***

The objective is to produce a profitable, sustainably farmed product aligned with EU climate objectives and public health benefits.

-***Conducting the following set of activities***

Research organisations can advance biotechnology and aquaculture practices; public authorities facilitate funding; expand market reach.

-***List the channels that connect the solution to the targets***

Channels include Enterprise Ireland and export-focused business development bodies, industry fairs, events, and digital marketing platforms (social media, online visibility, promotional content).

-Doing something new/innovative that others don't offer

Innovation is reinforced through advanced infrastructure (BioMarine Center) and strong R&D investment in genetics, marine biotechnology, and cutting-edge aquaculture techniques.

POTENTIAL **TRANSFERABILITY**

HIGH LEVEL OF TRANSFERABILITY: Obvious opportunity to be explored through FISHINN pilot.

Best Practice: Alegina

Region: Pays de Loire, France | Submitted by: Munster Technological University
FISHINN Theme: #5 – Waste recovery and reuse (plastics, fishing gear, circular economy solutions)

Overview

Alegina is a circular economy innovator based in Brittany, France, transforming oyster shells—traditionally a marine waste stream—into high-quality, sustainable products such as porcelain, green roof substrates, and eco-construction materials. The company's approach directly addresses the 9Rs of the circular economy and is aligned with France's National Low-Carbon Strategy (SNBC) and the EU's Circular Economy Action Plan. Its innovation contributes to carbon neutrality, reduces marine waste, creates local jobs, and fosters sustainability awareness across multiple sectors. By integrating regional stakeholders, Alegina strengthens coastal resilience and supports regenerative value chains, demonstrating how bio-based materials can scale commercially while preserving cultural heritage and delivering measurable environmental and socio-economic impact.

Innovation Canvas Summary

Key Activities
Collection and sorting of oyster shell waste
Cleaning, crushing, and sieving processes
Formulation of eco-materials and KAOMER porcelain
Collaboration with public works and design sectors
Participation in sustainability fairs and R&D events

Key Partners and Suppliers
Oyster farmers and aquaculture businesses
Local authorities and waste management agencies
Universities, architects, and regional innovation clusters
Designers and ecological construction networks

Key Local Resources
Abundant oyster shell waste along French coasts
Technical knowledge of ceramics and eco-design
Strong regional support for sustainable development
Cultural association with oysters and marine identity

Technical Resources
Specialised crushing and mixing equipment
Proprietary paste technology for porcelain manufacturing
Eco-construction material prototyping facilities
Laboratory for environmental and structural testing

Energy Resources
Focus on energy-efficient production
Use of low-embodied energy materials
Integration of sustainable sourcing and logistics

Value Proposition
Creation of eco-friendly, premium products from marine waste
Offering a zero-waste solution for oyster farming regions
Supplying aesthetic, durable materials for green construction
Demonstrating design-driven circular economy innovation

Customer Targets and Communities
Local municipalities and public procurement authorities
Eco-conscious architects and construction firms
Urban landscaping and horticulture companies
General public interested in sustainable design

Environmental & Climate-Smart USPs
Eliminates marine shell waste and landfill burden
Reduces embodied carbon in construction
Supports circular economy goals and local job creation
Demonstrated replicability in other coastal areas

Distribution and Upscaling
Sold through architecture and urban planning channels
Participates in design fairs and innovation expos
Strong digital presence supporting storytelling and outreach
Scalable to other shellfish-rich coastal regions with public support

Capability Matrix Evaluation

Total Score: 38 / 48

POTENTIAL Desirability
12/15
Strong interest from fishers and processors; aligns with growing demand for waste recovery and sustainable products.

POTENTIAL Viability
12/15
Market opportunities identified via coastal retailers and tourism networks; strong branding potential.

POTENTIAL Feasibility
12/15
Established partnerships with local governments and shell suppliers; clear channels for R&D and upscaling.

POTENTIAL Transferability
2/3
Adaptable to other shellfish-rich coastal regions, though requires tailored stakeholder engagement and technical support.

Relevance to FISHINN

Alegina demonstrates how local marine waste streams can be transformed into high-value products, creating new circular economy value chains in coastal regions. Its partnerships with both producers and municipalities make it a compelling model for replication. For FISHINN regions, it presents a pathway to reduce aquaculture waste, stimulate green construction markets, and embed circularity into rural innovation strategies.



see page 83 for more information

FISHINN CAPABILITY MATRIX: Alegina
Submitted by: Munster Technological University
FISHINN Theme: #5 – Waste Recovery & Circular Economy (oyster shells, marine waste)



DESIRABILITY: 12/15
VIABILITY: 12/15
FEASIBILITY: 12/15
TRANSFERABILITY: 2/3
Total Score: 38/48

POTENTIAL **DESIRABILITY**

-Describe who the potential target audience are
Wide network of local fishers, shellfish producers, aquaculture operators, and processors throughout the South West of Ireland who would directly benefit from valorising aquaculture waste streams such as oyster shells.

*-**Describe what they are trying to do***
They seek to valorise waste generated from aquaculture production and develop new marketable products from this underutilised material.

*-**Describe what challenges they are facing***
Currently, the region has limited capability to process and utilise large quantities of waste oyster shells, significant resource unexploited.

*-**Describe the product or service that would be provided***
Development of innovative materials (e.g., porcelain, paints) derived from oyster shells– Collection and processing of shells into reusable materials – Application of circular economy and eco-design principles to create sustainable, high-performance products.

*-**Describe what this will enable them to do***
Reduces waste, preserves resources, and offers durable, aesthetically appealing alternatives to traditional materials.

POTENTIAL **VIABILITY**

-Describe the size of potential target audience
A research study has measured waste oyster shell volumes across regional producers, and market research has validated the potential demand for valorised shell-based products.

*-**To provide something of value***
Market opportunities have been identified across indigenous retailers and blue tourism providers, benefiting from the Wild Atlantic Way global brand and increasing appetite for marine-inspired products.

*-**Providing a product or service***
High-value, 100% Irish, fully traceable, environmentally responsible materials and products built on circular design principles.

*-**Some form of profit or advantage / benefit / problem solving***
Job creation, strengthens coastal economies, and solves a current waste management problem by generating value from discarded shells.

*-**The project/solution is operated at some level of cost and scale***
Scaling requires investment in crushing and sieving systems, material formulation technologies, and further R&D (such as KAOMER porcelain paste, developed over three years).

POTENTIAL **FEASIBILITY**

·These organisations and partners
Local government, MTU, UCC, University of Galway, Bantry Marine Research Station, FLAG groups, aquaculture companies, fishers, processors, BIM, and EI Technology Gateways.

*-**Describe what they are trying to do in providing a product/service***
Leverage funding streams and provide scientific research to characterise the properties and industrial potential of existing waste volumes.

*-**Conducting the following set of activities***
Research organisations contribute through scientific studies and technological development for improved aquaculture processing and waste utilisation. Public organisations can support funding, and value-chain partners can support distribution and market development.

*-**List the channels that connect the solution to the targets***
Channels include Enterprise Ireland, export-focused development organisations, participation in industry fairs and events, and digital marketing and social media to enhance visibility and stakeholder engagement.

-Doing something new/innovative that others don't offer
Alegina has established novel partnerships with oyster farmers (for raw materials), local authorities (for collection and application in public works), consumers and restaurants (via shell return schemes), and regional innovation ecosystems.

POTENTIAL **TRANSFERABILITY**
Mid Level of Transferability: Achievable with correct supports, funding, and team.

Best Practice: Selo de Mar

Region: Portugal (Sines) | Submitted by: Munster Technological University
FISHINN Theme: #1 – Collaboration with the food and tourism sector

Overview

Selo de Mar is a Portuguese innovation initiative based in Sines that revives and reimagines ancient fish preservation techniques through modern food innovation. Centred around garum—a fermented fish sauce originally developed by the Romans—the project leverages the seasonality and underutilised parts of local fish species to create high-value condiments for contemporary markets. By turning low-value or discarded species into gourmet products, Selo de Mar strengthens local economies and supports a circular approach to marine resource use. The initiative also preserves culinary heritage, promotes sustainable gastronomy, and enhances regional branding, positioning traditional coastal knowledge as a driver of innovation, cultural storytelling, and premium export opportunities within blue food markets.

Innovation Canvas Summary

Key Activities
Historical research on ancient preservation techniques
Production of garum through artisanal fermentation
Design and delivery of cultural food experiences and workshops
Branding, storytelling, and product distribution
Partnership engagement with chefs, historians, and educators

Key Partners and Suppliers
Local fishers and seafood suppliers
Chefs, museums, archaeologists, and gastronomy experts
Educational and cultural institutions
Distributors of gourmet and artisanal products
Culinary events and tourism partners

Key Local Resources
Access to traditional fish species and local artisanal know-how
Cultural heritage and historical connections to Roman cuisine
Strong food tourism sector in Setúbal and surrounding regions
Supportive ecosystem for heritage-led SMEs

Technical Resources
Fermentation facilities and artisanal processing tools
Packaging and branding assets
Online store and digital marketing channels
Culinary workshop infrastructure

Energy Resources
Low-energy artisanal production processes
Small-scale, localised operations with low environmental footprint

Value Proposition
Culturally rich, historically inspired gourmet product
Authentic alternative to mass-market condiments
Revival of traditional techniques with modern gastronomic relevance
Promotion of Portuguese culinary heritage internationally

Customer Targets and Communities
Chefs, haute cuisine restaurants, and food historians
Cultural tourists and gastronomy enthusiasts
Educational institutions and museums
Gourmet retailers and online culinary platforms

Environmental & Climate-Smart USPs
Valorisation of underutilised fish species
Low-impact production aligned with artisanal traditions
Waste reduction through full-use of small pelagic and local fish
Supports community-based, low-carbon gastronomy

Distribution and Upscaling
Sold through gourmet shops, online channels, and culinary fairs
Promoted via cultural events and educational workshops
Opportunities to expand through storytelling and co-branding
Scalable through partnerships and chef-led marketing

Capability Matrix Evaluation

Total Score: 45 / 48

POTENTIAL Desirability
14/15
Strong stakeholder interest in valorising spider crab and other underused species; culinary interest validated through early market trials.

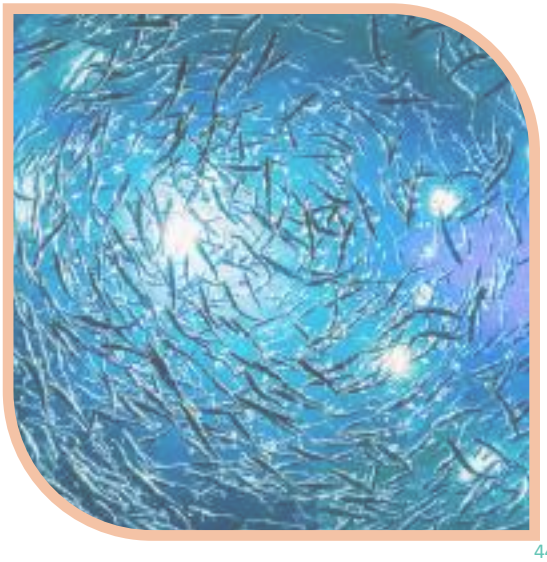
POTENTIAL Viability
14/15
Robust alignment with tourism and artisan food markets; production aligned with seasonal cycles and regional trends.

POTENTIAL Feasibility
14/15
Strong partner ecosystem including MTU, BIM, Bord Bia, and national food research centres; clear plan for R&D and certification.

POTENTIAL Transferability
3/3
Easily adaptable to other coastal regions with underused fish species and culinary heritage, including Ireland.

Relevance to FISHINN

Selo de Mar blends heritage, innovation, and sustainability into a market-ready product that exemplifies circular thinking and low-waste innovation. Its approach shows how tradition-based entrepreneurship can be revitalised with support from R&D and regional partnerships. For FISHINN, it offers a highly transferable example of food-based innovation that supports coastal development, biodiversity, and cultural preservation.



see page 108 for more information

FISHINN CAPABILITY MATRIX: Selo de Mar
Submitted by: Munster Technological University
FISHINN Theme: #1 – Collaboration with the food and tourism sector



DESIRABILITY: 14/15
VIABILITY: 14/15
FEASIBILITY: 14/15
TRANSFERABILITY: 3/3
Total Score: 45/48

POTENTIAL **DESIRABILITY**

-Describe who the potential target audience are

Wide network of local fishers, shellfish and aquaculture producers, and seafood processors across the South West region of Ireland who would directly benefit from higher-value utilisation of spider crab resources.

-Describe what they are trying to do

They are seeking to create new, market-ready food products from spider crab—a species currently considered low-value despite large volumes being available off Ireland's west coast.

-Describe what challenges they are facing

No meaningful market for spider crab, high labour cost for meat extraction, limited capacity for product development.

-Describe the product or service that would be provided

Product development opportunities include bisque, condiments, fish sauces, and stocks derived from spider crab—turning an underused species into high-value items.

-Describe what this will enable them to do

Enable fishers to diversify their income, increase product value, reduce waste, and strengthen rural coastal economies through innovative seafood product development.

POTENTIAL **VIABILITY**

-Describe the size of potential target audience

Data exists on spider crab volumes across regional producers. MTU has conducted product research exploring reduction processes and sauce development, confirming technical feasibility.

-To provide something of value

Market opportunities have been identified through tourism and hospitality channels, indigenous retailers, and blue tourism providers.

-Providing a product or service

The products would be high-value, 100% Irish-made, fully traceable, environmentally responsible, and seasonal—strong attributes for premium branding and market positioning.

-Some form of profit or advantage / benefit / problem solving

Solving an underutilisation problem for spider crab, generating higher value from an abundant local resource.

-The project/solution is operated at some level of cost and scale

Investment needs include recipe development, processing facilities, storage, packaging, marketing, and distribution. Support structures are in place via MTU Food Innovation, CABR testing and certification, BIM Seafood Innovation Centre, and Bord Bia..

POTENTIAL **FEASIBILITY**

·These organisations and partners

Key partners include MTU, aquaculture companies, fishers, processors, BIM, Bord Bia, and EI Technology Gateways such as CABR.

-Describe what they are trying to do in providing a product/service

Access funding, conduct scientific and product development work needed to validate and market high-value spider crab derivative products.

-Conducting the following set of activities

Activities include recipe development, R&D, market studies, health and safety validation, certifications, consumer testing, and developing routes to market. Business development, funding, enterprise supports, and marketing/PR can also be provided.

-List the channels that connect the solution to the targets

Channels include Enterprise Ireland and export-support agencies, industry fairs, stakeholder events, and digital marketing and social media for brand and product visibility.

-Doing something new/innovative that others don't offer

The model adapts innovative circular approaches—drawing parallels to Alegina's partnerships—through collaboration with producers, local authorities, the hospitality sector, and regional innovation ecosystems.

POTENTIAL **TRANSFERABILITY**

HIGH LEVEL OF TRANSFERABILITY: Obvious opportunity to be explored through FISHINN pilot.

Best Practice: Kofradia Itsas Etxea

Region: Basque Country, Spain | Submitted by: Munster Technological University

FISHINN Themes:

- #1 Collaboration with the food and tourism sector
- #6 Other innovations and best practice (non-tech, non-business)

Overview

Kofradia Itsas Etxea is a socially rooted initiative led by the Fishermen's Guilds of the Basque Country in collaboration with OPEGI (Organization of Producers of Gipuzkoa). It revitalises the fishing heritage of the Basque coastal communities through gastronomy, cultural education, and sustainable fishing practices. Based in Donostia / San Sebastián, it combines a high-quality seafood restaurant with immersive visitor experiences, stakeholder collaboration, and cultural programming to support artisanal fisheries and generational renewal.

Innovation Canvas Summary

Key Activities
Daily transformation of fresh artisanal catches into meals
Operation of a seafood-focused restaurant and shop
Organisation of *pescatourism* experiences and guided visits
Educational programmes for youth and general public
Specific actions include organizing events, conducting workshops, developing marketing campaigns, and managing an online platform to connect members and facilitate knowledge exchange

Key Partners and Suppliers
Fishermen's organisations (e.g. producer organisations - OPs)
Local chefs and culinary institutes
Schools and universities
Tourism boards and local government

Key Local Resources
Rich local fishing traditions in Cornouaille and San Sebastian
Existing artisanal fishing fleets
Cultural identity rooted in sustainable marine practices

Technical Resources
Online seafood marketplace and physical retail infrastructure
Educational materials and exhibition spaces
Facilities for seafood preparation and culinary education
E-learning Systems: Interactive technologies for delivering workshops and online training.
Supply Chain Management Tools: Applications to ensure efficiency and reduce waste in sourcing and logistics

Energy Resources
Focus on minimising waste and optimising local sourcing
Low carbon footprint compared to industrial seafood chains

Value Proposition
Traceable, sustainably sourced seafood with cultural relevance
Education-based gastronomy experiences
New routes for fishers to sell directly and retain value

Customer Targets and Communities
Local consumers and restaurants seeking high-quality seafood
Tourists interested in experiential learning and sustainability
Young people exploring maritime careers

Environmental & Climate-Smart USPs
Advocacy for responsible fishing practices
Valorisation of underutilised species
Contribution to awareness of marine biodiversity conservation
Promotes local sourcing, reducing emissions from long supply chains
Encourages reuse, recycling, and waste reduction in the food sector

Distribution and Upscaling
Local and regional replication potential
Integration with tourism and education sectors
Digital expansion through e-commerce and storytelling

see page 71 for more information

Capability Matrix Evaluation

Total Score: 39 / 48

POTENTIAL Desirability
12/15
Strong multi-stakeholder collaboration, high public engagement, and a compelling cultural-culinary narrative.

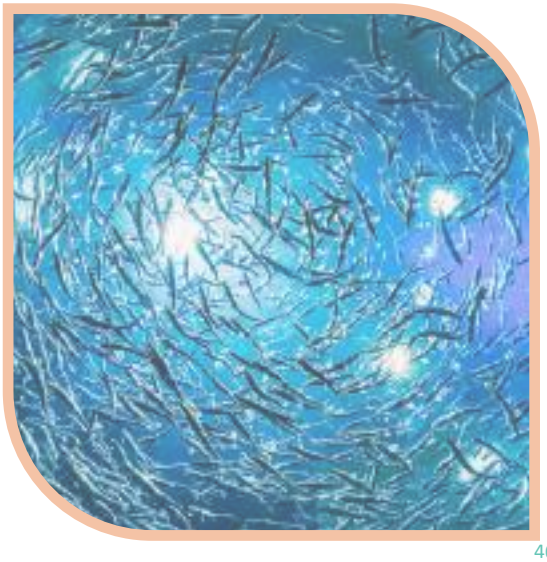
POTENTIAL Viability
12/15
Strong audience interest across tourism, education, and gastronomy; viable through seasonal and event-based revenue streams.

POTENTIAL Feasibility
12/15
Well-developed partnerships, infrastructure, and expertise in place; local and regional support evident.

POTENTIAL Transferability
3/3
Highly relevant for replication in culturally rich coastal regions (e.g. southwest Ireland).

Relevance to FISHINN

Kofradia provides a highly transferable model for integrating cultural heritage, sustainable fisheries, and tourism development. Its multifaceted programming—combining food, education, and conservation—offers a powerful framework for other Atlantic Area communities looking to strengthen blue economy links through gastronomy and identity. The initiative highlights the economic, cultural, and ecological value of small-scale fisheries and sets a benchmark for experiential marine tourism.



FISHINN CAPABILITY MATRIX: Kofradia Itsas Etxea

Submitted by: Munster Technological University

FISHINN Theme:

- #1 Collaboration with the food and tourism sector
- #6 Other innovations and best practice (non-tech, non-business)



DESIRABILITY: 12/15
VIABILITY: 12/15
FEASIBILITY: 12/15
TRANSFERABILITY: 3/3
Total Score: 39/48

POTENTIAL **DESIRABILITY**

-Describe who the potential target audience are

A committed group of producers, FLAG members, university partners supports adaptation of the KOFRADIA model to the Irish southwest.

-Describe what they are trying to do

They aim to foster collaboration across the food and beverage sector, empower members with tools for innovation, and promote sustainable practices. Strengthening cooperation, sustainability, and innovation in seafood and agri-food sectors.

-Describe what challenges they are facing

Sustaining economic viability in small-scale fisheries. Maintaining balance between livelihoods, tourism growth, and marine conservation.

-Describe the product or service that would be provided

A gastronomic experience featuring fresh, local seafood. Educational programmes on marine ecosystems, traditional fishing, and maritime heritage. Event organisation, targeted marketing, and online platform management. Promotion of sustainability and small-scale fisheries.

-Describe what this will enable them to do

Strengthen collaboration with local fishers and suppliers. Promote sustainable resource management. Support resilient coastal communities. Celebrate maritime heritage and traditional fishing methods. Encourage younger generations to sustain artisanal fisheries.

POTENTIAL **VIABILITY**

-Describe the size of potential target audience

Local, national, and international tourists; food enthusiasts; students; and industry professionals. The strong food culture of the southwest—aligned with the Wild Atlantic Way identity—provides a compelling foundation for a culturally rooted, sustainable marine-based experience.

-To provide something of value

A KOFRADIA-inspired concept brings together authentic seafood, traditional fishing practices, sustainability, and experiential learning.

-Providing a product or service

High-quality seafood. Training and educational activities on fishing, marine species, and coastal life. Cultural maritime heritage events.

-Some form of profit or advantage / benefit / problem solving

Connecting younger generations with fishing heritage, reinforcing cultural identity, and supporting artisanal, sustainable practices. It strengthens environmental stewardship while increasing community and visitor engagement.

-The project/solution is operated at some level of cost and scale

The ecosystem now has the right mix of stakeholders—local authorities, FLAG, culinary arts programmes, and food innovation capacity—to develop this type of initiative. It fits well within the premium tourism segment to enhance the region's high-quality experiential offering.

POTENTIAL **FEASIBILITY**

·These organisations and partners

Include food and beverage producers, sustainability specialists, and training centres developing sustainability standards and practices.

-Describe what they are trying to do in providing a product/service

An aspiration that can be translated to Irish maritime culture. KOFRADIA's model demonstrates how to build a comprehensive, sustainable approach that celebrates and revitalises fishing heritage.

-Conducting the following set of activities

Conferences and discussions on sustainable fishing. Workshops and interactive talks on best practices. Online knowledge-sharing content. Guided tours and immersive visitor experiences. Cultural events (e.g., "KOFRADIA EGUNA") celebrating fishing traditions.

-List the channels that connect the solution to the targets

Direct interactions in dining experiences. Educational workshops and guided tours. Website and social media platforms. Partnerships with tourism agencies and local organisations.

-Doing something new/innovative that others don't offer

Prioritising sustainable fishing and traditional methods. Providing interactive educational programmes. Directly supporting local fishers and generational renewal. Combining gastronomy, education, culture, and sustainability into a single comprehensive experience.

POTENTIAL **TRANSFERABILITY**

HIGH LEVEL OF TRANSFERABILITY: Obvious opportunity to be explored through FISHINN pilot.

Best Practice: Necton

Region: Olhão, Portugal | Submitted by: Munster Technological University

FISHINN Themes:

- #3 Blue Economy opportunities other than fishing (e.g. energy, algae, pharmaceuticals, nutraceuticals & health products)

Overview

Founded in 1997 and based in Olhão, Portugal, Necton S.A. is one of Europe's oldest and most advanced microalgae producers. It operates a unique multi-platform system incorporating organic spirulina raceway ponds (~7,000 m²), photobioreactors (up to 1,000 m³), and fermenters (10 m³), enabling tailored production across multiple markets. With more than 30 species of microalgae cultivated—including Nannochloropsis, Tisochrysis, Chlorella, and Spirulina—Necton plays a central role in blue biotechnology, delivering sustainable ingredients for aquaculture, human food, nutraceuticals, cosmetics, and agriculture. The company also produces traditional sea salt and is expanding internationally through R&D, EU-funded projects, and acquisition of Allmicroalgae. and generational renewal.

Innovation Canvas Summary

Key Activities
Cultivation of microalgae using multi-platform technologies
Production of bio-based ingredients for food, feed, cosmetics, and energy
Participation in EU research projects (e.g. Algae4IBD, SIMBA, REALM)
Traditional sea salt harvesting linked to cultural and environmental sustainability

Key Partners and Suppliers
Universities and R&D consortia
Biotechnology companies and aquaculture firms
Government and EU project networks
Regional actors supporting innovation clusters

Key Local Resources
Access to marine and hypersaline water bodies
Local knowledge and skilled workforce in marine bioresources
Salt pans integrated into the local economy and ecosystem

Technical Resources
Photobioreactors and fermenters for algae cultivation
Processing and drying systems for ingredient refinement
Digital platforms for data management and remote monitoring

Energy Resources
Low-impact energy use in algae production systems
Focus on bio-based and sustainable processes
Implementation of sustainable energy practices to reduce the carbon footprint of production.
Optimized use of sunlight in microalgae cultivation to minimize energy consumption.
Exploration and implementation of renewable energy sources to enhance production efficiency.

Value Proposition
High-quality algae-derived ingredients for global markets
Renewable and climate-smart alternatives to synthetic inputs
Co-benefits from salt production and cultural heritage integration

Customer Targets and Communities
Nutraceutical, cosmetic, and aquafeed companies
International R&D clients and innovation partners
Regional policy stakeholders in sustainable biotechnology

Environmental & Climate-Smart USPs
Scalable and sustainable algae-based bioproducts
Biodiversity enhancement via cultivation of diverse native strains
Integration of circular bioeconomy principles across operations

Distribution and Upscaling
B2B export to Europe, Asia, and North America
Synergies with Allmicroalgae expansion and European algae innovation networks
Technology transfer potential for replication in Ireland and beyond

Capability Matrix Evaluation

Total Score: 39 / 48

POTENTIAL Desirability
12/15
Strong stakeholder backing and regional support for replicating Necton's model in Southwest Ireland.

POTENTIAL Viability
12/15
Significant opportunity identified via engagement with national seafood and agriculture agencies; clear route to market.

POTENTIAL Feasibility
12/15
Local capacity building supported by MTU, FLAG, BIM, and DAFM; innovation hub concept under development.

POTENTIAL Transferability
3/3
High potential for replication through FISHINN pilot activities and alignment with regional priorities.

Relevance to FISHINN

Necton represents a mature and scalable example of blue biotechnology innovation grounded in environmental, social, and economic sustainability. Its integration of microalgae production, cultural assets (e.g. salt marshes), and collaborative R&D makes it a strong fit for Atlantic Area ecosystems. Its model is directly applicable to FISHINN's goals—especially in the development of circular bioeconomy hubs, aquaculture-linked innovation, and sustainable coastal regions.



see page 106 for more information

FISHINN CAPABILITY MATRIX: Necton

Submitted by: Munster Technological University
FISHINN Theme: #3 Blue Economy opportunities other than fishing e.g. energy, algae, pharmaceuticals, nutraceuticals & health products



DESIRABILITY: 12/15
VIABILITY: 12/15
FEASIBILITY: 12/15
TRANSFERABILITY: 3/3
Total Score: 39/48

POTENTIAL **DESIRABILITY**

-Describe who the potential target audience are

Producers, biotechnology companies, and university partners who are eager to help adapt, replicate, and integrate elements of NECTON's model into Southwest Ireland. These stakeholders recognise the value of developing stronger blue biotechnology capability.

-***Describe what they are trying to do***

Develop a similar initiative in the Southwest—strengthening regional cooperation, sustainability, and innovation across local and national algae sectors. Use NECTON's successful multi-platform algae production model as inspiration.

-***Describe what challenges they are facing***

Balancing livelihoods, tourism growth, environmental protection, and marine conservation is essential. Protecting maritime identity while supporting visitor appeal and local economic development requires coordinated approaches and long-term planning.

-***Describe the product or service that would be provided***

Insights from NECTON highlight opportunities in microalgae-based feed, food, nutraceuticals, cosmetics, and biotechnological applications.

-***Describe what this will enable them to do***

Promote sustainable resource management, build resilient blue biotechnology capabilities. MTU's plan for a Blue Circular Bioeconomy Hub will be central to small-scale replication of NECTON's model and will align these activities with native Irish marine species and capabilities.

POTENTIAL **VIABILITY**

-Describe the size of potential target audience

There is a significant and growing opportunity supported by engagement with BIM (Ireland's Seafood Agency), the Department of Agriculture, Food & the Marine, and other relevant bodies.

-***To provide something of value***

New product development (food, feed, pharma etc) currently lacks a fully developed blue biotechnology research hub in the Southwest.

-***Providing a product or service***

Production of a range of microalgae and macroalgae ingredients suitable for feed, cosmetics, food, and nutraceutical applications.

-***Some form of profit or advantage / benefit / problem solving***

Enable innovative blue biotech companies to utilise algae-based ingredients for new products, scaling existing firms and supporting startups exploring niche applications and emerging markets.

-***The project/solution is operated at some level of cost and scale***

FLAG groups, DAFM, and others—are now aligned to support a roadmap for the Southwest. The initiative fits well within trends in digitalisation, STEM, blue biotech, and increasing access to raw materials and research support.

POTENTIAL **FEASIBILITY**

·***These organisations and partners***

MTU, BIM, FLAG groups, local producers, processors, and research teams to support the initiative, mobilise expertise, facilities, & networks.

-***Describe what they are trying to do in providing a product/service***

Advance blue biotechnology capabilities in the Southwest through the use of microalgae and macroalgae to generate feed, food, cosmetics, and nutraceutical products.

-***Conducting the following set of activities***

Scaling extraction of marine-derived compounds, ingredients, molecules, and side streams, and conducting robust testing, profiling, and characterisation of available species in Irish waters.

-***List the channels that connect the solution to the targets***

Channels include Enterprise Ireland, BIM, the Marine Institute, FLAG groups, and the Department of Agriculture, Food & the Marine.

-***Doing something new/innovative that others don't offer***

Agility in meeting customer requests and consumer demands. A wide range of ingredients and extracts. State-of-the-art technologies and infrastructure.

POTENTIAL **TRANSFERABILITY**

HIGH LEVEL OF TRANSFERABILITY: Obvious opportunity to be explored through FISHINN pilot.

6d - Best Practice Innovation Canvas & FISHINN Capability Matrix

Submitted by Sines Tecnopolo



Best Practice: Algaplus

Region: Ílhavo, Portugal | **Submitted by:** Sines Tecnopolo
FISHINN Theme: #3 – Blue Economy opportunities other than fishing (e.g. algae, pharmaceuticals, nutraceuticals health & products)

Overview

Algaplus is a pioneering company based in Ílhavo, Portugal, specialising in sustainable seaweed aquaculture using Integrated Multi-Trophic Aquaculture (IMTA) techniques. The company co-locates with existing fish farming operations to cultivate certified organic seaweed, thereby reducing environmental impact while maximising nutrient recycling. Its operations feed into multiple blue bioeconomy value chains including cosmetics, health, gastronomy, and agriculture. Algaplus aligns with EU strategies on sustainable aquaculture, marine biodiversity, and bio-based innovation, making it a model for scalable, eco-efficient marine entrepreneurship.

Innovation Canvas Summary

Key Activities
Co-cultivation of seaweed in IMTA systems alongside finfish aquaculture
Organic certification processes and quality control
Harvesting, processing, drying and packaging of algae products
Product development for food, cosmetics, and bio-based applications
Engagement in R&D projects and pilot-scale innovations

Key Partners and Suppliers
Local aquaculture operators (for co-location and nutrient exchange)
Research institutions and EU innovation consortia
Export distribution partners
Certifying bodies for organic aquaculture
National and EU-level aquaculture networks

Key Local Resources
Access to the Ria de Aveiro coastal lagoon system
Traditional salt pans and maritime infrastructure
Algae biodiversity and favourable growing conditions
Proximity to universities and skilled aquaculture labour

Technical Resources
IMTA aquaculture infrastructure and algae farming tanks
Processing facilities for drying and quality assurance
R&D capabilities for bio-product development
Cold chain and traceability systems for export readiness

Energy Resources
Low-carbon aquaculture systems with efficient water recirculation
Use of renewable electricity in processing stages
Minimal fossil fuel dependence across operations

Value Proposition
Premium, certified organic seaweed products with full traceability
Contribution to circular aquaculture and nutrient recycling
Customisable product lines for food, wellness, and pharma sectors
Strong eco-brand identity grounded in sustainability

Customer Targets and Communities
Health food companies and gourmet chefs
Natural cosmetics manufacturers
Sustainable agriculture input suppliers
Export buyers and marine innovation platforms
Academia and research communities

Environmental & Climate-Smart USPs
Carbon sequestration and ocean deacidification via seaweed farming
Biodiversity enhancement and nutrient remediation through IMTA
Reduction in aquaculture waste and effluent impact
Organic certification guarantees for climate-aligned products

Distribution and Upscaling
Export-driven model via sustainable supply chain partners
Participation in international trade fairs and marine clusters
Potential to replicate in other finfish aquaculture regions
Scalable infrastructure adaptable to coastal sites across Europe

see page 102 for more information

Capability Matrix Evaluation

Total Score: 40 / 48

POTENTIAL Desirability
13/15
Growing demand for sustainable, traceable algae-based products across diverse blue economy sectors.

POTENTIAL Viability
13/15
Strong export channels and market-aligned brand identity; early traction in food and cosmetics industries.

POTENTIAL Feasibility
12/15
Proven technical model and R&D capacity; co-location approach de-risks site setup.

POTENTIAL Transferability
2/3
Transferable to similar coastal aquaculture ecosystems with the right technical and regulatory support.

Relevance to FISHINN

Algaplus is a standout example of how blue bioeconomy innovation can be rooted in ecological principles while addressing market demand. Its IMTA model and organic algae production illustrate how aquaculture operations can be diversified and de-carbonised. For FISHINN regions, Algaplus offers a replicable model to combine environmental restoration, economic resilience, and value-added marine products — particularly relevant to regions seeking non-fishing blue growth pathways.



FISHINN CAPABILITY MATRIX: Algaplus

Submitted by: Sines Tecnopolo

FISHINN Theme: #3 – Blue Economy opportunities other than fishing (e.g. algae, pharmaceuticals, nutraceuticals & health products)



DESIRABILITY: 15/15
VIABILITY: 14/15
FEASIBILITY: 15/15
TRANSFERABILITY: 3/3
Total Score: 47/48

POTENTIAL **DESIRABILITY**

-Describe who the potential target audience are

The target audience includes the food, cosmetic, and pharmaceutical industries as well as conscious consumers seeking sustainable, certified natural products.

*-**Describe what they are trying to do***

They aim to replace conventional ingredients with certified macroalgae and integrate functional, natural, sustainably produced components into their formulations and product lines.

*-**Describe what challenges they are facing***

Industries face challenges ensuring scale, continuous certification, and a stable supply of differentiated, traceable bio-based ingredients.

*-**Describe the product or service that would be provided***

Certified macroalgae and derivative ingredients suitable for food, cosmetic, wellness, and functional applications.

*-**Describe what this will enable them to do***

Enable companies to develop new products with ecological, functional, and nutritional advantages, backed by verified origin and traceability.

POTENTIAL **VIABILITY**

-Describe the size of potential target audience

There is a growing international market demanding natural, traceable, and sustainable ingredients across multiple sectors.

*-**To provide something of value***

Innovation, sustainability credentials, organic certification, and transparency of origin—attributes increasingly valued by global buyers.

*-**Providing a product or service***

Supplying fresh and dried algae and high-value functional ingredients tailored to specific industrial requirements.

*-**Some form of profit or advantage / benefit / problem solving***

The model provides ecological alternatives, supports product diversification, and opens access to premium niche markets.

*-**The project/solution is operated at some level of cost and scale***

The solution is scalable with appropriate investment in cultivation, drying, certification, processing, and packaging infrastructure.

POTENTIAL **FEASIBILITY**

*·**These organisations and partners***

Collaborate with R&D institutions, international distributors, and commercial networks to support production, certification, and market expansion.

*-**Describe what they are trying to do in providing a product/service***

They aim to provide certified macroalgae consistently and efficiently through integrated multi-trophic aquaculture (IMTA) systems.

*-**Conducting the following set of activities***

Activities include cultivation, harvesting, drying, quality control, certification, product development, and marketing.

*-**List the channels that connect the solution to the targets***

Channels include exporters, digital platforms, B2B partnerships, international fairs, and distributor networks.

*-**Doing something new/innovative that others don't offer***

ALGAplus offers a certified IMTA model that values local biodiversity, ensures full traceability, and produces sustainable, high-quality ingredients.

POTENTIAL **TRANSFERABILITY**

HIGH LEVEL OF TRANSFERABILITY: Obvious opportunity to be explored through FISHINN pilot.

Best Practice: Blue Pet Co

Region: Ireland | **Submitted by:** Sines Tecnopolo
FISHINN Theme: #3 – Blue Economy opportunities other than fishing (e.g. energy, algae, pharmaceuticals, nutraceuticals & health products)

Overview

Blue Pet Co is an Irish company creating sustainable, scientifically validated seaweed-based functional supplements for dogs. Their products target key health areas including digestion, immunity, joints, skin, and dental health. With an emphasis on bioactive algae, traceability, and eco-certification, the company aligns with circular economy and marine biotech goals by integrating sustainably harvested seaweed into a premium pet care value chain. Their model combines innovation, ocean resource circularity, and health-focused product design, offering a compelling alternative to synthetic animal supplements in the growing pet wellness market.

Innovation Canvas Summary

Key Activities
Sourcing and cultivating Irish macroalgae
Extracting bioactive compounds from seaweed
Formulating seaweed-based pet supplements
Veterinary testing and scientific validation
Branding, packaging, and distribution through online and retail channels

Key Partners and Suppliers
Sustainable algae harvesters and aquaculture farms
Veterinary researchers and universities
Distribution partners in Europe and North America
Animal health and pet product retailers
Branding and e-commerce agencies

Key Local Resources
Wild and cultivated seaweed stocks from the Irish coast
Marine biotech expertise in Ireland's blue bioeconomy sector
Pet industry networks and growing demand for green wellness
Supportive national policy for sustainable marine innovation

Technical Resources
Seaweed processing facilities for extraction and drying
Laboratory testing for compound profiling
Product development and testing protocols
E-commerce logistics and CRM platforms

Energy Resources
Sustainable algae cultivation with low energy input
Energy-efficient production methods in formulation and packaging
Carbon-conscious logistics systems under development

Value Proposition
Premium, functional supplements for pets derived from natural marine bioactives
"Sea to Pet" traceability model and zero-waste branding
Proven health benefits with scientific backing
Eco-conscious product differentiation in a competitive market

Customer Targets and Communities
Dog owners prioritising wellness and sustainability
Veterinary clinics and specialist pet health outlets
Eco-lifestyle consumers seeking traceable, plant-based alternatives
Distributors in North America and Europe focused on ethical pet brands

Environmental & Climate-Smart USPs
Utilises marine bioresources in a regenerative manner
Reduces reliance on synthetic additives in pet care
Supports sustainable seaweed harvesting and blue biotechnology
Transparent value chain with low environmental impact

Distribution and Upscaling
Direct-to-consumer via branded e-commerce site
Retail via veterinary clinics and specialised outlets
Export-focused model with expansion plans for US and EU markets
Scalable algae sourcing and processing systems

see page 95 for more information

Capability Matrix Evaluation

Total Score: 40 / 48

POTENTIAL Desirability
14/15
High appeal to sustainability-minded pet owners and professionals; clear demand in the growing wellness sector.

POTENTIAL Viability
14/15
Strong product-market fit with scalable supply and demand across Europe and North America.

POTENTIAL Feasibility
14/15
Active partnerships, tested formulations, and operational production demonstrate feasibility.

POTENTIAL Transferability
3/3
Model can be replicated in other algae-rich regions with pet wellness markets and blue biotech capability.

Relevance to FISHINN

Blue Pet Co exemplifies how non-fishing marine innovation can create high-value products while embedding sustainability into all stages of development. Their bio-based, traceable, and circular product chain is aligned with the goals of FISHINN to diversify coastal economies. This example demonstrates a high-potential blueprint for blue bioeconomy transformation—particularly in regions with strong algae cultivation potential and a need to scale climate-smart business models.



FISHINN CAPABILITY MATRIX: Blue Pet Co

Submitted by: Sines Tecnopolo
FISHINN Theme: #3 – Blue Economy opportunities other than fishing (e.g. algae, pharmaceuticals, nutraceuticals & health products)



DESIRABILITY: 14/15
VIABILITY: 14/15
FEASIBILITY: 14/15
TRANSFERABILITY: 3/3
Total Score: 45/48

POTENTIAL **DESIRABILITY**

-Describe who the potential target audience are

Dog owners focused on pet wellbeing, networks of veterinary clinics, and specialised retail outlets seeking reliable, sustainable health products for animals.

*-**Describe what they are trying to do***

Looking for natural and effective alternatives to synthetic supplements, with transparent traceability and evidence-based health benefits.

*-**Describe what challenges they are facing***

Challenges include limited consumer knowledge about supplement efficacy, concerns over ingredient origin, and the need for strong differentiation within an increasingly competitive pet-care market.

*-**Describe the product or service that would be provided***

Functional pet supplements derived from sustainably cultivated Irish seaweed, offering bioactive compounds with proven health benefits.

*-**Describe what this will enable them to do***

It will improve animal health through natural and trustworthy solutions, strengthen customer loyalty, and support lower environmental impact through sustainable production.

POTENTIAL **VIABILITY**

-Describe the size of potential target audience

The European and North American pet care markets are rapidly expanding, with strong consumer trends favouring natural, functional, and sustainable pet nutrition products.

*-**To provide something of value***

Customers seek natural, functional, traceable ingredients supported by eco-labelling and sustainability credentials.

*-**Providing a product or service***

Blue Pet Co offers premium supplements using proprietary, scientifically validated formulations built on bioactive marine extracts.

*-**Some form of profit or advantage / benefit / problem solving***

The model supports differentiation in the pet market, enables higher-margin products, and strengthens customer loyalty through demonstrable efficacy.

*-**The project/solution is operated at some level of cost and scale***

The company has an optimised production model and plans to expand further into European and U.S. markets, demonstrating scalability.

POTENTIAL **FEASIBILITY**

·These organisations and partners

Blue Pet Co collaborates with certified algae producers, universities, distribution partners, and animal wellness professionals.

*-**Describe what they are trying to do in providing a product/service***

They aim to combine scientific research, sustainable production, and advanced animal nutrition to develop high-impact market solutions.

*-**Conducting the following set of activities***

Activities include sustainable seaweed cultivation, bioactive extraction, product formulation, veterinary testing, distribution, and brand development.

*-**List the channels that connect the solution to the targets***

Channels include their own website, veterinary clinics, specialised distributors, and e-commerce platforms.

-Doing something new/innovative that others don't offer

They offer a fully controlled "Sea to Pet" chain with zero waste principles and unique functional ingredients derived from marine bioresources.

POTENTIAL **TRANSFERABILITY**

HIGH LEVEL OF TRANSFERABILITY: Obvious opportunity to be explored through FISHINN pilot.

Best Practice: Game of Trawls (Marport)

Region: France | **Submitted by:** Sines Tecnopolo
FISHINN Theme: #4 – Blue biotechnology solutions and digitisation capabilities

Overview

Game of Trawls is a French-led innovation project driven by Marport, a company specialising in advanced fisheries technologies, in collaboration with national research institutes and fishing industry stakeholders. The initiative focuses on the development of smart trawl nets equipped with sensors, AI, and real-time feedback systems to enhance catch selectivity and reduce bycatch. The project aligns with the EU Common Fisheries Policy, EMFF objectives, and the broader digital transition of the maritime sector. Its sensor-driven approach enhances compliance, sustainability, and operational efficiency—offering scalable solutions for both artisanal and industrial fleets navigating stricter environmental regulations.

Innovation Canvas Summary

Key Activities
Design and production of sensor-enabled trawl nets
Integration of AI for in-net species recognition
Pilot testing with commercial fishing vessels
Training and technical support for vessel operators
Data collection and validation to refine selectivity algorithms

Key Partners and Suppliers
Marport (lead developer of smart net systems)
French and European fishing fleets (pilot testers)
Marine technology researchers and AI developers
National fisheries regulators and funding bodies (e.g. EMFF)
Net manufacturers and marine electronics suppliers

Key Local Resources
Access to key fishing ports and vessel operators in France
Technical expertise in net manufacturing and marine electronics
Existing infrastructure for onboard technology testing
Proximity to marine innovation centres and fisheries institutions

Technical Resources
Smart trawl net prototypes with embedded sensors and AI
Onboard visualisation and feedback platforms
Digital interface for catch monitoring and analysis
Cloud-based data systems for optimisation and learning

Energy Resources
Low-energy AI and sensor integration
Battery-powered modules compatible with vessel operations
Focus on reducing fuel waste through improved catch targeting

Value Proposition
Real-time optimisation of catch with reduced bycatch
Compliance with new fisheries regulations
Improved fleet reputation through sustainability performance
Operational cost savings and reduced waste

Customer Targets and Communities
Industrial and artisanal trawler operators
Shipowners and fleet managers
Marine regulators and public fisheries agencies
Tech-forward fishing cooperatives and innovation clusters

Environmental & Climate-Smart USPs
Significant bycatch reduction and habitat protection
Real-time decision-making for selective fishing
Support for ecosystem-based fisheries management
Digital traceability and compliance enhancement

Distribution and Upscaling
Commercialisation via maritime tech distributors
Integration into trawler upgrade packages and retrofits
Adoption via public-private partnerships and pilot support
Promotion at sector events and via EU fisheries platforms

Capability Matrix Evaluation

Total Score: 45 / 48

POTENTIAL Desirability
15/15
Strong demand from fleets under pressure to reduce bycatch and demonstrate compliance with new EU regulations.

POTENTIAL Viability
14/15
Proven pilots, ongoing public funding, and growing market for smart fisheries tools.

POTENTIAL Feasibility
13/15
Experienced consortium with industrial and academic partners; scalable with further R&D investment.

POTENTIAL Transferability
3/3
High potential for replication across Atlantic trawling fleets with similar challenges.

Relevance to FISHINN

Game of Trawls shows how digital and biotech innovation can advance sustainable fisheries through smart gear and AI-enhanced decision-making. It represents a clear evolution from traditional practices and addresses critical ecological, regulatory, and reputational pressures in the fisheries sector. For FISHINN regions, it provides a scalable and transferrable model that could radically improve selective fishing outcomes and support the transition to data-driven, climate-aligned blue economy operations.



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FISHINN CAPABILITY MATRIX: Game of Trawls (Marport)

Submitted by: Sines Tecnopolo

FISHINN Theme: #4 – Blue biotechnology solutions and digitisation capabilities



DESIRABILITY: 15/15
VIABILITY: 14/15
FEASIBILITY: 13/15
TRANSFERABILITY: 3/3
Total Score: 45/48

POTENTIAL **DESIRABILITY**

-Describe who the potential target audience are

The target audience includes fishing companies, shipowners' associations, marine resource managers, and environmental regulators seeking more efficient, selective, and sustainable fishing tools.

-***Describe what they are trying to do***

They aim to increase catch efficiency and reduce negative environmental impacts through deployment of digital tools and advanced gear technologies.

-***Describe what challenges they are facing***

Stakeholders face high levels of bycatch, increasingly strict regulatory requirements, and a need for new technological solutions to support sustainable fishing operations.

-***Describe the product or service that would be provided***

The solution provides a smart trawl net equipped with sensors, artificial intelligence, and real-time visual feedback systems to optimise catch selectivity.

-***Describe what this will enable them to do***

It will enable vessels to reduce bycatch, comply more easily with regulatory frameworks, and strengthen the sector's environmental reputation.

POTENTIAL **VIABILITY**

-Describe the size of potential target audience

The potential audience includes European and international trawling fleets actively seeking selective fishing technologies and operational efficiency improvements.

-***To provide something of value***

The solution offers sustainability benefits, lower discard costs, and enhanced industry image—valuable assets for modern fleets.

-***Providing a product or service***

It delivers integrated digital technology combining sensors with analytical software for real-time performance optimisation.

-***Some form of profit or advantage / benefit / problem solving***

The solution helps reduce discards, improve fish value, and support compliance with new legal and environmental obligations.

-***The project/solution is operated at some level of cost and scale***

Pilot-scale equipment has already been tested with support from public funds from the EMFF and French government, demonstrating operational readiness.

POTENTIAL **FEASIBILITY**

·***These organisations and partners***

Partners include Marport, artisanal and industrial fishing operators, research institutions, and public funding bodies.

-***Describe what they are trying to do in providing a product/service***

They aim to develop fishing nets and sensor systems with embedded AI algorithms suitable for operation onboard commercial vessels.

-***Conducting the following set of activities***

Activities include research and development, onboard testing, fisher-led feedback loops, and data validation.

-***List the channels that connect the solution to the targets***

Channels include equipment distributors, shipowners' networks, sectoral conferences, and maritime industry fairs.

-Doing something new/innovative that others don't offer

The solution integrates embedded AI enabling real-time optimisation of selective catch through continuous data collection and active visualisation—an innovative step beyond current selective gear technologies.

POTENTIAL **TRANSFERABILITY**

HIGH LEVEL OF TRANSFERABILITY: Obvious opportunity to be explored through FISHINN pilot.

Best Practice: Iceland Ocean Cluster – "100% Fish"

Region: Iceland | **Submitted by:** Sines Tecnopolo
FISHINN Theme: #1–#6 (Cross-cutting ecosystem development)

Overview

The Iceland Ocean Cluster (IOC) is a globally recognised blue economy incubator based in Reykjavík. Through its flagship initiative "100% Fish," the IOC promotes holistic, circular utilisation of every part of the fish — from fillets to skins, bones, enzymes, and beyond — turning by-products traditionally considered waste into high-value goods such as nutritional supplements, cosmetics, leather, collagen, and bioplastics. By fostering collaboration among startups, fishers, processors, researchers, and designers, the IOC has created a thriving ecosystem of over 70 companies. Its model embodies social innovation, sustainable entrepreneurship, and sectoral integration. The initiative represents one of the world's most comprehensive examples of circularity in fisheries — rooted in place, but transferable across the Atlantic Area.

Innovation Canvas Summary

Key Activities
Building collaborative networks between marine actors
Supporting product development from fish by-products
Incubation and mentoring for startups and innovators
Facilitating knowledge exchange and international replication
Public communication and advocacy for full resource use

Key Partners and Suppliers
Fishing cooperatives and processors
Biotech, fashion, and nutrition startups
Universities and marine research centres
Icelandic government and innovation agencies
International members of the Ocean Cluster Network

Key Local Resources
High-volume fisheries production in Iceland
Strong national innovation culture and policy alignment
Rich by-product stream: skins, bones, enzymes, collagen
Historical ties to cod fishing and coastal entrepreneurship

Technical Resources
Access to processing and biotech labs
Product development support for cosmetics, nutraceuticals
Cluster incubation and innovation spaces
Prototyping and small-batch manufacturing infrastructure

Energy Resources
Focus on low-impact production and waste reduction
Utilisation of Iceland's renewable geothermal and hydro energy
Energy-efficient processing technologies encouraged in startups

Value Proposition
Transforming marine by-products into economic, environmental, and social value
A holistic "ecosystem" of innovations supported by a shared vision
Proven model that strengthens rural resilience and job creation
Branding Iceland as a global leader in circular blue economy

Customer Targets and Communities
Fishing communities seeking value retention
Sustainable entrepreneurs and circular economy innovators
Policy makers, blue economy accelerators, funders
Consumers of marine health products, bioplastics, and eco-fashion

Environmental & Climate-Smart USPs
Massive reduction in marine waste and disposal
Circularity integrated into fisheries value chain
Carbon savings through material substitution
Demonstrated scalability and life cycle sustainability

Distribution and Upscaling
Cluster model already replicated in other countries (e.g. USA, Canada, Norway)
Ocean Cluster Network provides framework for knowledge transfer
Engagement through international blue economy platforms and media
Commercialisation via member companies with global reach

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Capability Matrix Evaluation

Total Score: 48 / 48

POTENTIAL Desirability
15/15
Strong appeal across fisheries, startups, and sustainability sectors; excellent model for community-based innovation.

POTENTIAL Viability
15/15
Demonstrated economic return, active engagement by over 70 companies, and strong branding/market reach.

POTENTIAL Feasibility
15/15
Strong national infrastructure and international backing; matured model with years of implementation experience.

POTENTIAL Transferability
3/3
Already replicated in multiple regions; supported by a network and resources to guide adaptation.

Relevance to FISHINN

The Iceland Ocean Cluster and its 100% Fish model offers one of the most effective global case studies for value maximisation and zero-waste fisheries. It demonstrates how innovation can be embedded across traditional and new sectors—combining cultural knowledge, entrepreneurship, and research. For FISHINN regions, it represents a powerful blueprint for building local ecosystems that transform low-value or wasted materials into high-impact, sustainable businesses, whilst fostering community development.



FISHINN CAPABILITY MATRIX: Iceland Ocean Cluster – "100% Fish"

Submitted by: Sines Tecnopolo
FISHINN Theme: #1–#6 (Cross-cutting ecosystem development)



DESIRABILITY: 15/15
VIABILITY: 15/15
FEASIBILITY: 15/15
TRANSFERABILITY: 3/3
Total Score: 48/48

POTENTIAL **DESIRABILITY**

-Describe who the potential target audience are

Fish processing companies, fishing cooperatives, startups, and innovation centers seeking valorisation of fisheries products and by-products.

-Describe what they are trying to do

They aim to utilise 100% of the fish, transforming by-products into valuable materials such as collagen, leather, fertilizers, and food ingredients.

-Describe what challenges they are facing

Loss of value due to waste, lack of collaboration across the value chain, and limited adoption of circular business models.

-Describe the product or service that would be provided

Consulting, innovation networks, and access to specialised know-how that supports circular economy solutions in the fisheries sector.-

Describe what this will enable them to do

Stakeholders can generate more value, reduce waste, create new jobs, and advance sustainability through collaborative innovation models.

POTENTIAL **VIABILITY**

-Describe the size of potential target audience

The global fisheries sector—and associated industries exploring circularity—represents a large and growing audience.

-To provide something of value

They are seeking high-value solutions based on the valorisation of fish by-products.

-Providing a product or service

Offers replicable business models, innovative product concepts, and a shared collaboration platform across international ocean clusters.

-Some form of profit or advantage / benefit / problem solving

Increases income for fishers and companies, opens new markets, and delivers positive environmental impacts through waste reduction.

-The project/solution is operated at some level of cost and scale

The model has been tested with over 70 companies and shows strong potential for wider replication via the global Ocean Cluster Network.

POTENTIAL **FEASIBILITY**

·These organisations and partners

The ecosystem includes the Iceland Ocean Cluster, fishing companies, biotechnology startups, universities, and governmental partners.

-Describe what they are trying to do in providing a product/service

They aim to convert fish waste into high-value products through multi-sector collaboration and innovation.

-Conducting the following set of activities

Activities include connecting stakeholders, building cluster networks, incubating new business ideas, and sharing knowledge and best practices.

-List the channels that connect the solution to the targets

Channels include ocean cluster networks, international industry events, consulting work, and incubation programmes for startups.

-Doing something new/innovative that others don't offer

They deliver an integrated blue and circular economy model entirely focused on maximising fish utilisation and enabling derived business creation.

POTENTIAL **TRANSFERABILITY**

HIGH LEVEL OF TRANSFERABILITY: Obvious opportunity to be explored through FISHINN pilot.

Best Practice: Selo de Mar

Region: Portugal | **Submitted by:** Sines Tecnopolo
FISHINN Theme: #1 – Collaboration with the food and tourism sector

Overview

Selo de Mar is a unique Portuguese brand based in Setúbal, innovating through the revival of ancient fish preservation methods, particularly the production of garum — a fermented fish sauce with Roman origins. By blending culinary heritage with artisanal production and gastronomic storytelling, Selo do Mar offers a premium, culturally resonant product that promotes Portugal's Atlantic food identity. The company's work contributes to the valorisation of underutilised fish species and supports low-impact, heritage-based economic development. The model offers a compelling fusion of food innovation, cultural preservation, and coastal development, demonstrating how Blue Economy thinking can expand into gastronomy, tourism, and education.

Innovation Canvas Summary

Key Activities
Historical research on ancient preservation techniques
Production of garum through artisanal fermentation
Design and delivery of cultural food experiences and workshops
Branding, storytelling, and product distribution
Partnership engagement with chefs, historians, and educators

Key Partners and Suppliers
Local fishers and seafood suppliers
Chefs, museums, archaeologists, and gastronomy experts
Educational and cultural institutions
Distributors of gourmet and artisanal products
Culinary events and tourism partners

Key Local Resources
Access to traditional fish species and local artisanal know-how
Cultural heritage and historical connections to Roman cuisine
Strong food tourism sector in Setúbal and surrounding regions
Supportive ecosystem for heritage-led SMEs

Technical Resources
Fermentation facilities and artisanal processing tools
Packaging and branding assets
Online store and digital marketing channels
Culinary workshop infrastructure

Energy Resources
Low-energy artisanal production processes
Small-scale, localised operations with low environmental footprint

Value Proposition
Culturally rich, historically inspired gourmet product
Authentic alternative to mass-market condiments
Revival of traditional techniques with modern gastronomic relevance
Promotion of Portuguese culinary heritage internationally

Customer Targets and Communities
Chefs, haute cuisine restaurants, and food historians
Cultural tourists and gastronomy enthusiasts
Educational institutions and museums
Gourmet retailers and online culinary platforms

Environmental & Climate-Smart USPs
Valorisation of underutilised fish species
Low-impact production aligned with artisanal traditions
Waste reduction through full-use of small pelagic and local fish
Supports community-based, low-carbon gastronomy

Distribution and Upscaling
Sold through gourmet shops, online channels, and culinary fairs
Promoted via cultural events and educational workshops
Opportunities to expand through storytelling and co-branding
Scalable through partnerships and chef-led marketing

Capability Matrix Evaluation

Total Score: 48 / 48

POTENTIAL Desirability
14/15
Strong niche appeal in gourmet and educational markets; cultural value strengthens product positioning.

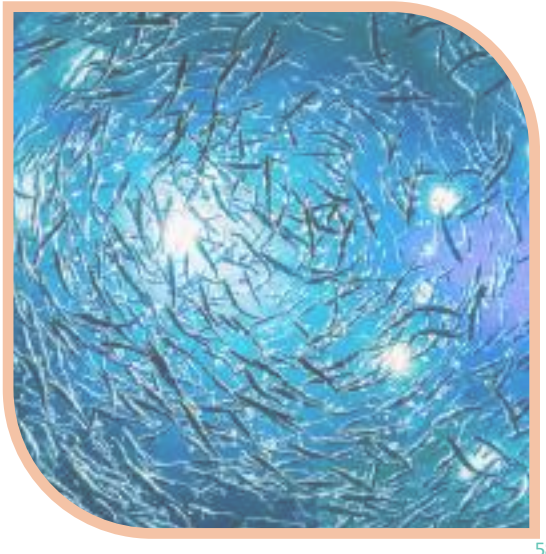
POTENTIAL Viability
14/15
Product differentiation, premium pricing, and storytelling support strong market positioning.

POTENTIAL Feasibility
14/15
Feasible with current partnerships, low-energy methods, and educational outreach.

POTENTIAL Transferability
2/3
Transferable with cultural and technical adaptation; strong potential for replication in regions with rich culinary heritage.

Relevance to FISHINN

Selo de Mar exemplifies how the Blue Economy can extend beyond fisheries and aquaculture into cultural innovation and gastronomy. The model supports coastal identity, sustainable food production, and tourism diversification — aligning with Atlantic Area objectives on sustainability, circularity, and SME development. Its blend of low-tech innovation, storytelling, and food heritage makes it highly relevant for regions seeking community-rooted, culturally valuable economic development paths.



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FISHINN CAPABILITY MATRIX: Selo de Mar
Submitted by: Sines Tecnopolo
FISHINN Theme: #1 – Collaboration with the food and tourism sector



DESIRABILITY: 14/15
VIABILITY: 14/15
FEASIBILITY: 14/15
TRANSFERABILITY: 2/3
Total Score: 44/48

POTENTIAL **DESIRABILITY**
-Describe who the potential target audience are
They aim to revive ancient preservation techniques and reintroduce historic flavours to contemporary cuisine.
*-**Describe what they are trying to do***
They aim to revive ancient preservation techniques and reintroduce historic flavours to contemporary cuisine.
*-**Describe what challenges they are facing***
They face limited market awareness, niche positioning constraints, and high artisanal production costs that can restrict scale.
*-**Describe the product or service that would be provided***
Artisanal garum sauce, supported by cultural workshops and gastronomic experiences grounded in historical knowledge and education.
-Describe what this will enable them to do
It will enable them to offer a highly differentiated product, attract new audiences, and reinforce and promote Portuguese food heritage.

POTENTIAL **VIABILITY**
-Describe the size of potential target audience
National and international gourmet markets, haute cuisine, and consumers with interest in historical, artisanal, and culturally significant food products.
*-**To provide something of value***
They value authenticity, culinary innovation, and a distinctive cultural identity linked to ancient Atlantic food traditions.
*-**Providing a product or service***
They offer a high-value artisanal garum product with strong premium positioning and compelling storytelling.
*-**Some form of profit or advantage / benefit / problem solving***
The initiative promotes national gastronomy, adds value to local fish resources, and opens new revenue pathways based on heritage and circularity.
*-**The project/solution is operated at some level of cost and scale***
Artisanal production is scalable with appropriate branding investment, controlled fermentation, and development of qualified distribution channels.

POTENTIAL **FEASIBILITY**
·These organisations and partners
Museums, archaeologists, local fishers, chefs, and gourmet product distributors support cultural authenticity, raw material access, and market diffusion.
*-**Describe what they are trying to do in providing a product/service***
They aim to produce authentic garum with historical accuracy, quality, and sustainability.
*-**Conducting the following set of activities***
Activities include controlled fermentation, historical research, artisanal production, cultural workshops, and gastronomic events.
*-**List the channels that connect the solution to the targets***
Channels include the online store, gastronomic events, partner chefs, and gourmet markets.
-Doing something new/innovative that others don't offer
They uniquely revive ancestral food techniques and combine them with contemporary culinary applications supported by historical storytelling.

POTENTIAL **TRANSFERABILITY**
Mid-Level of Transferability: Achievable with correct supports, funding, and team.

Best Practice: Alegina

Region: Pays de Loire, France | **Submitted by:** Sines Tecnopolo
FISHINN Theme: #5 – Waste recovery and reuse (plastics, fishing gear, circular economy solutions)

Overview

Alegina is a circular economy company based in France that transforms discarded oyster shells, a marine waste stream, into sustainable materials such as drainage paving, ceramic tiles, substrates, and eco-porcelain. Through its innovative valorisation of aquaculture by-products, Alegina supports coastal waste reduction, low-carbon construction, and urban greening. The company addresses long-standing environmental challenges around shell disposal and converts them into economic opportunities aligned with France's green transition strategy and the EU's Circular Economy Action Plan.
Alegina operates at the intersection of sustainability, design, and construction, turning a regional marine waste challenge into an international innovation model.

Innovation Canvas Summary

Key Activities
Collection and sorting of oyster shell waste
Cleaning, crushing, and sieving processes
Formulation of eco-materials and KAOMER porcelain
Collaboration with public works and design sectors
Participation in sustainability fairs and R&D events

Key Partners and Suppliers
Oyster farmers and aquaculture businesses
Local authorities and waste management agencies
Universities, architects, and regional innovation clusters
Designers and ecological construction networks

Key Local Resources
Abundant oyster shell waste along French coasts
Technical knowledge of ceramics and eco-design
Strong regional support for sustainable development
Cultural association with oysters and marine identity

Technical Resources
Specialised crushing and mixing equipment
Proprietary paste technology for porcelain manufacturing
Eco-construction material prototyping facilities
Laboratory for environmental and structural testing

Energy Resources
Focus on energy-efficient production
Use of low-embodied energy materials
Integration of sustainable sourcing and logistics

Value Proposition
Creation of eco-friendly, premium products from marine waste
Offering a zero-waste solution for oyster farming regions
Supplying aesthetic, durable materials for green construction
Demonstrating design-driven circular economy innovation

Customer Targets and Communities
Local municipalities and public procurement authorities
Eco-conscious architects and construction firms
Urban landscaping and horticulture companies
General public interested in sustainable design

Environmental & Climate-Smart USPs
Eliminates marine shell waste and landfill burden
Reduces embodied carbon in construction
Supports circular economy goals and local job creation
Demonstrated replicability in other coastal areas

Distribution and Upscaling
Sold through architecture and urban planning channels
Participates in design fairs and innovation expos
Strong digital presence supporting storytelling and outreach
Scalable to other shellfish-rich coastal regions with public support

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Capability Matrix Evaluation

Total Score: 45 / 48

POTENTIAL Desirability
14/15
Clear value to municipalities, eco-designers, and construction partners; highly aligned with sustainability trends.

POTENTIAL Viability
14/15
Market viability demonstrated through sales, growing interest from sustainable sectors, and aesthetic appeal.

POTENTIAL Feasibility
14/15
Existing partnerships and low-tech requirements make this highly implementable with modest support.

POTENTIAL Transferability
3/3
Strong potential for replication in shell-producing areas; already scalable with appropriate partnerships.

Relevance to FISHINN

Alegina shows how marine waste streams can be transformed into desirable, market-ready solutions through innovation and local collaboration. Its integration of sustainability, aesthetics, and community engagement makes it an ideal model for Atlantic coastal regions seeking green economy jobs, reduced waste, and circular innovation. It illustrates how small companies can anchor ecosystem-wide shifts toward low-carbon construction and resource efficiency.



FISHINN CAPABILITY MATRIX: Alegina
Submitted by: Sines Tecnopolo
FISHINN Theme: #5 – Waste recovery and reuse (plastics, fishing gear, circular economy solutions)



DESIRABILITY: 14/15
VIABILITY: 14/15
FEASIBILITY: 14/15
TRANSFERABILITY: 3/3
Total Score: 45/48

POTENTIAL **DESIRABILITY**
-Describe who the potential target audience are
Local authorities, construction and landscaping companies, environmentally conscious consumers, and agricultural/urban sectors seeking sustainable materials.
*-**Describe what they are trying to do***
They are aiming to reduce oyster shell waste and generate value from marine residues by converting them into reusable, eco-friendly materials.
*-**Describe what challenges they are facing***
Key challenges include disposal difficulties, lack of viable large-scale recycling pathways, and the need to identify new commercial applications for shell-based materials.
*-**Describe the product or service that would be provided***
Alegina provides permeable pavements, plant substrates, ceramic objects, and other circular-economy products made from recycled oyster shells.
-Describe what this will enable them to do
It will enable users to avoid waste, achieve sustainability targets, and access functional, high-quality, environmentally responsible materials.

POTENTIAL **VIABILITY**
-Describe the size of potential target audience
Municipalities, sustainable construction providers, and urban horticulture sectors across France and Europe represent a significant and growing market.
*-**To provide something of value***
These buyers are willing to invest in recycled, ecological materials with proven functional and aesthetic qualities.
*-**Providing a product or service***
Alegina offers construction, gardening, and decorative products based on upcycled oyster shells.
*-**Some form of profit or advantage / benefit / problem solving***
The approach reduces waste disposal challenges, lowers raw-material costs, and supports job creation within local circular-economy value chains.
*-**The project/solution is operated at some level of cost and scale***
Currently operating at small scale with support from public projects and subsidies, the model can be expanded into wider regional and European markets.

POTENTIAL **FEASIBILITY**
·These organisations and partners
Oyster farmers, municipalities, waste-management companies, and product designers provide a strong foundation for production, raw materials, and market development.
*-**Describe what they are trying to do in providing a product/service***
They aim to transform shell waste into durable, sustainable, and aesthetically appealing materials suitable for construction and consumer products.
*-**Conducting the following set of activities***
Activities include collection, cleaning, crushing, moulding, and marketing of finished shell-based products.
*-**List the channels that connect the solution to the targets***
Channels include eco-fairs, municipal partnerships, and sustainable-construction retailers.
-Doing something new/innovative that others don't offer
Alegina delivers innovative local waste-valorisation solutions combining circular design, environmental benefit, and the creative reuse of underutilised marine resources.

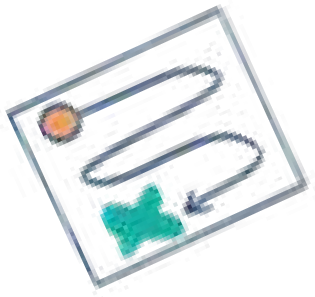
POTENTIAL **TRANSFERABILITY**
HIGH LEVEL OF TRANSFERABILITY: Obvious opportunity to be explored through FISHINN pilot.

WP2 application to WP3 roadmap activities

07

This deliverable D2.1 is the output of Work Package 2

Overview of WP3: Innovation Fisheries Ecosystem Labs and Local Innovation Roadmaps



Purpose:

Work Package 3 operationalises the knowledge and tools generated in WP1 (Ecosystem Mapping) and WP2 (Good Practices & Prototypes) by creating Local Innovation Roadmaps for each pilot territory. These roadmaps guide each region's fisheries and port ecosystem through an innovation process — identifying key challenges, selecting suitable solutions from WP2, and developing clear pathways for implementation and transfer.

Core Objectives

Create 'Innovation Fisheries Ecosystem Labs'

Each country will set up one territorial pilot (a fishing port or a cluster of ports) acting as a living lab for innovation.

- These labs will engage stakeholders to co-design and validate innovation pathways.
- The process aims to reinforce stakeholder capacity and decision-making through learning-by-doing.

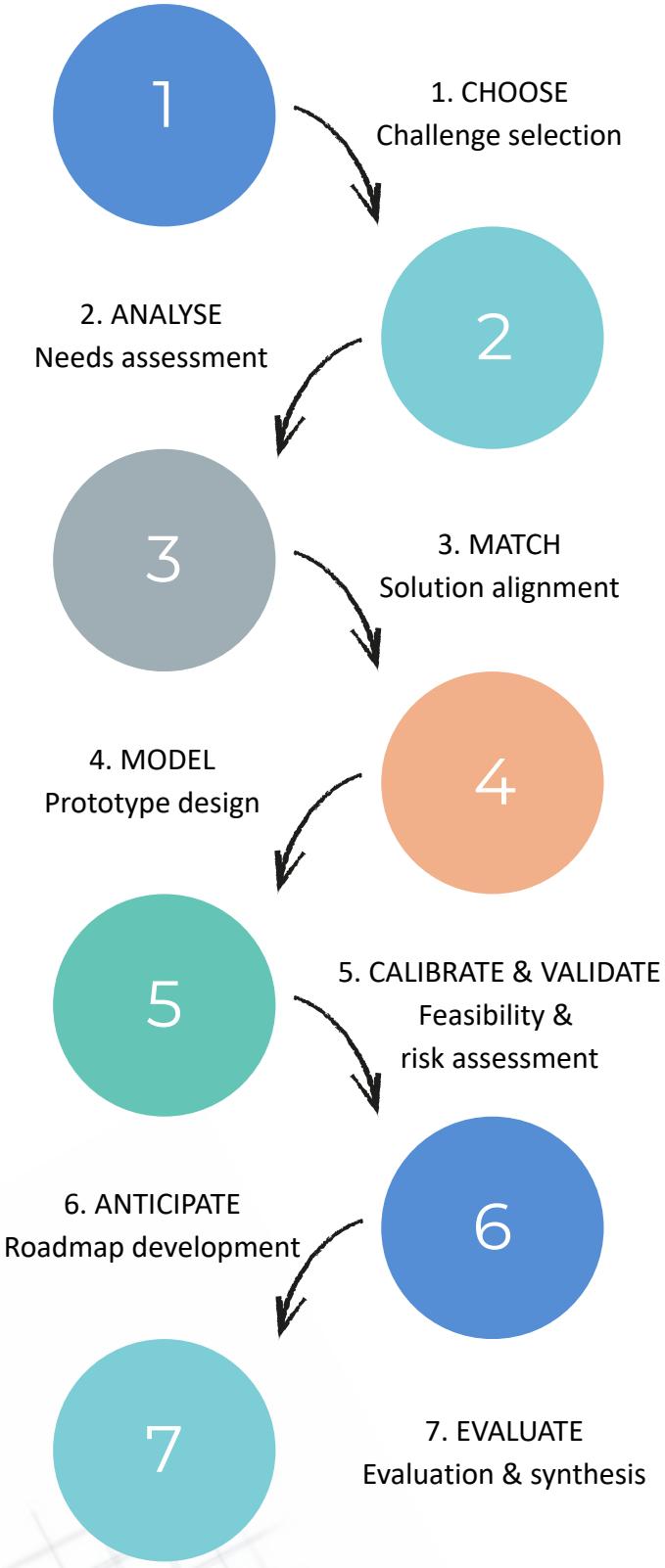
Develop a Local Innovation Roadmap (per pilot)

- A structured plan defining 2–3 priority challenges (from WP1 findings).
- For each challenge: design, model, and assess prototype solutions inspired by WP2 good practices.
- The roadmaps may not implement the full solutions but will include tests or prototypes and prepare transfer plans for real-world adoption later.

Contribute to an Atlantic Fisheries Ecosystem Roadmap

- The synthesis of all local roadmaps across partner countries will feed into a shared Atlantic-level framework.

Methodology & Steps



Roadmap Overview

Step	Phase	Description
1) CHOOSE	Challenge selection	Each partner selects 2–3 local challenges, based on WP1 results and stakeholder priorities
2) MODEL	Needs assessment	Refine and specify challenges; understand local needs, requirements, and constraints.
2) MODEL	Solution alignment	Connect local challenges with WP2 good practices and potential innovative solutions.
3) MATCH	Prototype design	Design and model project or solution prototypes adapted to local contexts.
4) CALIBRATE & VALIDATE	Feasibility & risk assessment	Conduct opportunity studies, assess risks, viability, and success factors using structured matrices.
6) ANTICIPATE	Roadmap development	Draft the Local Innovation Roadmap and related transfer plans (implementation framework, potential partners, funding, next steps)
7) EVALUATE	Evaluation & synthesis	Evaluate the process and results in each lab; compile findings into the Atlantic Fisheries Ecosystem Roadmap



1. Local Innovation Roadmap Template

Each partner completes this structured template covering:

- Priority Challenges (2–3 per ecosystem)
  - Description and rationale for each.
  - Identification of relevant WP2 best practices that can inspire prototypes.
- Solution Prototypes
- For each prototype:
  - Vision – objectives and link to challenges.
  - Description – details, testing plans, stakeholders, monitoring indicators.
  - Reality Check – risk matrix and Gains–Confidence–Effort (GCE) analysis.
  - Terms of Implementation (Transfer Plan) – partners, funding model, planning, next steps.

2. Assessment Matrices

- Risk Matrix: likelihood × severity; identifies potential technical, financial, or social risks.
- GCE Matrix:
  - Gains (expected impact)
  - Confidence (feasibility and likelihood of success)
  - Effort (resources required)
  - These produce a combined score to prioritise among multiple prototypes.

How WP3 will build upon WP1 & WP2

Previous WP

WP1 – Mapping the Fisheries & Port Ecosystem

WP2 – Innovation Canvas & Good Practices

WP3 – Local Innovation Roadmaps

Contribution to WP3

Provides baseline data and identification of ecosystem challenges and opportunities.

Supplies tested solutions and innovation prototypes to inspire or adapt for local application.

Applies and contextualises WP1 & WP2 outputs through participatory design, risk analysis, and planning for implementation.



Atlantic Area



WP3 will reflect the translational phase of FISHINN — turning insights from previous work into actionable innovation roadmaps. It combines strategic foresight, participatory design, and applied experimentation to prepare fisheries and port communities for sustainable innovation.

WP2 Conclusions & Recommendations

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This deliverable D2.1 is the output of Work Package 2

Conclusions and Recommendations



8.1 Conclusions

Work Package 2 (WP2) has provided the FISHINN partnership with a structured, evidence-based foundation for fostering innovation across the fisheries and blue economy sectors of the Atlantic Area. Through the collaborative use of the FISHINN Innovation Canvas and Capability Matrix, partners were able to systematically identify, describe, and assess 44 innovative practices, of which 23 high-potential cases were selected for further development in Work Package 3.

The WP2 process delivered several key achievements:

Establishment of a Shared Analytical Framework
The Innovation Canvas proved to be a highly effective transnational tool for harmonising diverse perspectives, enabling partners to capture and compare innovation examples across different cultural, linguistic, and governance contexts. It facilitated a common understanding of innovation dynamics within the blue economy and built a unified evidence base for decision-making.

Deepened Understanding of Regional Innovation Ecosystems
The mapping and analysis activities confirmed that innovation in fisheries and aquaculture is increasingly driven by collaborative, ecosystem-based models rather than isolated actors. Regional strengths lie in multi-stakeholder partnerships involving SMEs, research organisations, cooperatives, and local authorities. However, disparities in digitalisation, financing, and infrastructure remain key barriers to scaling.

Identification of Emerging Innovation Themes
Cross-cutting trends were observed across all partner territories, notably:

- The growing importance of circular economy and waste valorisation (e.g., shell waste, fishing gear, marine by-products).
- Expansion into new blue sectors, such as marine biotechnology, seaweed cultivation, and low-carbon materials.
- Strong links between cultural heritage, tourism, and sustainable fisheries, particularly in coastal regeneration and diversification models.
- A persistent underutilisation of digital tools and data systems, representing a clear opportunity area for future support.

Creation of a Comparative Capability Assessment
The Capability Matrix introduced a transparent, replicable method for evaluating innovations against four core dimensions—potential desirability, viability, feasibility, and transferability. This produced a quantifiable view of innovation maturity across the Atlantic Area and directly informed the selection of the most promising cases for WP3 roadmapping.

Strengthened Transnational Learning and Alignment
WP2 fostered mutual learning among partners and stakeholders, bridging geographic and thematic divides. The shared tools and processes have established a transferable model for future cooperation and for scaling innovation within the fisheries ecosystem. Through the collaborative use of the FISHINN Innovation Canvas and Capability Matrix, partners were able to systematically identify, describe, and assess the potential of 44 innovative practices, of which 23 high-potential cases were selected for further development and analysis in Work Package 3. In essence, WP2 has successfully bridged the gap between conceptual mapping (WP1) and applied innovation planning (WP3), delivering a validated portfolio of innovation cases ready for localisation, modelling, and future implementation.

Conclusions and Recommendations



8.2 Recommendations

The experience of applying the Innovation Canvas and Capability Matrix revealed the importance of using common analytical tools to ensure understanding between diverse contexts. This shared framework allowed partners to examine innovations through a balanced lens of potential feasibility, desirability, viability, and transferability. The work conducted within WP2 has demonstrated the value of structured, participatory approaches to capturing and analysing potential innovation across the fisheries and blue economy sectors. Several lessons emerged that can inform future activities within and beyond the FISHINN partnership.

The experience of applying the Innovation Canvas and Capability Matrix revealed the importance of using common analytical tools to ensure comparability between diverse contexts. This shared framework allowed partners to examine innovations through a balanced lens of feasibility, desirability, viability, and transferability. Future initiatives seeking to replicate this process should retain this harmonised methodology, as it proved essential in achieving coherence across multiple territories and themes.

WP2 also highlighted the critical role of stakeholder engagement in identifying and understanding innovative practices. Many of the most relevant examples were uncovered through direct dialogue with practitioners, local enterprises, and community actors rather than through desk-based research alone. This underlines the need for maintaining participatory and locally embedded approaches in any subsequent innovation mapping or assessment work.

The process of analysing 44 innovation examples illustrated a wide diversity in innovation models and thematic focus across the Atlantic area. While this diversity reflects the richness of local blue economies, it also points to uneven resources for innovation development and scaling. While this diversity reflects the richness of local blue economies, it also points to uneven capacities for innovation development and scaling. Continued attention should therefore be given to building analytical and organisational capacity among partners and stakeholders so that innovation can be more effectively captured, evaluated, and communicated.

The thematic trends identified across the collected cases—particularly in circular economy practices, diversification of coastal activities, and the emerging use of digital technologies—indicate clear opportunities for cross-regional learning. Future collaborations would benefit from mechanisms that allow partners to exchange directly on these shared challenges and to reflect collectively on the enabling conditions that make such innovations possible.

Finally, WP2 has confirmed the value of documentation and transparency in innovation analysis. The structured templates and comparable data generated during this phase will continue to serve as a reference for both project partners and external stakeholders. Maintaining this level of documentation in future work will be essential for monitoring progress, supporting replication, calibration and ideation, strengthening the visibility of innovation within the fisheries and blue economy sectors.



ANNEX:
All 44 completed WP2 Innovation Canvas

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This deliverable D2.1 is the output of Work Package 2

ANNEX:
All 44 completed WP2 Innovation Canvas

FISHINN THEMES:

1. Collaboration with the food and tourism sector
2. Advancing position in the value chain through collaboration and alliances with agents in the sector, aquaculture
3. Blue economy opportunities beyond fishing (e.g. energy, algae, pharmaceuticals, health products)
4. Blue biotechnology solutions and digitisation capabilities
5. Waste recovery and reuse (plastics, fishing gear, circular economy solutions)
6. Other innovations and best practices (non-tech, non-business)









FISHINN Innovation Canvas Listing

Name and Website	Region	Theme	Description	Pg
Algaloop https://algaloop.com	Spain – Basque Country	#3	Microalgae farming company creating bioplastics, omega-3s, and cosmetics ingredients.	68
Marine Instruments S.A.U. https://www.marineinstruments.es	Spain – Galicia	#4	Designs electronic equipment for marine sectors, focusing on sustainable tuna fishing.	69
Ocean Ecostructures https://oceanecostructures.com	Spain – Catalonia	#3	Creates eco-engineered marine structures to regenerate biodiversity in ports and marinas.	70
Kofradia Itsas Etxea https://www.kofradia.eus	Spain – Basque Country	#1&6	Promotes responsible artisanal fishing and awareness through events and gastronomy.	71
Oceano Fresco https://oceanofresco.com	Portugal – Nazaré	#2	Selective breeding and farming of native clam species using sustainable aquaculture systems.	72
Landatu Sola https://landatusola.com	Spain – Basque Country	#3	Circular solutions using seaweed for insulation and agricultural composting.	73
Roseo Eólica https://roseoeolica.com	Spain – Galicia	#3	Develops offshore wind systems tailored to shallow coastal waters.	74
Havhøst https://www.havhost.dk	Denmark – National	#1	Supports community-led seaweed and mussel farming in urban harbours.	75
PortXL https://www.portxl.org	Netherlands – Rotterdam	#6	Maritime accelerator connecting start-ups with corporates in ports, logistics, and offshore.	76
Blue Tech Port https://bluetechport.pt	Barcelona - Spain	#6	Tech platform for blue economy innovation and port-industry connections.	77
Glaz	France – Brittany	#4	Digital transition for sea professionals and the automated administrative and regulatory management of vessels.	78
Techsealab https://www.techsealab.com/en	France – Brittany	#3	Innovative, eco-certified Algae-based solutions for crop productions.	79
GIE Pêcheurs Île d'Yeu	France – Pays de la Loire	#6	Fishermen from the island Ile d'Yeu have created a collective organisation (GIE – economical interest group. Legal structure that fosters the development of existing companies)	80
Association Pleine Mer https://associationpleinemer.com	France – National	#6	Supports small-scale fishers via mapping tools and direct sales campaigns.	81
Algolesko	France – Brittany	#1		82

https://algolesko.com			Vertically integrated kelp producer offering food-grade	
Alegina https://www.kaomer.com	France – Pays de la Loire	#5	Transforms oyster shells into porcelain and eco-construction materials.	83
Agriloops https://agriloops.com	France – Normandy	#2	Combines shrimp aquaculture with hydroponic farming in circular systems.	84
Game of Trawls https://www.marport.com	France – Brittany	#4	Experimental trawl innovation to improve species selectivity and reduce discards.	85
Hublot.io https://hublot.io	France – Brittany	#4	Digital seafood traceability and compliance monitoring tools for fishers.	86
ACAV Cooperative N/A	France – Brittany	#6	Local seafood cooperative linking fishers to community-supported AMAP schemes.	87
Paniers de la Mer https://www.lespaniersdelamer.fr	France – Brittany	#6	Reclaims unsold fish for food aid while offering reintegration training.	88
Laminak Energy https://dem-awe.nweurope.eu/laminak-energy	France – Brittany	#6	Offshore and onshore wind, solar energy, and marine renewables such as tidal and wave power.	89
Iceland Ocean Cluster https://www.sjavarklasinn.is	Iceland – Reykjavik	#1-6	Marine cluster promoting full utilisation of fish resources and circularity.	90
Celtic Sea Minerals https://celticseaminerals.com	Ireland – Cork	#2&4	Processes seaweed and marine minerals into livestock feed supplements.	91
Aquamonitrix https://aquamonitrix.com	Ireland – Carlow	#4	Real-time sensors for water quality monitoring in aquaculture and marine systems.	92
Bantry Marine Research Station https://www.bmrs.ie	Ireland – Cork	#6	Conducts research on finfish, shellfish and algae in marine hatcheries.	93
Impact-9 https://impact9.ie	Ireland – Galway	#2&6	Develops floating offshore solar and aquaculture platforms.	94
The Blue Pet Co. https://bluepetco.com	Ireland – Kerry	#3	Produces pet supplements from invasive seaweed species.	95
Teal Marine Technologies https://www.tealmarine.com	Ireland – Cork	#4	Marine decarbonization and robotics through the development of sustainable electrically powered smart vessels and robotic devices.	96
Pure Ocean Algae https://purealgae.ie	Ireland – Cork	#3&4	Produces macroalgae for food and bioactive health products.	97
Auranta https://auranta.com	Ireland – Dublin	#3	Develops feed additives from natural extracts for aquaculture.	98

Clean Ocean Initiative https://cleanoceaninitiative.eu	Ireland – Donegal	#5	Community marine litter removal network and environmental awareness projects.	99
Mount Lucas https://www.mountlucas.ie	Ireland – Offaly	#5	Mount Lucas is fully IMTA process for aquaculture with innovation from waste stream in terms of commercial demonstration at scale.	100
Exparsado	Portugal – National	#2	Specialising in aquaculture, focusing on the production of premium Crassostrea angulata oysters.	101
Algaplus https://www.algaplus.pt	Portugal – Ílhavo	#3	ALGAplus specialise in the sustainable cultivation of native Atlantic seaweeds.	102
Allmicroalgae https://www.allmicroalgae.com	Portugal – Leiria	#3	Microalgae production for nutrition, cosmetics, and aquafeeds.	103
Sunconcept https://sunconcept.pt	Portugal – Aveiro	#3	Designs solar-powered boats for fishing and aquaculture.	104
Ecoalga https://ecoalga.pt	Portugal – Algarve	#1	Offering unique experiences in underwater tourism and environmental education.	105
Necton https://www.necton.pt	Portugal – Algarve	#3	Produces microalgae for food, agriculture and cosmetics sectors.	106
Habtrail https://habtrail.pt	Portugal – National	#4	GIS-based marine biodiversity data and habitat tracking system.	107
Selo de Mar https://selodemar.pt	Portugal – Aveiro	#1	Reviving and innovating traditional fish preservation techniques, with a special focus on producing garum—a fermented fish sauce originating from Roman times.	108
Sensefinity https://sensefinity.com	Portugal – Lisbon	#4	IoT sensors and logistics monitoring tools for seafood shipments.	109
Bake My Dog Happy https://bakemydoghappy.pt	Portugal – Lisbon	#5	Dog treats from upcycled fish skin and waste ingredients.	110
Ocean Alive https://ocean-alive.org	Portugal – Setúbal	#2&6	Empowers women fishers to restore seagrass meadows in estuaries.	111
WAVEC https://www.wavec.org	Portugal – Lisbon	#6	Research centre promoting wave energy and offshore renewables.	112



WP2

FISHINN Innovation Canvas

Submitted By Leartibai Fundazioa

FISHINN - Innovation Canvas

COMPANY: *ALGALOOP S.L.U* REGION: *BASQUE, SPAIN*

THEME 3

Key Activities

- **An aquaculture farm based on microalgae production aimed at obtaining biomass and extracting bioactive compounds** as well as bioproducts for biofertilizers, nutraceuticals and biomaterials.
- Industrial production of freshwater microalgae biomass such as Spirulina, Chlorella, Scenedesmus and Haematococcus (in powder and capsules), agricultural biofertilizers/bio-stimulants, and essential oils from Spirulina and Chlorella, as raw material for the B2B (business to business) business line and the sale of the final product.

Key Partners & Suppliers

- HAZI Foundation (*Instrumental entity of the Basque Government),* the BIC Gipuzkoa BERRILAN Programme (*part of the Basque Network of BICs, working with technology centers, universities and companies*) in the TXEKINTEK/EKINTZAILE call of the SPRI (an entity of the Department of Industry, Energy Transition and Sustainability of the Basque Government, EKINTZAILE is part of the Basque Country Interinstitutional Plan for Entrepreneurship 2024), the Provincial Council of Gipuzkoa, and the call for business challenges of the Naturklima Foundation.
- University of Almeria, a pioneer at European level microalgae research.

Key & Local Resources

- **Microalgae Strains** (Raw Materials): Specific strains are cultivated for their ability to sequester CO_2 and produce valuable by-products like biofuels, bioplastics, or proteins.
- **Saline or brackish water** (Infrastructure): This reduces competition with freshwater resources and aligns with sustainable practices.
- **Carbon dioxide sources** (infrastructure): Industrial CO_2 emissions can be captured to support algae growth.
- **Land and infrastructure**: Non-arable land and photobioreactors are commonly used for cultivation. These resources can often be sourced locally and sustainably, especially in areas with industrial CO_2 emissions and suitable land.

Technical Resources

- **Photobioreactors and open raceway ponds**: Essential for controlled algae cultivation, ensuring optimal light and nutrient distribution.
- **Digital monitoring systems**: IoT sensors track parameters such as light, temperature, and CO_2 levels for real-time optimization.
- **Processing equipment**: For harvesting and converting algae biomass into products like biofuels or bioplastics.
- **Data analytics platforms**: Used to analyze growth patterns, optimize yields, and improve resource efficiency.

Energy Resources

- **Energy requirements**: Operations can be powered by renewable sources like solar energy, further reducing the carbon footprint.
- **Carbon neutrality**: By absorbing CO_2 during algae growth, the process offsets emissions, making it a net-zero or even carbon-negative solution.
- **Integration with renewable goals**: Algaloop contributes to renewable energy and sustainability goals by producing eco-friendly alternatives to fossil fuels and synthetic materials.

Value Proposition

- The value proposition centers **on offering cost-effective and environmentally friendly alternatives to traditional chemical inputs and feedstocks**. These solutions serve industries seeking sustainable and high-performance inputs, particularly in pharmaceuticals, food production, and energy sectors.
- Algaloop's products are selected for their ecological benefits, innovation, and alignment with global sustainability goals like reducing carbon footprints and improving biodiversity.
- In terms of the value proposition of the microalgae production process, **these are processes in which carbon dioxide is reduced, making them more environmentally responsible than other processes**.
- The food production processes do not require significant amounts of raw materials.

Customers/Targets & Communities

- Industries: Aquaculture, nutraceuticals, cosmetics, and bioplastics industries benefit from sustainable biomass and raw materials.
- Agricultural Producers: Farmers and growers adopting biofertilizers and eco-friendly pest management.
- Energy Companies: Those transitioning to bioenergy and biogas solutions.
- Government and NGOs: Partnerships for environmental conservation and renewable resource projects.
- Direct communication through trade shows, partnerships, and digital marketing channels like webinars and white papers to educate and connect with stakeholders.

Environmental & Climate Smart USP

- Algaloop's microalgae **solutions significantly contribute to reducing greenhouse gas emissions by capturing CO2 during the algae growth process, offering sustainable alternatives to fossil-derived materials.**
- The company aligns with EU Green Deal objectives by supporting circular economies through the reuse and recycling of resources (9Rs framework).
- Societal benefits include job creation in green sectors and reducing dependency on non-renewable resources
- Environmental benefits span improved water quality, waste valorization, and enhanced soil health through biofertilizer applications.

Distribution & Upscaling

- **Combination of B2B channels and strategic partnerships to deliver its products**. Distribution includes direct sales to industry, collaborations with agricultural cooperatives, and licensing technologies to expand reach. To scale and replicate its model, Algaloop could enhance its presence in international markets via e-commerce platforms, partnerships with global distributors, and active participation in sustainability-focused consortia.
- **A B2C business line has also been developed, focused on the sale of spirulina-based food products.**

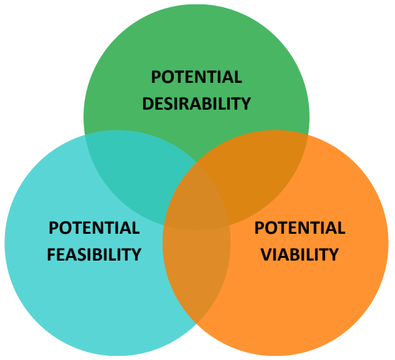
COSTS

- **Baseline Costs**: **Raw Materials**: Cultivation inputs for microalgae. **Infrastructure**: Bioreactors and processing facilities.
- **R&D**: Significant investment in developing innovative algae strains and applications.
- **High-Cost Activities**: Scaling production and maintaining efficient energy inputs. Ensuring compliance with environmental regulations.
- Marketing and outreach efforts for expanding customer bases.
- These activities are directly linked to their value propositions, ensuring the delivery of high-quality, sustainable products.

REVENUES

- **Product Sales**: Direct sale of biomass, biofertilizers, and other derivatives.
- **Licensing**: Allowing other companies to use their algae cultivation technologies.
- **Service Fees**: Providing consultancy and tailored sustainability solutions.
- **Grants/Subsidies**: From governments and private institutions supporting green innovation.
- **Leasing**: Temporary access to their specialized equipment for algae production.
- This model not only diversifies revenue but also enhances financial stability while adhering to sustainability principles.

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
What can it make happen? What resources are needed? What skillsets are required?

Potential of viability
What value and/or impact will/could this idea bring to the organisation and to the territory?

FISHINN - Themes

1. Collaboration with the food and tourism sector
2. Advancing position in the value chain through collaboration and alliances with agents in the sector, aquaculture
3. Blue Economy opportunities other than fishing e.g. energy, algae, pharmaceuticals, nutraceuticals & health products
4. Blue biotechnology solutions and digitisation capabilities
5. Waste recovery and reuse i.e. plastics, fishing gear, circular economy solutions
6. Other innovations and best practice (non tech, non-business)

Interreg Atlantic Area FISHINN
Co-funded by the European Union

FISHINN - Innovation Canvas

COMPANY: ***MARINE INSTRUMENTS S.A.U*** REGION: ***BASQUE, SPAIN***

THEME **4**

Key Activities

- **Global leader in the development and manufacture of advanced technology for the marine environment, with a special focus on high quality remote monitoring and tracking solutions designed for sustainable and intelligent oceans**. Present in the industrial fisheries, security and defence, and aquaculture sectors, with their products and services deployed in more than 30 countries.
- As part of its diversification strategy, Marine Instruments began in the aquaculture sector by developing a smart feeding system with acoustic detection, optimizes shrimp growth rate.
- Satellite Buoys, to locate and track fish aggregating devices (FADs) used in tuna fishing with AI.
- GPS Radio Buoys, Radio Buoys for the monitoring and rapid location of longline fishing gear for boats that use this gear in all its forms.
- Oceanographic Service, Marineview is an integrated solution that combines oceanographic information and the data of Marine Instruments buoys, such as M3i, M3i+, to analyse oceanographic conditions and identify the best areas for fishing.
- Drones, Tunadrone is an unmanned aerial vehicle for the detection of free-school tuna. Allows easy identification of birds and tuna schools to help fishing operations in a sustainable and effective manner.
- Security and Defense Development Project:
- The M5D-Airfox is a solar-powered marine surveillance RPAS operated from sea or shore.
-

Key Partners & Suppliers

- **Financial support, the project is supported by the Galician Government**, the State Ministry of Agriculture and Fisheries, Food and Environment, the Energy Institute of Galicia **and the European Agricultural Fund for Rural Development.**
- **In terms of infrastructure or strategic technological support, suppliers like In-Tech Electronics and Icom America** provide high-tech communication and control systems essential for marine applications. Supplies advanced communication systems, critical for real-time operational management and navigation.
- Marine Instruments collaborates with various partners specializing in marine technologies, including Insatech Marine and Mr. Marine. These partners provide critical expertise in system calibration, maintenance, monitoring, and the supply of advanced electronic components like flow meters, radars, and calibration equipment.

Key & Local Resources

- **Core Materials and Components**: High-quality electronics (e.g., sensors, radar systems, calibration tools), often sourced globally from reliable suppliers. Many of these are essential for shipboard applications like navigation, communication, and environmental monitoring.
- **Human Resources**: Skilled technicians and engineers are crucial for designing, installing, and maintaining marine systems.
- The Company has a large team focused on innovation development in Galicia.
- Marine Instruments is strongly committed to research and development to offer the most advanced products to its customers. The R&D department consists of two distinct technical areas which are closely related in the development process:
- **ICT AREA:** Satellite communications monitoring and software development.
- **HARDWARE AREA:** Creation, design and prototyping of physical products.
- **Local and Sustainable Acquisition**: Where possible, sourcing from local suppliers reduces environmental impact. Sustainable practices include using eco-friendly components and materials, as well as optimizing supply chains to minimize emissions.

Technical Resources

- Key Equipment:
- Radar systems like Siemens SITRANS, which provide precise level measurements for liquids and solids in marine applications.
- Sensors for flow, pressure, and vibrations, which monitor critical shipboard processes
- Digital Solutions: Signal processing, wireless communication, and integrated monitoring platforms are fundamental to enhance operational efficiency and safety
- Accessibility: These technologies are widely available through partnerships with specialized manufacturers and suppliers, ensuring Marine Instruments remains at the forefront of innovation.

Energy Resources

- Energy security is a significant consideration in marine operations:
- **Energy Needs**: Systems onboard typically require stable energy sources, including battery systems and auxiliary power generators, for uninterrupted functionality. High-efficiency systems reduce overall energy demand
- **Renewable Energy Options**:
- Incorporating renewable sources, such as solar panels or wind turbines, for auxiliary power reduces reliance on fossil fuels. This is especially relevant for energy-intensive systems like communication and navigation devices.
- Energy-efficient designs are increasingly prioritized to align with sustainability goals.

Value Proposition

- Marine Instruments provides advanced technological solutions for ocean monitoring and resource management, leveraging state-of-the-art IoT devices, data analytics, and renewable energy integration.
- Serving industries and customers such as fisheries, marine research, offshore energy, and environmental protection agencies.
- **Precision:** High-quality data collection for effective decision-making.
- **Sustainability:** Products powered by renewable energy reduce environmental impact.
- **Innovation:** Cutting-edge technology ensures superior performance in challenging marine environments.
- **Customization:** Tailored solutions meet specific needs of diverse customer segments.
- **Global Reach:** Proven reliability and scalability in international markets.
- Its value proposition is centered on the existing technological and research capabilities they have.

Customers/Targets & Communities

- **Core Customer Base:**
- Commercial fisheries requiring monitoring for sustainable stock management.
- Marine research organizations focused on environmental and ecological studies.
- Offshore energy companies managing marine installations.
- Governmental and non-governmental organizations aiming to protect marine ecosystems.
- **Value Creation:**
- Delivering actionable data for operational efficiency and compliance with regulations.
- Supporting sustainable practices through accurate environmental monitoring.
- **Communication Channels:**
- Direct sales and account management for personalized service.
- Digital platforms, including websites and social media, for education and outreach.
- Participation in global marine industry events and conferences to engage stakeholders.

Environmental & Climate Smart USP

- **Environmental Benefits:**
- **Renewable Energy Integration:** Devices utilize solar or other renewables, reducing reliance on carbon-heavy power.
- **Resource Efficiency:** Advanced monitoring minimizes overfishing and preserves biodiversity.
- **Circular Design:** Durable and repairable products support the 9R's framework (e.g., **Reuse**, **Refurbish**, **Recycle**).
- **Societal Benefits:**
- Fosters sustainable ocean economies and supports UN SDG 14 ("Life Below Water").
- Creates knowledge-sharing platforms for marine preservation.
- **Policy Alignment:**
- Aligns with the EU Green Deal and national strategies for ocean conservation and decarbonization.
- The solutions designed by marine instruments can provide the client with different benefits for the creation of the projects, both environmental (for the use of energy or different functionalities it provides), through the application of the solution itself (applied in the marine world and the benefits it attracts) and with legislative compliance when applying the solution.

Distribution & Upscaling

- Direct sales via specialized global agents and distributors.
- Online platforms for global outreach.
- Partnerships with marine technology providers for integrated solutions.
- **Scaling and Replication:**
- **Public Relations Campaigns:** Highlight success stories and benefits.
- **Collaborations:** Work with governmental and international marine initiatives. A strategic alliance with public agents beyond Galicia, could give it a reputation to position it as a key agent in the marine regeneration of the ecosystem and as a generator of positive impact on the environment.
- **Training Programs:** Equip users to maximize product benefits and improve adoption.

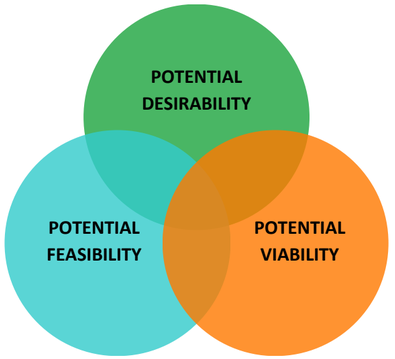
COSTS

- **Baseline Costs:** R&D expenses to develop cutting-edge technology. Manufacturing and material costs for high-quality, durable devices. Logistics and international shipping expenses.
- **Key Resources expenses:** Talent: Skilled engineers, data scientists, and technicians. Hardware: Sensors, renewable energy components, and durable materials.
- **Key Activity Expenses:** Product innovation and testing in marine environments. Regular maintenance and upgrades for customer devices.
- Since these are development projects of different applications and nature, each service will be adapted based on the design and implementation characteristics.

REVENUES

- **Product Sales:** Revenue from high-tech marine monitoring devices.
- **Service Fees:** Maintenance and data analytics services offered post-sale.
- **Subscription Model:** Continuous access to data analytics platforms.
- **Licensing:** Providing proprietary technology to partners under a fee structure.
- **Leasing:** Temporary access to devices for specific projects.
- **Subsidies/Sponsorships:** Funding from environmental and marine conservation agencies.
- Diversified business model. It not only sells its innovative products, but also generates new (maintenance) services, data collection

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
What can it make happen? What resources are needed? What skillsets are required?

Potential of viability
What value and/or impact will/could this idea bring to the organisation and to the territory?

FISHINN - Themes

1. Collaboration with the food and tourism sector
2. Advancing position in the value chain through collaboration and alliances with agents in the sector, aquaculture
3. Blue Economy opportunities other than fishing e.g. energy, algae, pharmaceuticals, nutraceuticals & health products
4. Blue biotechnology solutions and digitisation capabilities
5. Waste recovery and reuse i.e. plastics, fishing gear, circular economy solutions
6. Other innovations and best practice (non tech, non-business)

Interreg Atlantic Area FISHINN
Co-funded by the European Union

FISHINN - Innovation Canvas

COMPANY: ***OCEAN ECOSTRUCTURES*** REGION: ***BASQUE, SPAIN***

THEME **3**

Key Activities

- Ocean Ecostructures focuses on developing and deploying innovative marine ecosystem restoration solutions. Their core activities include:
- Designing and manufacturing **Bio Boosting Systems®**, which mimic natural habitats like coral reefs to promote biodiversity.
- Nature-inclusive design that replicates the functioning of natural reefs.
- Life Boosting Mix® microfauna attraction system.
- Lifeskin® natural substrates to maximize life capture.
- Multilayer design to generate a 'nursery effect', facilitating the growth of fish and crustaceans.
- Fixation system designed not to interfere with operations.
- Applicable on any Surface.
- **Monitoring** marine environments through robotic data collection systems and artificial intelligence for predictive analytics. Detailed tracking of **biodiversity evolution** through underwater drones and image analysis with proprietary algorithms based on Artificial Intelligence.
- Providing public access to environmental data through platforms like iOceans, enabling informed conservation actions. Exclusive content delivery platform, featuring reports on historical and future trends as well as result clustering.
- Expanding applications to various infrastructures, including ports, offshore wind farms, and oil platforms, to transform them into biodiversity hubs.

Key Partners & Suppliers

- Ocean Ecostructure collaborates with scientists, technological innovators, and strategic partners, including entities like the Repsol Foundation, Spanish Port Authorities (the port of Barcelona, the port of Palma de Mallorca and Ports 4.0 among others) and Norrsken. These collaborators provide expertise in material science, ecosystem restoration, and marine infrastructure management. For instance, biomimetic micro-reefs are developed with input from biologists and material engineers to ensure the sustainable and effective regeneration of marine ecosystems.
- Currently have five investors and have received an investment of US$537,111.00, promoted by Ship2B Ventures, BStartup, Fundación Repsol. In addition, support is currently provided by the European research agency.
- In terms of engineering support, the following agents are working in collaboration: **Bio Boosting System,** Integrates robotics and monitoring systems for marine habitats, and **Data Analysis Platforms**, Include AI-based tools and cloud storage for monitoring ecological impacts.

Key & Local Resources

- Key technologies include the Bio Boosting System®, integrating robotics for monitoring and AI for data processing. Used alongside platforms like iOceans, which store ecological data in the cloud, making it accessible to stakeholders for informed conservation efforts. These resources ensure effective monitoring impact assessment, detailed schematic form and detail.
- **Materials:**
- Biomimetic Micro-Reefs: Composed of calcium carbonate substrates, these panels are derived from local byproducts or waste materials that would otherwise go unused, promoting circular economy practices
- **Local Availability:**
- Materials are sourced locally where it is possible to support regional industries and reduce transportation emissions. These materials are tailored to specific marine environments, ensuring sustainable integration

Technical Resources

- iOceans Platform: Stores and analyzes ecological data, allowing users to track biodiversity, CO2 levels & marine health over time.
- Robotics: Deployed in marine infrastructures to collect real-time data, enabling predictive models for ecosystem changes.
- **Data Accessibility:**
- All collected data is available to the public via an app, ensuring transparency and fostering community engagement in marine conservation.
- **Digital Monitoring Features:**
- Tracks parameters such as oxygen levels, acidity, chlorophyll content, and temperature, enabling comprehensive environmental insights.

Energy Resources

- The project leverages energy-efficient systems. The sustainable approach involves efforts to minimize reliance on non-renewable energy. Future initiatives could integrate renewable energy systems to power their monitoring tools.
- **Energy integration:**
- Energy use is primarily linked to robotic monitoring systems and data processing platforms like iOceans.
- While details on energy sources are not explicit, the project focuses on minimizing its environmental footprint, hinting at efforts to adopt renewable solutions in the future.

Value Proposition

- The company transforms marine infrastructures into biodiverse ecosystems, creating habitats for marine life and enhancing ecosystem services. The focus on **sustainability, innovation, and transparency**—such as making data accessible through public platforms—ensures significant environmental and economic value for users like ports, marinas, and conservationists. **Buyers benefit from solutions that are not only eco-friendly but also highly effective in marine restoration.**
- The value proposition applied to the end user: The product transforms infrastructure like harbours, wind farms, and oil platforms into biodiverse hubs by creating artificial reefs that mimic natural habitats, and it enhances marine biomass and biodiversity while providing users (e.g., port authorities, conservationists) with tools for ecosystem restoration.
- Underlining the three principles of the project's value proposition:
- Combines ecological restoration with robust data-driven insights.
- Publicly accessible data fosters transparency and community trust.
- Designed to be sustainable, scalable, and tailored to specific marine needs, making it a versatile solution for diverse stakeholders.

Customers/Targets & Communities

- **Considering the activity developed by the project, the potential customer could be defined in the following way:** Conservation organizations and infrastructure operators that directly benefit from this type of technology.
- In compliance with these characteristics, the following subgroups of potential customers and current customer segments have been identified:
- **Ports and Marinas**: Enhance biodiversity in areas impacted by infrastructure.
- **Offshore Platforms**: Oil platforms and wind farms for ecological restoration.
- **Marine Conservation Groups**: NGOs and scientific organizations focusing on biodiversity enhancement.
- **Local and Regional Authorities**: Supporting marine ecosystem policies and restoration initiatives.

Environmental & Climate Smart USP

- The proposed solution contributes to the transition **to a zero-carbon economy by promoting sustainable marine ecosystems through innovative biomimetic micro-reefs.** These structures enhance biodiversity, support carbon sequestration, and minimize reliance on non-renewable resources, aligning with the principles of the 9R framework. Societal benefits include improved livelihoods for coastal communities and strengthened ecosystem services. Environmentally, the solution aids in reducing oceanic carbon footprints while fostering habitat restoration. Furthermore, the initiative aligns with key EU and national strategies for climate neutrality and sustainable development.
- The following sections provide a detailed breakdown of the societal and environmental benefits, as well as links to relevant policies.
- **Alignment with the 9R's (e.g., Reuse, Recycle, Reduce)**:
- **Reuse**: Byproducts and local waste materials are transformed into biomimetic substrates for reefs.
- **Recycle**: The calcium carbonate material is derived from surplus or discarded resources.
- **Reduce**: Biodiversity enhancement panels contribute to healthier ecosystems, which act as carbon sinks.
- **Societal Benefits**:
- Creates job opportunities in marine conservation and related industries.
- Engages communities by providing open access to marine environmental data.
- **Environmental Benefits**:
- Enhances biodiversity, restoring marine habitats that can absorb CO2.
- Reduces environmental degradation caused by traditional infrastructure
- **Links to EU & National Policies**:
- Supports the **EU Biodiversity Strategy 2030** by creating and restoring habitats.
- Aligns with **Blue Economy** strategies focusing on sustainable marine resource utilization.

Distribution & Upscaling

- **Current Channels:** Direct Delivery: Deployed at project sites such as ports and offshore structures. Partnership Networks: Collaboration with public institutions and private companies facilitates installations and awareness
- **Website and social media**: Publicize successes, offer insights, and create awareness.
- **App-Based Platforms**: iOceans app makes data accessible to the public and stakeholders.
- **Scaling and Replication:** Broader participation in programs like BlueInvest to gain visibility and partnerships. Increased use of digital platforms like iOceans to demonstrate measurable outcomes and attract investment.

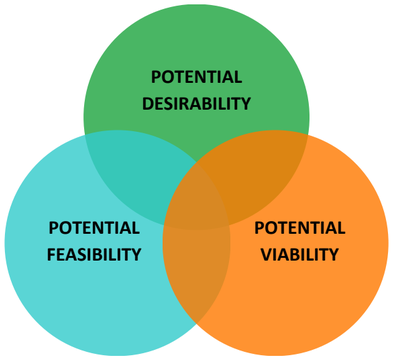
COSTS

- **Baseline Costs**: Research and development of biomimetic materials and smart panels.
- Operational expenses for monitoring and maintenance of deployed panels. Incorporation of measurement metrics and its follow-up.
- **Key Resources with High Costs**: Raw materials for panel production. Technological infrastructure (e.g., robotics, cloud platforms).
- **High-Cost Key Activities**: Deployment and testing of solutions in marine environments. Ongoing monitoring and data processing for environmental analysis. Innovation development for new product applications or incorporation of new functionalities.
- **Cost Generation Linked to Value Proposition**:
- The deployment of artificial reefs directly supports the value proposition of marine ecosystem restoration.

REVENUES

- **Current Models**:
- **Product Sales**: Smart panels and micro-reefs.
- **Service Fees**: Installation, monitoring, and data analysis for marine conservation projects.
- **Licensing**: Rights to use proprietary technology such as Bio Boosting System® and iOceans platform.
- **Potential Additional Revenue Streams**:
- **Sponsorships/Subsidies**: Funding from EU and national grants such as BlueInvest.
- **Advertising Opportunities**: Collaborations with partners to showcase sustainable marine solutions.

THREE LENSES OF INNOVATION



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FISHINN - Innovation Canvas

COMPANY: ***KOFRADIA*** REGION: ***SAN SEBASTIEN, BASQUE***

THEME **1&6**

Key Activities

- The key activities for **Kofradia revolve around fostering collaboration among stakeholders in the food and beverage industry, promoting sustainable practices, and providing tools and resources for members to innovate.** Specific actions include organizing events, conducting workshops, developing marketing campaigns, and managing an online platform to connect members and facilitate knowledge exchange.
- **Event Organization:**
- Workshops and conferences focused on sustainable practices.
- Networking events to connect stakeholders in the food and beverage industry.
- Events to get to know the fishing environment
- The possibility of tasting the seafood products fished in the sea.
- **Marketing Campaigns:**
- Promoting members' products and services.
- Raising awareness of sustainable practices and local producers.
- **Online Platform Management:**
- Providing tools for collaboration and resource sharing.
- Ensuring seamless digital interaction between members.
- **Sustainability Promotion:**
- Sharing knowledge and best practices through content and events.
- Developing tools to help members implement eco-friendly operations.

Key Partners & Suppliers

- Kofradia's value creation relies on partnerships with local food and beverage producers, sustainability experts, educational institutions, and policy-making bodies. These partners provide expertise in sustainable practices, access to local supply chains, and training resources. Suppliers, particularly local ones, support logistical needs and help ensure the availability of regional ingredients and materials.
- **Key Partners:**
- Local food and beverage producers contributing to the network.
- Sustainability experts providing guidance and tools.
- Educational institutions offering training and development resources.
- Policy-making bodies supporting regulations and advocacy.
- **Key Suppliers:**
- Providers of regional ingredients and materials.
- Logistics and infrastructure suppliers for events and workshops.

Key & Local Resources

- Essential resources include skilled personnel in sustainability and business development, local supply chains for ingredients, and digital infrastructure for an online presence. These resources can largely be sourced locally to support regional economies and align with sustainability goals.
- **Human Resources:** Experts in sustainability, business development, event mgt.
- **Material Resources:** Sustainable materials for workshops and product demonstrations. Local supply chains to source ingredients and materials efficiently.
- **Digital Infrastructure:** Platforms for networking, analytics, and knowledge sharing.
- **Local Acquisition:** Resources can be locally sourced to boost the regional economy and reduce carbon emissions.

Technical Resources

- **Online Platform:** A digital hub for networking, sharing tools, and managing member information.
- **Analytics Tools:** Systems to measure environmental and operational impacts for members.
- **E-learning Systems:** Interactive technologies for delivering workshops and online training.
- **Supply Chain Management Tools:** Applications to ensure efficiency and reduce waste in sourcing and logistics.

Energy Resources

- Energy security is a vital consideration for Kofradia. Renewable sources like solar and wind are prioritized for event spaces and digital infrastructure operations. This ensures alignment with environmental objectives and reduces dependence on non-renewable energy.
- **Renewable Energy Focus:** Utilizing solar and wind power for event spaces and digital infrastructure.
- **Sustainability Goal:** Reducing dependence on fossil fuels by prioritizing renewable energy.

Value Proposition

- Kofradia offers a platform for collaboration, innovation, and visibility for local producers and stakeholders in the food and beverage industry. It serves members by enhancing market access, providing education on sustainable practices, and creating networking opportunities. Customers **choose Kofradia for its focus on sustainability, community empowerment, and regional development.** Additionally, it focuses on empowering communities and fostering innovation in the food and beverage industry.
- **What Kofradia Offers:**
- A platform for collaboration, visibility, and market access.
- Tools and education for adopting sustainable practices.
- **Who It Serves:**
- Local producers, SMEs, and sustainability-driven businesses.

Customers/Targets & Communities

- The primary customer segments include local food and beverage producers, regional cooperatives, educational institutions, and sustainability advocates. The heart of the customer base consists of SMEs (small and medium-sized enterprises) committed to sustainable practices. Kofradia engages these communities via its digital platform, events, and direct outreach campaigns.
- **Primary Segments:**
- Local food and beverage producers and cooperatives.
- Educational institutions engaged in sustainability training.
- NGOs and advocates for sustainable development.
- **Core Audience:**
- SMEs dedicated to adopting and promoting sustainable practices.
- **Outreach Channels:**
- Digital platforms (website, social media).
- Community engagement events and campaigns.

Environmental & Climate Smart USP

- Supports the transition to a zero-carbon economy by emphasizing local sourcing, reducing transportation emissions, and promoting waste reduction through the 9Rs (reduce, reuse, recycle, etc.). **Societal benefits include stronger local economies and greater food security**. Environmental benefits encompass lower carbon footprints and enhanced biodiversity. The initiative aligns with EU green strategies and national sustainability policies.
- **Environmental Impact:**
- Promotes local sourcing, reducing emissions from long supply chains.
- Encourages reuse, recycling, and waste reduction in the food sector.
- **Societal Benefits:**
- Strengthens local economies and food security.
- Educates communities about sustainability, fostering awareness.
- **Policy Alignment:**
- Complies with EU Green Deal goals and national sustainability frameworks.

Distribution & Upscaling

- **Delivery Methods:** Through an online platform that connects members and shares resources. Physical events such as workshops, conferences, and fairs.
- **Scalability and Replication:** Enhance digital presence to reach broader audiences. Collaborate with networks in other regions to replicate the model.
- **Marketing Channels:** Social media campaigns, newsletters, and partnership announcements.

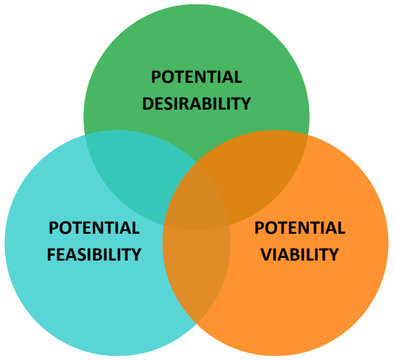
COSTS

- **Baseline Costs:** Digital platform development and maintenance. Event organization and operational logistics. Salaries for skilled personnel.
- **High-Cost Resources:** Digital tools and technical expertise for platform and analytics.
- **High-Cost Activities:** Educational workshops and training programs. Marketing campaigns for member visibility.
- **Cost Alignment with Value Proposition:** All costs directly contribute to supporting Kofradia's mission and member benefits.
- Activities such as educational workshops and marketing campaigns may require significant funding but align directly with the value propositions. Operational costs are strategically managed to maximize value for members.

REVENUES

- **Primary Revenue Models: Service Fees:** Charged for workshops and training sessions. **Subscription Model:** Continuous access to the platform for members. **Product Sales:** Revenue from events showcasing member products.
- **Secondary Revenue Models: Licensing Fees:** Allowing other regions to use proprietary systems and tools. **Brokerage Fees:** Facilitating collaborations between members.
- **Advertising Revenue:** Promoting member products through the platform.
- **Subsidies/Sponsorships:** Support from public and private institutions for operational costs.

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
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Potential of viability
What value and/or impact will/could this idea bring to the organisation and to the territory?

FISHINN - Themes

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FISHINN - Innovation Canvas

COMPANY: *OCEANO FRESCO* REGION: *NAVARES, PORTUGAL*

THEME 2

Key Activities

- The **project focuses on regenerative cultivation of the species Devenerupis corrugata and Ruditapes decussatus**. It is the first company in the world to carry out large-scale sustainable cultivation of European clams and, by cultivating endangered clam in the open ocean nursery in the Atlantic Ocean, Oceano Fresco contributes to diversifying protein sources and regenerating marine biodiversity.
- **The core of Oceano Fresco's operations lies in innovative aquaculture practices**. Activities are focused on breeding high-quality clams using cutting-edge genomic research and environmentally friendly methods. By managing the entire lifecycle of the clams, the company ensures sustainability and superior quality. These efforts contribute to biodiversity while meeting market demands for sustainable seafood. Ongoing R&D, the company continually enhances productivity and addresses ecological challenges**. Such focused activities align with Oceano Fresco's mission to revolutionize marine farming.**
- **Sustainable Cultivation**: Breeding European clam species (Venerupis corrugata and Ruditapes decussatus) in open-sea farms using regenerative aquaculture techniques.
- **Research and Development**: Conducting genomic studies and refining cultivation processes to enhance productivity and resilience of clam species.
- **Ecosystem Restoration**: Implementing practices that restore marine biodiversity through low-impact farming techniques.
- **Value Chain Management**: Managing the full lifecycle of clams, from hatchery to harvest, ensuring quality and sustainability

Key Partners & Suppliers

- **Research Institutions**: Partnerships with universities and marine biologists to innovate genetic techniques and optimize aquaculture.
- **Technological Suppliers**: Providers of monitoring systems and farming equipment for open-sea operations.
- **Government and EU Agencies**: Support from Blue Economy initiatives and funding bodies to scale operations. Portugal 2020, Centro 2020, MAR 2030, European Union, Cresc Algarve 2020, Iceland Liechtenstein Norway grants, República Portuguesa, Pacto da Bioeconomia Azul and recovery and residence plan.
- **Logistics Providers**: Collaborations to ensure efficient and sustainable distribution of harvested clams
- Oceano Fresco relies on a network of collaborators to achieve its objectives. Partnerships with academic institutions and marine research organizations provide expertise in genetics and ecology. Suppliers of advanced aquaculture technology enable the efficient operation of open-sea farms. Additionally, government and EU funding bodies support scaling and innovation. These collaborations enhance the company's capacity to deliver value while promoting sustainable marine practices.

Key & Local Resources

- A sustainable approach underpins all resource requirements for Oceano Fresco. Key inputs include seawater, natural microalgae, and renewable materials for clam farming. Local sourcing ensures alignment with the company's environmental goals while reducing dependency on non-renewable inputs. This resource strategy supports long-term sustainability, minimizing ecological footprints while enhancing efficiency.
- Key Inputs: Primary resources for the development of the activity. Seawater, naturally available microalgae for clam feeding, and calcium carbonate substrates.
- Local Sourcing: The resources of the project site context. Resources are primarily acquired locally, leveraging Portugal's rich marine ecosystem to ensure sustainability.
- Sustainability: So certain resources are denied maintaining the current project function. Farming avoids artificial feed, antibiotics, or freshwater use, aligning with environmental conservation practices.

Technical Resources

- **Technology plays a pivotal role in enabling sustainable aquaculture practices.** Oceano Fresco employs advanced monitoring systems to track environmental conditions and ensure optimal clam growth. Digital platforms streamline operational efficiency and data management. Genomic research tools further support selective breeding for improved resilience and yield. These technical resources are integral to meeting production goals and advancing scientific innovation in aquaculture.
- **Necessary Technologies**:
- Aquaculture management software to track breeding cycles.
- Genomic research tools for selective breeding.
- Monitoring devices to assess water quality and environmental conditions.
- **Digital Platforms**: Real-time tracking of farm operations and environmental data to optimize performance.

Energy Resources

- Energy considerations are vital for Oceano Fresco's operations, particularly in hatchery management and monitoring systems. The company is exploring renewable energy options, such as solar power, to minimize environmental impact. **Low energy demands for clam farming make it inherently sustainable compared to other forms of protein production**. Integrating renewable energy sources aligns with Oceano Fresco's environmental values and enhances operational resilience.
- Currently have **the following sources of energy to carry out their activities:** Energy use is minimal, primarily for hatchery operations and monitoring systems.
- On the other hand, **long-term goals to start implementing new forms of energy**: Efforts to integrate solar and other renewable energy sources for operational efficiency are underway.
  a.

Value Proposition

- Oceano Fresco delivers premium clams cultivated through sustainable practices, catering to a growing market for eco-friendly seafood. The company serves wholesalers, retailers, and gourmet markets seeking high-quality, traceable products. By offering a combination of health benefits and environmental stewardship, it provides a compelling value proposition. Customers benefit from sustainably sourced, nutrient-rich seafood that supports biodiversity and reduces ecological impact
- **The value Offering for the End User**
- **Products Offered:** Premium-quality clams with a focus on health benefits and sustainability.
- **Target Customers:** Seafood markets, restaurants, and environmentally conscious consumers.
- **Why Choose Oceano Fresco:** Combines superior taste with sustainability, contributing to biodiversity restoration and offering a low-impact protein source.

Customers/Targets & Communities

- Oceano Fresco caters to a diverse customer base, including seafood markets, restaurants, and sustainability-conscious consumers. Its products appeal to customers prioritizing health, quality, and environmental impact. To reach these segments, the company leverages digital platforms, direct partnerships, and targeted marketing. These efforts ensure broad visibility and engagement with its core audience.
- **Primary Segments:**
- Seafood wholesalers and retailers.
- Restaurants and gourmet markets.
- Environmental organizations advocating for sustainable seafood.
- **Outreach Channels:**
- Direct sales through partnerships with markets.
- Public awareness campaigns highlighting sustainability practices.
- Presence at food and sustainability fairs

Environmental & Climate Smart USP

- Oceano Fresco's operations exemplify sustainable practices aligned with the transition to a zero-carbon economy. By utilizing natural resources like seawater and algae, the company minimizes waste and carbon emissions. Its methods contribute to carbon sequestration through clam shells while restoring marine ecosystems. These efforts support global and EU strategies for biodiversity and sustainable resource use, showcasing Oceano Fresco's commitment to ecological restoration.
- **9R's Framework**:
- **Reuse**: Use of natural seawater and algae in farming.
- **Recycle**: Calcium carbonate shells contribute to marine biodiversity.
- **Reduce**: Minimal energy and no artificial inputs.
- **Societal Benefits**:
- Creates sustainable jobs in aquaculture.
- Promotes healthier dietary habits.
- **Environmental Benefits**:
- Improves water quality through clam filtration.
- Provides carbon capture through shell formation.
- **Policy Alignment**: Supports EU Biodiversity Strategy 2030 and Blue Economy principles.

Distribution & Upscaling

- Efficient distribution channels ensure Oceano Fresco's clams reach target markets while maintaining freshness and quality. The company uses direct delivery systems and partnerships with seafood distributors to scale operations. Raising awareness of its value proposition involves leveraging digital marketing and sustainability certifications. Expanding distribution networks will enable further scaling and replication of its sustainable model.
- **Current Channels**: Direct delivery to seafood markets and restaurants.
- **Scaling Opportunities**: Establishing partnerships with global seafood distributors to expand reach.
- **Promotional Efforts**: Leveraging digital marketing and sustainability certifications to enhance visibility.

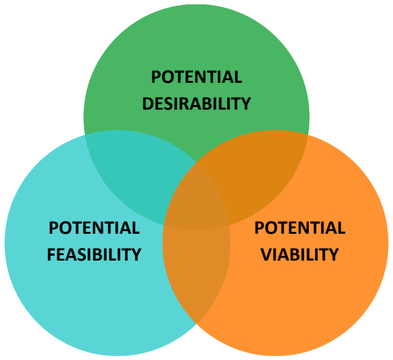
COSTS

- **Baseline Costs**: Infrastructure for hatcheries, open-sea farms, and research facilities.
- **Key Resource Expenses**: Equipment for water quality monitoring and genetic research.
- **High-Cost Activities**: Initial farm setup and continuous monitoring.
- **Value Proposition Alignment**: High costs align with delivering sustainable, premium-quality seafood
- Cost structure is shaped by its focus on quality and sustainability. Major costs include infrastructure for hatcheries, open-sea farms, and monitoring systems. High-cost activities such as R&D and ecological monitoring align with its value propositions of sustainability and premium seafood. Managing these costs effectively ensures the delivery of high-quality products while advancing the company's mission.

REVENUES

- The company's revenue model reflects diverse income sources, including direct sales of clams to wholesale and retail markets. Service fees for consulting and licensing proprietary aquaculture technologies add further streams. Potential additional revenue could include subsidies and sponsorships from environmental programs. This multifaceted approach supports Oceano Fresco's financial sustainability and long-term growth.
- **Primary Models**: Product sales of clams to retail and wholesale customers. Service fees for aquaculture consulting. Licensing of proprietary farming methods and genomic tools.
- **Potential Additional Streams**: Sponsorships or subsidies from environmental agencies and advertising partnerships to promote sustainable seafood

THREE LENSES OF INNOVATION



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FISHINN - Innovation Canvas

COMPANY: *LANDATU SOLA* REGION: *BISCAY, BASQUE, SPAIN*

THEME 3

Key Activities

- Its **main activity is the development of floating solar panels**, so the list of services and products developed **is based on generating a comprehensive service to facilitate the installation of the panel**. Among the services/products include:
- **Solar supports for installations:**
- Water-ballasted stackable solar support with coplanar system (a coplanar vector system is one in which the vectors lie in the same plane, that is, on two axes) for solar installations on roofs or flat surfaces.
- Applicable water-ballasted solar support for flat surfaces
- Quickly deployable and applicable floating solar installation system
- **Patented** anchoring system (individual stress compensation system from a movable weight with free movement at each end).
- **Engineering services,** from the design phase to the construction of the photovoltaic solar power plant.
- **Project execution:** design, construction and maintenance of the photovoltaic installations.

Key Partners & Suppliers

- **It has authorized distributors in different parts of Europe** (Spain, Portugal, Germany, Switzerland, Belgium, the Netherlands, Luxembourg, Greece and Ireland) **and in Morocco, which facilitate the implementation of the installations.**
- The Spanish distributors are the following: Solarmat, Soleme, el Almacén Fotovoltaico, Antonio Cabot Fornés S.A., Airpal Distribuciones, Suministros Orduña, Sun Depot, iSolar, Socías Roselló, Green Efficient, Rebacas, IXOS, Saltoki E-Solar and Alfa 90.
- Part of the International Lab (iLAB), an innovation center of the Madrid City Council, which provides them with the innovation ecosystem of different startups that are part of the same community.

Key & Local Resources

- Landatu Solar utilizes patented systems like Landblock and Lamaru for floating solar installations.
- Landblock 0º and Landblock 15º: Water-ballasted support for solar installations on any flat surface (roof, ground, etc.).
- Lamaru: Patented floating system for solar installations on irrigation ponds, reservoirs, and various water bodies.
- Within the strategy defined for 2030, the objective of responsible production and consumption has as a strategy the implementation of current technologies that allow the use of recycled raw materials, in addition to reducing their use by optimizing materials and logistics.
- Materials are designed to be lightweight, modular, and long-lasting, making local and sustainable sourcing feasible. UV-certified supports ensure durability for 25+ years. For the installation of the slabs, underutilized spaces such as water sheets are used, keeping the ground surface intact. (no concrete injections).

Technical Resources

- **Both technologies (Lanblock and Lamary) have been certified according to the ISO 4892-3** standard for durability against prolonged exposure to UV light, guaranteeing that the solar mounts maintain their quality and resistance over time even under environmental conditions.
- **Modular designs:** Acts as a support for photovoltaic modules. Material: HDPE and aluminium. Supports up to 100kg, temperatures from -30C to 100C and up to 162km/h.
- **Water-ballasted systems:** Manufactured by high density polyethylene (HDPE) injection molding. Open space under the panel avoiding water condensation on the back side of the panels.
- **Solar-specific anchoring:** Patented anchoring system. Materials: HDPE and aluminum. Withstands temperatures from -30C to 100C and up to 1kN/m of snow load. Software developed for anchoring system mgt.

Energy Resources

- The company **exclusively uses renewable solar energy**, focusing on **water conservation and energy efficiency.** As it focuses its core business on the promotion and installation of solar renewable energy options, it is aware of and has sustainability compliance plans for 2030.

Value Proposition

- Landatu Solar provides floating solar platforms for agricultural, industrial, utility-scale, and residential clients. Buyers benefit from scalable, eco-friendly solutions that **maximize underutilized water surfaces.** Support is provided throughout the value chain of the process.
- In terms of the value proposition of technical aspects: it prevents evaporation of the water in which the panels are installed, improves water quality by reducing the appearance of algae and sludge, as it is a photovoltaic installation on the water surface, there is space optimization in installations that have water surfaces that are not being exploited and it is adaptable to any installation at different levels of the sheet of water.
- In the case of the value proposition of the solution, **it is about technology that does not require a large-scale installation but thanks to Lanblock's patented systems, Lamaru and its anchoring system can make the installation easier and monitor the anchoring situation thanks to the software.** In addition, scaling up or down in size is possible to accommodate future needs for reduction or expansion.

Customers/Targets & Communities

- The primary **audiences include farmers, utility providers, and industrial entities.** Channels include direct consultations, trade fairs, and an online presence.
- Within its defined segments, the following stand out:
- The agricultural sector, which mostly has the necessary space for the installation of panels.
- Large-scale solar energy projects
- Industrial sector, whose value proposition is the reduction of emissions in the production area of the companies.
- Residential, with a B2C model preparing installations on the roof or flat surfaces.

Environmental & Climate Smart USP

- Solutions **are aligned with EU sustainability policies, aiming to reduce carbon emissions and promote water conservation**, embodying circularity principles like reuse and recycling.
- **A sustainable development plan has been established, highlighting the following objectives to be achieved by 2030:**
- **Responsible Production and Consumption Objective 12:**
- By 2030, it will achieve sustainable management and efficient use of natural resources.
- Preservation of natural resources, making use of underutilized areas such as water bodies and keeping the earth's surface intact (no concrete injections). By 2030, significantly reduce waste generation through prevention, reduction, recycling and reuse activities.
- The current technology enables the use of recycled raw materials, as well as reducing the use of raw materials by optimizing materials and logistics. After the useful life of the product (25 years), decommissioning processes are carried out with partners to recycle the media.
- **Industry, Innovation and Infrastructure Goal Objective 9**
- By 2030, modernise infrastructure and convert industries to be sustainable, using resources more efficiently and promoting the adoption of clean and environmentally sound technologies and industrial processes, with all countries acting in accordance with their respective capabilities.
- The reconversion of energy use in industry to renewable sources is proposed, along with a reduction in the consumption of raw materials and fuels.

Distribution & Upscaling

- **A network of distributors is available to facilitate installations in various European countries** and in Morocco, expansion of services is facilitated, along with a network of collaborators.
- Participation in industry events and trade fairs, such as Genera 2023, i
- Strengthening digital marketing could be a strategy for scaling the solution, offer customised services such as turnkey installation, and establish a global network of distributors. Educational programmes and practical demonstrations to raise awareness of benefits of floating solar power.

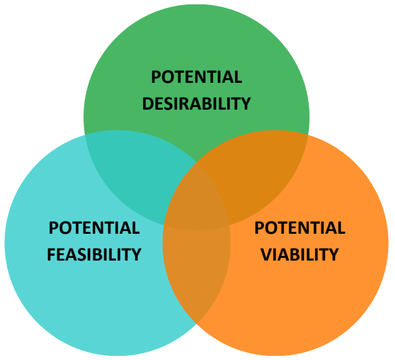
COSTS

- **Baseline Costs:** Include research and development (R&D), production of weather-resistant materials and regulatory certifications.
- **Key Resources as major expenditures: Recyclable** materials for the modular systems, skilled technical staff and specialized manufacturing equipment.
- **Key Activities that generate high costs:** Technology innovation, durability testing, custom design, and global distribution.
- **Relationship to Value Proposition:** Costs associated with quality and modularity support the durability and flexibility of the systems, which are essential features of their proposition.

REVENUES

- The business currently generates revenue through **product sales** complemented by **service fees** for installation and maintenance.
- The company is exploring the potential for **leasing agreements** to reduce upfront costs for clients, particularly for industrial and agricultural customers.
- Proposal for a revenue diversification monetisation scheme as a possible business model for the coming years:
- Licensing: Patented systems are offered to companies wishing to use them under specific agreements.
- Subsidies or Sponsorship: **Participate in public initiatives** for renewable energy projects, which could include state or European funding.
- Additional Opportunities: **Subscription model for long-term maintenance and monitoring services** could strengthen their revenue stream.

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
What can it make happen? What resources are needed? What skillsets are required?

Potential of viability
What value and/or impact will/could this idea bring to the organisation and to the territory?

FISHINN - Themes

1. Collaboration with the food and tourism sector
2. Advancing position in the value chain through collaboration and alliances with agents in the sector, aquaculture
3. Blue Economy opportunities other than fishing e.g. energy, algae, pharmaceuticals, nutraceuticals & health products
4. Blue biotechnology solutions and digitisation capabilities
5. Waste recovery and reuse i.e. plastics, fishing gear, circular economy solutions
6. Other innovations and best practice (non tech, non-business)

Interreg Atlantic Area FISHINN
Co-funded by the European Union

FISHINN - Innovation Canvas

COMPANY: ***ROSEO EÓILICA*** REGION: ***BISCAY, BASQUE, SPAIN***

THEME **3**

Key Activities

- **Roseo is a project to develop urban wind energy, which aims to achieve sustainable buildings and reduce the consumption of fossil fuels and greenhouse gas emissions.**
- Pioneers in the measurement of urban wind potential, with the development of their own software called Anemoi and the Rosbi wind turbine, specially designed for urban environments, a comprehensive personalized engineering service for energy projects is offered, providing advice through the measurement of the viability of the installation based on parameters such as its environmental impact, cost, profitability, production, subsidies and regulations.
- **Anemoi:** The Anemoi tool is one of the most differentiating parts of the project and is also the core of Roseo. It is a self-developed software that allows, by calculating the wind potential, to install the most suitable wind turbine for the type of wind at the location analyzed.
- **Mini wind turbines:** Wind power installations mainly for self-consumption and domestic use.
- **Rosbi:** has developed a wind generation system, called Rosbi, which does not produce noise or vibrations, is architecturally integrated and adapted to the wind characteristics of cities, which increases the total energy generated. The wind system contains no toxic or polluting materials, with 100% recyclable material without losing its properties.

Key Partners & Suppliers

- **Key Partners: Turbine Manufacturers**: Companies with similar activity to Roseo.
- **Construction and Civil Engineering Firms**: Responsible for site preparation, foundations, and assembly of turbines.
- **Grid Connection Partners**: Companies specializing in electrical systems and grid integration ensure that energy generated is efficiently transmitted and distributed.
- **Maintenance and Operation Providers**: Firms or specialized teams to ensure turbines operate efficiently over their lifespan.
- **Environmental Consultants**: Help meet regulatory requirements and manage environmental impact assessments.
- **Local Governments and Regulators**: Facilitate permits, land-use agreements, and adherence to energy policies.
- **Key Suppliers: Materials Suppliers**: Steel for turbine towers, composite materials for blades, and concrete for foundations.
- **Energy Storage Suppliers**: Providers of batteries or other energy storage systems to enhance grid stability.
- **Digital Solution Providers**: Offer software for turbine monitoring, predictive maintenance, and grid management.

Key & Local Resources

- **Land:** Large tracts of land or offshore areas with favourable wind conditions. In most cases, suitable locations can be identified locally, but sustainability depends on careful planning to minimize environmental impacts and align with local regulations.
- **Materials:** While steel and concrete can often be sourced locally, rare earth metals and some composites may require global procurement, making it crucial to prioritize suppliers committed to ethical and sustainable practices.
- **Energy Infrastructure: Power lines, substations, and transformers.** Local procurement is possible for most components, though sustainability depends on ensuring minimal environmental impact during construction and operation.
- **Human Resources:** Skilled labor for construction, electrical work, and maintenance. Technical experts in wind energy system design and integration. supplemented by training programs to enhance expertise in sustainable wind energy systems. Research, development and innovation process team.

Technical Resources

- **Technical Needs: Turbine Technology**: Modern turbines with high efficiency, low maintenance, and modular design. A turbine model with TLR 8 horizontal-shaft turbine is currently available, protected by a utility model. **Grid Integration Technology**: Advanced inverters, grid stabilizers, and energy storage systems. **Monitoring Equipment**: Sensors for wind speed, vibration, and performance.
- **Digital Needs: SCADA Systems**: Supervisory Control and Data Acquisition systems for real-time monitoring. A software to analyze wind potential in cities. **AI and Machine Learning**: For predictive maintenance, fault detection, and optimization of power output. **Digital Twins**: Virtual models of turbines for testing and performance analysis.
- **Cloud-Based Data Platforms**: Enable remote access and analysis of operational data.

Energy Resources

- Roseo Eólica emphasizes energy security through renewable and decentralized energy generation. Its **solutions focus exclusively on renewable sources, primarily wind and solar**. **The company provides urban mini wind turbines (like the Rosbi system) and photovoltaic installations tailored for homes**, businesses, and communities. These systems enable users to generate their own energy, reducing reliance on centralized grids and fossil fuels, thus enhancing energy resilience and sustainability.
- Photovoltaic cells are connected to form larger units known as photovoltaic modules or solar panels.

Value Proposition

- **Roseo's value proposition is centered on enabling clean, cost-effective energy independence**. Customized, turnkey solutions are provided, including engineering, installation, and maintenance. Products are designed to serve urban and suburban customers seeking to lower emissions and reduce energy costs—achieving up to 70% savings on bills. Roseo's **personalized service, local expertise, and support with subsidies make their solutions attractive to environmentally conscious buyers and those seeking reliable, affordable energy.**
- As for the value proposition related to technology aspects, there is currently another company that designs mini turbines like those designed by Roseo, but it does not specialize in urban applications. The previous analysis is not being conducted, with most solutions utilizing vertical axis designs.

Customers/Targets & Communities

- Currently, **the focus is on the public sector, primarily working with city councils to develop preliminary studies,** with the idea of finishing with the measurement studies in 2024 and start implementing 2025 with the changes and improvements made.
- **Plans are in place to target a B2B model, with the Technology Park of Zamudio (In Biscay) serving as an example**, the same model applied in the public sector is used.
- A B2C domiciliary model is implemented, involving the installation of wind turbines in buildings or private homes. The solution acts as a complement and addition to the solar panels currently installed, so the target of the solution could be defined as users looking for a complement to solar panels.

Environmental & Climate Smart USP

- It allows the use of a space that has not been used until now for the generation of non-polluting energy, thereby achieving compliance with the European Directive on Nearly Zero Energy Consumption Buildings.
- **Societal Benefits:**
- **Energy Autonomy**: Empowers individuals and communities to produce their own clean energy, reducing dependence on national grids and energy imports.
- **Economic Savings**: Users report up to 70% reductions in energy costs, making renewable energy more accessible to all socioeconomic levels.
- **Employment**: Fosters job creation in renewable energy sectors such as installation, maintenance, and R&D.
- **Environmental Benefits:**
- **Carbon Footprint Reduction**: Promotes urban wind and solar power as alternatives to fossil fuels, mitigating greenhouse gas emissions.
- **Circular Economy (9R)**:
- **Refuse**: Discourages the use of fossil fuel energy.
- **Reduce**: Designs efficient wind turbines to minimize energy waste.
- **Reuse/Recycle**: Leverages sustainable materials and encourages recycling of components after lifecycle completion.
- **Policy Alignment:**
- **EU Green Deal**: Supports the transition to a carbon-neutral Europe by 2050 through renewable energy innovation.
- **PNIEC (Spain)**: Aligns with national goals of achieving 74% renewable electricity generation by 2030, fostering a decentralized, sustainable energy network.

Distribution & Upscaling

- **Current Distribution Channels: Direct-to-Consumer**: Roseo operates through regional offices, offering tailored installation services for individual homes, businesses, and communities. **Public Partnerships**: to develop small-scale urban wind projects & studies.
- **Required Distribution Channels *(possible future implementation):***
- **Real Estate Partnerships**: Collaboration with housing developers to integrate renewables into new constructions.
- **B2B Partnerships**: Partnering with companies looking to decarbonize operations using small-scale wind energy.

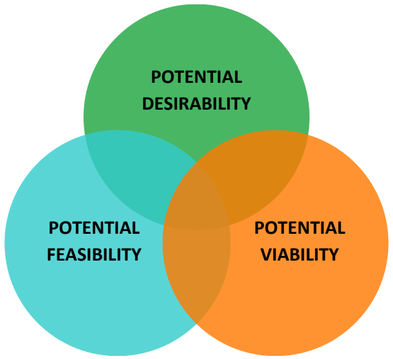
COSTS

- **Baseline Costs: Manufacturing**: Turbines and solar panels require advanced materials such as composites and high-efficiency photovoltaic cells. **Labor**: Skilled engineering, design, and maintenance personnel are key contributors to operational expenses. **Logistics**: Transporting equipment and components adds significant costs, particularly for urban installations.
- **Key Resource Costs: Materials**: Procurement of durable, sustainable materials to build efficient turbines. **Technology**: Advanced systems for monitoring and optimizing energy performance. **R&D**: Innovation to enhance product efficiency and reliability.
- **High-Cost Activities: Product Development**: Prototyping and testing urban-friendly wind turbines with minimal noise and visual impact. **Regulatory Compliance**: Ensuring adherence to energy and urban planning laws. **Customer Support**: Providing technical support and customer satisfaction.

REVENUES

- **Currently Active Business Models: Product Sales**: One-time purchase of wind turbines or solar systems. **Service Fees**: Maintenance contracts and performance monitoring for installed systems. (Implementation of the software and energy studies model) **Licensing**: Licensing proprietary designs for use by third-party manufacturers or installers.
- **Possible business models not implemented or not polished to date: Advertising**: Opportunities for co-branding sustainable initiatives with other companies. **Subsidies**: Public grants or incentives to make renewable systems more affordable for end-users. **Subscriptions**: Continuous access to energy usage data and performance analytics. Maintenance model based on data acquired in the active-duty model. **Leasing**: Allows users to access renewable energy systems without upfront costs, expanding adoption potential.

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

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Interreg Atlantic Area FISHINN
Co-funded by the European Union

FISHINN - Innovation Canvas

COMPANY: *HAVHOST* REGION: *COPENHAGEN NETHERLANDS*

THEME 1

Key Activities

- TThe Havhøst project promotes sustainable community-based marine farming to enable society to exploit marine resources in a regenerative way. It works with several Danish and Scandinavian communities to protect marine ecosystems and create sustainable food. To this end, it offers tools and knowledge to citizens and institutions to learn about and develop the cultivation of seaweed, mussels and other marine species.
- Operations and Logistics: Ensuring efficient farming practices, harvesting, packaging, and timely delivery.
- Commercial cultivation: Together with the Association for Gentle Coastal Fishing, has launched a development path for coastal fishermen who overhaul their own business model and become sea harvesters. The sea harvester fishes when and if appropriate but has as its main activity the cultivation of regenerative crops in coastal farming facilities.
- Maritime service gardens: Establishing sustainable aquaculture systems that minimize ecological disruption. Group who have set out to cultivate in the sea for their own consumption: seaweed, mussels and oysters.
- Research & Development (R&D): Innovating fish farming methods, optimizing feed formulas, and improving species health.
- Quality Assurance: Conducting regular inspections and tests to meet regulatory standards and customer expectations.
- Marketing and Outreach: Promoting products and educating consumers about sustainable aquaculture practices.

Key Partners & Suppliers

- **Marine Biology Experts**: Providing insights into sustainable farming techniques.
- **Feed Suppliers**: Delivering eco-friendly, nutrient-rich feed to ensure optimal growth.
- **Equipment Manufacturers**: Supplying tools for water monitoring, automation, and maintenance.
- **Regulatory Bodies**: Ensuring compliance with national and international aquaculture standards.
- **Local Communities**: Offering labor and supporting socio-economic integration.
- The project is supported by **FRi Pool** and is part of the Fundamental Rights Initiative, a collaboration between Global Focus and New Europe and co-financed by the EU. The **Seaweed Farming and Coastal Fisheries** project is supported by the European Maritime, Fisheries and Aquaculture Fund.
- The **Cool Blue** project is funded by EU Horizon and started in April 2023. The Sea Harvest in the Nordic Region network projects have been established with the support of the Nordic Council of Ministers.

Key & Local Resources

- Many resources can be sourced locally and sustainably by partnering with local suppliers and adopting eco-friendly practices to minimize environmental impact. In the case of Havhost, the activity is aimed at finding agents that can have a direct impact on the territory.
- The following key points for the development of the activity are identified:
- **Physical Resources**: Coastal farming sites, aquaculture equipment, and feed supplies.
- **Human Resources**: Skilled marine biologists, engineers, operational staff and collaboration with educational centres in the area.
- **Financial Resources**: Investments for infrastructure and R&D.
- **Natural Resources**: Clean water and healthy marine ecosystems.

Technical Resources

- Aligned with key resources to utilize, the more specific materials to be used are defined in this point. Tools related to the application of emerging technologies in the maritime sector:
- **Water Quality Monitoring Systems**: Ensuring optimal farming conditions.
- **AI and IoT Integration**: Enhancing productivity and reducing waste.
- **Traceability Software**: Allowing consumers to verify the origin and sustainability of products.
- **Data Analytics Tools**: Optimizing feed usage and predicting growth trends.

Energy Resources

- Energy security is a crucial consideration for Havhost, ensuring consistent and reliable energy supply for operations. The primary sources include a mix of renewable options like solar, wind, and potentially biomass, depending on geographical feasibility. Prioritizing renewables reduces dependence on fossil fuels, aligns with sustainability goals, and mitigates risks related to energy price volatility and availability.
- Based on the activity carried out, the following points could be detailed: Required Energy Sources: Electricity for equipment and facilities, with a focus on renewable sources such as solar and wind. Renewable Options: Installing solar panels or offshore wind turbines to power operations sustainably.

Value Proposition

- Havhost delivers innovative solutions tailored to meet diverse energy and operational efficiency needs. The company serves businesses, communities, and institutions seeking sustainable energy and digital management tools. Customers choose Havhost for its cutting-edge technology, cost efficiency, and alignment with green energy transitions, ensuring both practical and environmental benefits.
- Explained in a more schematic and detailed way, we could acquire the following situation in detail, considering the characteristics of the product, the process in which they are developed and the social and environmental perspective contained in the project.
- **Premium, Sustainably Farmed Seafood**: Healthy, eco-friendly products for conscious consumers.
- **Innovative Solutions**: Leveraging advanced technology to deliver superior quality.
- **Transparency and Traceability**: Building trust with consumers through verified sustainability claims.

Customers/Targets & Communities

- Havhost **caters to multiple customer segments, including industrial facilities, urban communities, and rural off-grid users**. Core beneficiaries are businesses aiming to reduce carbon footprints and optimize energy costs. Value creation reaches customers through direct consultations, digital platforms, and partnerships with energy-focused organizations, ensuring clear communication and targeted outreach.
- Schematically, customer segments include:
- **Retail Chains**: Supermarkets and specialty food stores.
- **Restaurants:** High-end dining establishments seeking sustainable seafood.
- **Health-Conscious Consumers:** Individuals prioritizing eco-friendly and nutritious food options.
- **Export Markets**: International distributors focused on sustainable products.

Environmental & Climate Smart USP

- The solution supports the zero-carbon economy through renewable integration and circular economy principles, aligning with the 9Rs: reduce, reuse, recycle, etc. Societal benefits include job creation in green sectors and energy access for underserved regions. Environmental benefits feature lower emissions and reduced resource waste. Havhost complements EU and national strategies promoting sustainable development.
- The project advances the zero-carbon economy by:
- **Adopting the 9R's Framework**: Reducing waste, reusing water resources, and recycling organic materials.
- **Environmental Benefits**: Lowering carbon emissions, preserving marine biodiversity, and improving water quality.
- **Societal Benefits**: Generating jobs, promoting sustainable livelihoods, and supporting local economies.
- Additionally, the project aligns with EU and national strategies focused on decarbonization and marine conservation.

Distribution & Upscaling

- The solution is delivered through hybrid distribution models, combining direct service deployments, online sales, and partnerships with local distributors. Marketing strategies leverage digital campaigns and participation in green technology expos to enhance visibility. These channels are designed to ensure scalability and replication across diverse markets effectively.
- Direct Sales: Selling to local retailers and restaurants.
- Online Platforms: Enabling broader reach and direct consumer engagement.
- Third-Party Logistics Providers: Ensuring efficient product delivery.

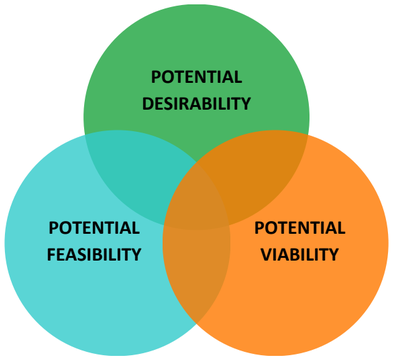
COSTS

- Baseline costs stem from energy infrastructure, software development, and skilled labor. Key resources like renewable energy assets and technical expertise are high-cost investments. Activities such as R&D, operational scaling, and marketing incur substantial expenses. However, these activities align closely with Havhost's value propositions, ensuring that costs translate into strategic growth.
- With this perspective, key financial considerations include:
- **Baseline Costs**: Infrastructure and equipment setup. Operational costs (feed, labor, maintenance). R&D investments.
- **High-Cost Resources**: Advanced monitoring systems, eco-friendly feed, and renewable energy installations.
- **High-Cost Activities**: R&D and compliance with sustainability certifications

REVENUES

- Product sales, Service fees, Usage fee (i.e. frequency) or subscription model (i.e. continuous access)
- Lending, renting, or leasing temporary access to a particular resource, for a certain period of time
- Licensing: Customers here are allowed to use a protected, for-profit intellectual property by paying a fee
- Brokerage fee: this revenue stream provides a percentage of the value of a service executed
- Advertising: revenue stream involves advertising a brand, product, or service on behalf of another
- Subsidies/sponsoring: from public or private institutions

THREE LENSES OF INNOVATION



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FISHINN - Innovation Canvas

COMPANY: ***PORTXL-World Port Innovator*** REGION: ***ROTTERDAM, NETHERLANDS***

THEME **6**

Key Activities

- PortXL focuses on accelerating innovation in the maritime industry by connecting startups and scale-ups with corporate partners. Its main objectives are to drive innovation in logistics, green energy, and maritime industries and to establish tangible collaboration between startups and corporates.
- The main activities are the realization of initiatives for the promotion of the theme. The focus is on the following activities:
- Organizing masterclasses and workshops.
- Developing pilot projects with industry leaders.
- Creating networking opportunities through events.
- Also include conducting a three-month accelerator program, facilitating mentorship, developing pilot projects, and offering masterclasses to refine business propositions. The program emphasizes creating tangible business value through collaborations and strategic connections.

Key Partners & Suppliers

- **Corporate Partners**: Examples include Port of Rotterdam, EY, MSC Belgium and Van Oord marine ingenuity.
- **Support Provided by corporate partners**: Mentorship, funding, and industry expertise and Access to maritime infrastructure and resources.
- **Role in Value Creation**: Pilot projects, testing, and implementation of innovative solutions
- **Partners:** Boskalis, Gemeente Rotterdam, DAMEN, GTT Technology for sustainable world and Ministerie van Defensie.
- **Network Partners:** Deltares, Innovation Quarter, Provincie Holland Zuid, Netherlands Maritime Technology, RDM Rotterdam, Platform Zero, Droneport Rotterdam, Rotterdam maritime capital of Europe and Erasmus Enterprise.
- Collaboration with corporate partners such as ports is facilitated by PortXL., (e.g., Port of Rotterdam, Port of Antwerp), global firms like EY, and maritime industry leaders. These partners provide expertise, pilot opportunities, and financial support. Startups are enabled to explore use cases and implement their solutions, such as smart grids and safety wearables.

Key & Local Resources

- Maritime infrastructure for testing and implementation. Access to the PortXL network and mentors, industry experts available to facilitate connections and introductions with relevant individuals within their network, along with trainings designed to support the process, focusing on how to approach and collaborate with the Dutch maritime ecosystem.
- Expert networks and mentorship programs. Continued mentorship, leverage of the network, access to resources, and opportunities to participate in PortXL events are assured.
- Financial backing from partners. Within the program and through the collaborations, financial support is provided to the participating startups.
- Essential resources **include access to maritime infrastructure, industry-specific data, and expert mentors**. These are largely acquired locally through PortXL's partnerships and are used sustainably, supporting innovation and reducing environmental impact.

Technical Resources

- Depending on the projects subsidized and supported by Portxl, different technical resources will be required. Currently, the following technologies are trending: Technologies like AI, IoT, machine vision, and energy management software are critical.
- As an example of representation, startups in the program develop solutions like haptic ship controls and predictive maintenance tools, which are supported by technical experts and mentors provided by PortXL.
- The following trending technologies are identified for the schematic representation of future needs: Artificial Intelligence, IoT, machine vision, energy management systems.

Energy Resources

- Energy management is a key area of focus. Some startups tackle renewable energy integration and efficiency, such as smart grids and liquid hydrogen carriers, aligning with a transition to sustainable energy sources.
- In addition, since one of the main topics to be addressed in the mentoring offered to startups is logistics, **emphasis is placed on incorporating new alternatives in the operations of the mentored projects.** One of the topics currently on the rise and to be incorporated into the projects carried out are the renewable energy systems like smart grids and the hydrogen as a sustainable fuel alternative.

Value Proposition

- Focused on the value proposition that the initiative can provide to startups, PortXL provides the following differential actions:
- **A platform for maritime startups to scale by connecting them with global partners, funding, and mentorship.** It focuses on fostering innovation, solving industry challenges, and advancing sustainability. There have been more than 121 accelerated projects with more than 225 collaborations developed that endorse the experience so far.
- This unique B2B accelerator model ensures tailored support, making it a compelling choice for startups.
- Finally, the approach exclusively focusses on maritime and green energy innovation, generating a specialized ecosystem with a focus on positive impact compared to other programs that may not have a specific development focus.

Customers/Targets & Communities

- **Primary audience:** Startups and scale-ups in maritime, logistics, and energy sectors.
- **Stakeholders:** Ports, shipping companies, and corporate partners. Funders and partners for program enhancement.
- **Communication channels:** Networking events, social media, and industry expos.
- **The primary customers are startups and scale-ups in the maritime, logistics, and green energy sectors.** Although the startup does not have to pay for the services of the acceleration program, it benefits from the services of the project. Since the business model is B2B, the project's revenues are generated through these agents: port authorities, shipping companies, and industry leaders, catered to through strategic partnerships and collaborative opportunities.

Environmental & Climate Smart USP

- PortXL contributes to decarbonization by promoting sustainable technologies, such as emissions-reducing solutions and renewable energy systems. Since this is a program with a focus on positive environmental and social impact, the selected startups include this perspective. These efforts align with European Union policies and global climate goals, offering societal benefits like job creation and environmental preservation.
- Thanks to the development of the program, different aspects of positive impact are encouraged, as follows:
- **Societal Benefits**: Job creation, safer port operations, and skill development.
- **Environmental Benefits**: Solutions like smart grids reduce emissions and align with EU decarbonization goals and 9R principles (e.g., reuse, recycle).

Distribution & Upscaling

- Solutions are delivered through pilot projects, direct collaborations, and promotional activities during programs and expos. Awareness is built through industry events, social media, and partnerships with corporate networks using corporate communications.
- As this is a development program, the project could be scaled up based on new resources to be implemented in the mentoring sessions proposed. Leveraging partnerships and media exposure to expand influence. Scalability could be achieved by analyzing and applying new functionalities in the following activities:

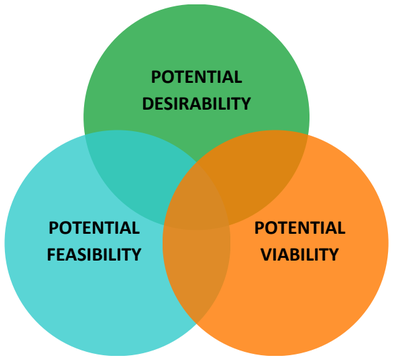
COSTS

- **Baseline Costs**: Baseline costs include program management, mentorship facilitation, and partnership coordination. Program facilitation, mentorship, and operational logistics.
- **Expensive Resources**: Key resource expenses stem from technical expertise and infrastructure access. Technical expertise and maritime infrastructure.
- **High-Cost Activities**: Specific collaborations are conducted with sectors in which there is no general specialization but where involvement can offer more potential value. Pilot projects and industry events.
- **Alignment with Value Proposition**: Activities like organizing accelerators and supporting pilot projects incur high costs, justified by their alignment with the value propositions. Costs directly support innovation and business development goals.

REVENUES

- **Service fees for program participation:** Startups and scale-ups participating in PortXL's accelerator program likely pay fees to access tailored mentorship, workshops, and pilot opportunities. These fees support operational costs while ensuring high-quality program delivery.
- **Corporate sponsorships :** PortXL relies on contributions from its global corporate partners (e.g., EY, MSC Belgium), who sponsor activities, pilot projects, and research initiatives.
- **Possibly licensing or brokerage models from facilitated partnerships and use cases :** PortXL acts as an intermediary between startups and corporate partners, helping establish contracts or collaborations. A brokerage fee may be earned from successful deals, such as those between startups like Romware or Evolution Energie and large corporations like MSC Belgium.

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
What can it make happen? What resources are needed? What skillsets are required?

Potential of viability
What value and/or impact will/could this idea bring to the organisation and to the territory?

FISHINN - Themes

1. Collaboration with the food and tourism sector
2. Advancing position in the value chain through collaboration and alliances with agents in the sector, aquaculture
3. Blue Economy opportunities other than fishing e.g. energy, algae, pharmaceuticals, nutraceuticals & health products
4. Blue biotechnology solutions and digitisation capabilities
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6. Other innovations and best practice (non tech, non-business)

Interreg Atlantic Area FISHINN
Co-funded by the European Union

FISHINN - Innovation Canvas

COMPANY: ***BLUE TECH PORT*** REGION: ***BARCELONA, SPAIN***

THEME **6**

Key Activities

- BlueTechPort's key activities focus on fostering innovation and sustainability within the Blue Economy by:
- **Providing collaborative spaces:** Offering dynamic environments like the Sant Bertran hub, which will encompass 25,000 m² by 2027, to facilitate interaction among corporations, startups, and emerging sectors.
- **Facilitating networking and events:** Organizing and hosting internationally renowned events such as the Saló Nàutic boat show and Smart Ports: Piers of the Future, to connect stakeholders and promote maritime innovation.
- **Offering financial support and advisory services:** Assisting members in accessing funding opportunities like Ports 4.0 and European initiatives, providing guidance to secure financial resources for innovative projects.
- **Providing a testing ground for new technologies:** Utilizing the Port's SandBox service area to conduct pilot tests, prototypes, and Proof of Concept (PoC) initiatives.
- **Promoting sustainable practices across various sectors:** Encouraging the transformation of traditional industries like shipping and fishing into sustainable models, while exploring new value-added industries such as marine biotechnology and renewable energies.
- These activities collectively aim to drive the growth and development of the Blue Economy opportunities, and a collaborative ecosystem.

Key Partners & Suppliers

- **Research and Development:** Partnerships with research centers and academic institutions facilitate cutting-edge studies and technological advancements in maritime sectors.
- **Corporate Engagement:** Collaborations with established corporations offer industry insights, resources, and mentorship to emerging startups, fostering a robust innovative ecosystem.
- **Financial Support and Advisory:** Engagements with financial entities and initiatives, such as Ports 4.0 and the BCN Port Innovation Foundation, provide members with access to funding opportunities and strategic guidance for project development.
- **Event Organization and Networking:** Alliances with event organizers enable BlueTechPort to host and participate in internationally renowned events like the Saló Nàutic boat show and Smart Ports: Piers of the Future, facilitating stakeholder networking and knowledge exchange.
- **Testing and Prototyping Support:** Collaboration with technology providers and service partners allows for the utilization of the Port's SandBox service area, enabling pilot tests, prototyping, and Proof of Concept (PoC) initiatives in real-world maritime settings.
- These strategic partnerships and supplier relationships are integral to BlueTechPort's mission to advance the Blue Economy through innovation, collaboration, and sustainable practices.

Key & Local Resources

- **Innovation Facilities:** The hub is in the historic Sant Bertran warehouses at the Port of Barcelona, offering 25,000 square meters of space dedicated to maritime technology innovation, research, and education.
- **Collaborative Spaces**: The facility includes areas such as the MareNostrum Research Space, Networking Meeting Rooms, Exhibition Innovation Art, BlueTech Summit Auditorium, and BlueLab, designed to foster collaboration among companies, startups, and institutions.
- **Financial Support and Advisory Services:** BlueTechPort connects members with funding opportunities like Ports 4.0 and the BCN Port Innovation Foundation, providing guidance to secure financial resources for innovative projects.
- **Testing and Prototyping Environment:** The Port's SandBox service area allows for pilot tests, prototyping, and Proof of Concept (PoC) initiatives, enabling real-world experimentation of maritime and environmental technologies.
- Located in the Port of Barcelona, ensuring sustainable operations and reinforcing the hub's commitment to fostering a vibrant Blue Economy ecosystem.

Technical Resources

- **Research and collaboration spaces:** The hub offers areas such as the MareNostrum Research Space and BlueLab, designed for the development of technological and sustainable solutions in the maritime field.
- **Infrastructure for tests and prototypes:** It has a SandBox service area in the Port of Barcelona, which allows pilot tests, prototypes and proofs of concept (PoC) to be carried out in real environments.
- **Advanced connectivity:** The hub is equipped with state-of-the-art communication technologies, including maritime 5G networks.
- **Data access and analysis:** Provides tools and platforms for the collection and analysis of maritime and environmental data, supporting research and development of sustainable technologies.
- **Acceleration and mentoring programmes:** Offers financial support and advice through initiatives such as Ports 4.0 and the BCN Port Innovation

Energy Resources

- BlueTech Port requires a range of energy resources to support its operations and innovation activities. While specific energy sources are not detailed on their official website, the hub's focus on sustainability and the Blue Economy suggests a strong emphasis on renewable energy sources. This approach aligns with global trends in enhancing energy security through the adoption of renewables, which reduces dependence on imported fossil fuels and contributes to a more resilient energy system.

Value Proposition

- **Innovative Hub for Maritime Solutions:** BlueTechPort offers a collaborative environment for companies, startups, and institutions focused on the Blue Economy, providing access to cutting-edge technologies and innovative solutions tailored to maritime challenges.
- **Access to Resources:** Providing essential resources such as research facilities, funding opportunities, and expert mentorship, enabling them to develop and test new technologies.
- **Sustainability Focus:** The hub emphasizes sustainable practices in maritime and environmental technologies, attracting users who are committed to reducing their environmental impact and promoting a blue, circular economy.
- **Networking Opportunities**
- **Testing and Prototyping Facilities:** It provides access to pilot testing environments like the SandBox service area, allowing users to experiment with their innovations in real-world settings before full-scale deployment.
- **Strategic Location:** Situated in the Port of Barcelona

Customers/Targets & Communities

- **Innovative Companies:** It provides a conducive environment for startups and established companies developing sustainable maritime and environmental technologies.
- **Research Centers and Universities:** It facilitates collaboration on research and development projects, promoting innovation in the maritime sector.
- **Corporations and Entrepreneurs:** It supports established corporations and entrepreneurs in adopting sustainable practices and exploring new business opportunities in the Blue Economy.
- **Events and Exhibitions**: It organizes and participates in events such as the Nautical Salon, Smart Ports: Piers of the Future, TechSpirit, SIL, and 4YFN (MWC), facilitating interaction and collaboration among industry stakeholders.
- **Digital Platforms:** It maintains an active presence on its official website, where it shares **information about activities, collaboration opportunities, and relevant news.**
- **Social Media and Direct Communications**

Environmental & Climate Smart USP

- **Promoting Renewable Energy:** By supporting projects focused on solar, wind, and marine energy, BlueTechPort reduces reliance on fossil fuels and promotes cleaner energy sources.
- **Sustainable Practices:** The hub encourages the adoption of circular economy principles (the 9R's) among its partners, minimizing waste and maximizing resource efficiency.
- **Innovation in Maritime Technologies:** BlueTechPort fosters the development of environmentally friendly technologies, such as electric vessels and smart port solutions, reducing emissions and environmental impact.
- By integrating the principles of the 9R's and focusing on sustainable innovations, BlueTechPort not only contributes to a zero-carbon economy but also delivers substantial societal and environmental benefits, aligning with broader EU and national climate objectives.

Distribution & Upscaling

- **Awareness:** Highlight success stories attract stakeholders.
- **Expansion of Networks:** Establish partnerships with other innovation hubs globally to share best practices.
- **Digital Platforms:** Showcasing resources/collaboration opportunities.
- **Scalable Programs:** Develop modular programs that can be easily replicated in other regions.
- **Engagement with Policy Makers:** Locally and nationally
- **Feedback Mechanisms**: Implement feedback loops to continuously improve offerings based on community needs.

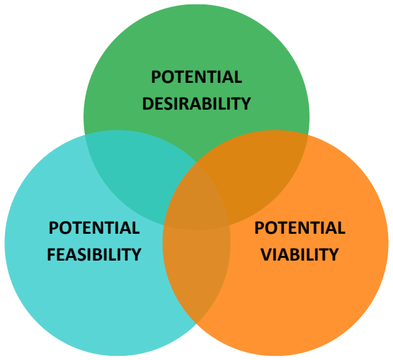
COSTS

- **Infrastructure Costs:** Facility maintenance, renovation, and utilities.
- **Personnel Costs:** Salaries for staff and expert consultants.
- **Program and Event Costs:** Workshops, training, and networking events.
- **Technology and Equipment Costs:** Research equipment and digital platforms.
- **Marketing and Outreach Costs:** Promotion and community engagement.
- **Operational and Administrative Costs:** Legal services, compliance, and office supplies.

REVENUES

- **Membership Fees:** Annual or monthly dues from companies and individuals.
- **Service Fees:** Revenue from consulting services and training programs.
- **Event Sponsorship and Fees:** Income from sponsorships and registration fees for events.
- **Grants and Funding:** Financial support from public and private sources.
- **Rental Income:** Revenue from renting out facilities and meeting spaces.
- **Partnership and Collaboration Agreements:** Income from joint ventures and collaborative projects.

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WP2

FISHINN Innovation Canvas

Submitted By Technopole Quimper- Cornouaille & PMBA

FISHINN - Innovation Canvas

COMPANY: *GLAZ* REGION: *BRITTANY, FRANCE*

THEME 4

Key Activities

- Glaz offers a tablet with a pre-installed application and cloud services for maritime professionals, to establish, control and update their “document unique” - a mandatory document to assess professional risks for workers in any French company, including professional vessels. This document is based on existing legal and regulatory frameworks and requires regular updating.
- To establish the document, a first diagnostic/visit of the vessels is carried out by an expert – mandatory requirement for legal validation
- Glaz also contributes to a general valorization of maritime professions through other activities such as a working space rental located on the port, participating to cultural events and social investigations on the working conditions of seafarers

Key Partners & Suppliers

- Key suppliers: digital development
- Key partners: Scientific investigation and public institutions for social impact projects, as well as prescribers and maritime coordinating administrations who council sea professionals
- Glaz also participates to projects aiming at valorizing the maritime heritage and maritime professions through regional or territorial schemes, mobilizing the fishing ecosystem

Key & Local Resources

- Technical/regulatory expertise – in-situ expert to establish the first diagnostic/vessel visit and provide monitoring controls
- Tablets

Technical Resources

- Application and cloud storage
- Technical/regulatory expertise on the maritime activities' frameworks – regular updates
- Digital development

Energy Resources

- Energy is not a consideration yet. It is needed for the digital development and storage, and for the tablet production and charging.

Value Proposition

- The main mission of Glaz is to valorize maritime professions and heritage
- Digitalising professions : Glaz facilitates the digital transition for sea professionals and the automated administrative and regulatory management of the vessels in an increasingly complex context where constraints and regulations multiply. They offer a tablet with pre-installed applications to foster usage innovation for maritime professionals (based on the former Application Maillage). Glaz owns the tablet. The applications offer key information to seafarers for activity-related/occupational risks and regulatory requirements and centralize the whole up-to-date regulatory framework available in a digital manner. They can access their Document Unique (DU) from the tablet.

Customers/Targets & Communities

- Markets are fishing vessels, passenger boats, nautical teams and rescue boats
- Communities and potential targets were reached through existing networks and contacts (a previous similar activity for the manager), website, communication strategy and prescribers

Environmental & Climate Smart USP

- Societal benefits include a better valorization of maritime professions through the activities of investigation, research and improving working conditions projects, as well as a tool for any kind of regulatory frameworks through the tablet and current DU application: environmental, working conditions, risk management... Which can in turn contribute to a better monitoring and general improvement of the resource management

Distribution & Upscaling

- Distribution channels : prescribers, accountant and management consultancy companies
- Website
- Partners and shareholders

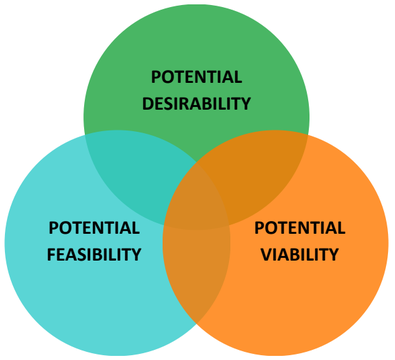
COSTS

- Digital development
- Human resources – regulatory framework + update of the DU
- ???

REVENUES

- Subscription model (for cloud/app/tablet services + monitoring expertise visits...)
- 1st year : extra cost (mandatory expertise visit on board)
- Projects : subsidies according to the project
- ???

THREE LENSES OF INNOVATION



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FISHINN - Innovation Canvas

COMPANY: *TECHSEALAB* REGION: *BRITTANY, FRANCE*

THEME 3

Key Activities

- R&D
- Manufacturing process
- Marketing and Sales
- Techsealab's main activity is the production, sale and distribution of Organic Biostimulants, approved and certified by Ecocert, obtained from their own unique technologies, in liquid, solid or cream form from carefully selected raw materials and all associated production and services.
- Some products are Ecocert-certified (organic label) and CE-approved.

Key Partners & Suppliers

- Partners for collaborative R&D projects: universities, public research institutes such as the INRAE (National Research Institute for Agriculture, Food and the Environment) INRA (National Institute for Agricultural Research), Vegetal technical center Vegenov, Breton seaweed cluster.
- Trained seaweed suppliers who respect sustainable harvesting methods : 50% from Brittany – sustainable harvesting methods are key, since the species used (Ascophyllum nodosum) cannot be grown or cultivated – it only grows naturally, so the preservation of the stocks is key. Seaweed suppliers are also responsible for drying the algae under conditions that guarantee optimum qualities to preserve its active ingredients and properties.

Key & Local Resources

- Dry natural marine algae: Ascophyllum nodosum, an intertidal seaweed with unique characteristics.

Technical Resources

- Around 10 employees
- R&D department to develop natural biofertilizers
- Collaborative R&D projects
- Technologies to manufacture at industrial scale
- Pilot plant to test the industrial scale

Energy Resources

- Energy for production and manufacturing
- Energy for distribution

Value Proposition

- Innovative, eco-certified Algae-based solutions for crop productions. Lliquid bio stimulants and biofertilizers for application in seed and foliar, formulated with Ascophyllum Nodosum (Brittany algae).
- The new sustainable technologies offered by Techsealab, contribute to tackling the problems that all farmers face: producing high quality goods, sustainably while increasing yields, from the limited resources available and reducing the use of Fungicides (Plant Protection Products) by 30 to 50%.
- The company focuses on providing agronomic solutions.
- Bio stimulant: Micronized algae creams, liquid seaweed concentrates and fermented seaweed extract.
- Improved nutrient uptake, regulation of soil life

Customers/Targets & Communities

- Mainly BtoB model :
- For final products: distributors / suppliers, traders or agricultural cooperatives that have technical-commercial relations with farmers.
- For the algae Manufacturers that transform the algae basis/first transformed product developed by Techsealab into final products.
- Mainly agriculture sector but also nutraceutical (isotonic & hypertonic marine serum) and animal welfare (100% natural microfiltered seawater specially designed for seawater aquariums and known for its high contribution of trace elements and essential nutrients)
- 50% of the activity = export worldwide (1/3 to Europe)

Environmental & Climate Smart USP

- The main raw material is organic and sustainably harvested from natural algae
- The use of Techsealab biological inputs contributes to
- improving soil health,
- reducing the use of traditional chemical fertilizers and level of residues in agricultural products
- Increasing the biodiversity
- Fostering new HEV (High environmental value) production systems

Distribution & Upscaling

- Distribution via B2B sales at national and international scale

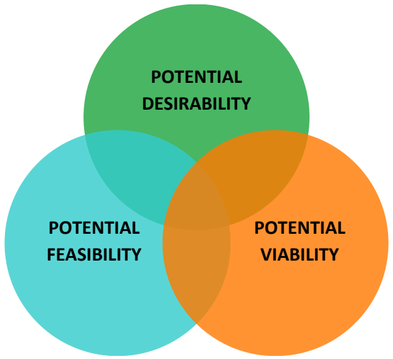
COSTS

- Production costs:
- Purchasing dry algae (including imports)
- Processing
- Energy and laboratory costs
- Human resources : R&D, sales, marketing
- Distribution costs (export)

REVENUES

- Sales
- R&D project financing

THREE LENSES OF INNOVATION



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FISHINN - Innovation Canvas

COMPANY: *GIE Pêcheurs Ile d'Yeu* REGION: *BRITTANY, FRANCE*

THEME 6

Key Activities

- Fishermen from the island Ile d'Yeu have created a collective organisation (GIE – economical interest group. Legal structure that fosters the development of existing companies)
- AMAPS enables them to sell in shorter supply chains
- Through this organisation, AMAPs from Nantes and Angers sign a 9-month contract to buy sustainable fish products. AMAPs are associations that establish a link between consumers and producers: the AMAP associations establish the conditions to allow the sale of the production: sales point, product distribution... and they can offer advice to producers on production methods (crop rotations, sustainable practice...)
- Interactive map

Key Partners & Suppliers

- The AMAPs are key buyers and partners: they provide the end consumers/buyers but also the business and sales model. Local food shops act as storage and pick up points.
- The GIE Fishermen are key providers for fresh, local and sustainable fish products
- Wholesaler : key partner to buy the resources through the auction hall and prepare the products + boxes for distribution
- Fisheries auction halls (or online sales) key provider for primary resources and buyers

Key & Local Resources

- Fisheries resources
- Fishermen and boats that use non-trawling techniques
- Storage for fisheries products
- GIE members for fish sales and buys - in 2018, 4 boats, 25 fishermen members of the GIE1
- GIE employees for distribution and logistics
- Sales points (AMAP)
- A certified first processing unit

Technical Resources

- Digital resource: Sales channels online - application or subscription form
- Digital resource: buying fish through the criée digital app
- Technical resources: delivery trucks, fishing vessels, first processing and boxing

Energy Resources

- Energy is key for fishing vessels, fish storage (cold chain) and distribution (trucks...)
- For now, no renewable energy is used along the production and distribution

Value Proposition

- End consumers get high quality, fresh, sustainable and local products
- Fishermen can ask for a fair price and stabilize their incomes thanks to the direct consumers contracts. They also abide by sustainable fishing practice, valorizing the quality of their products (covenant of good practice: no trawls, use of lines and nets, diversify and offer lesser-known species). Selling through AMAPS allows them to strengthen the short circuits and the local market.
- Sales subscription model : 9-month contract with a set, fair price (distribution cost included, Each box price includes an extra fee that is shared between fishermen (2€ per box), allowing an extra source of income.
- Fish is caught maximum 48h prior to distribution (72h at the latest).

Customers/Targets & Communities

- AMAP Customer base (2024 : 1600 families approx.) - usually higher income part of the population – fisheries products are expensive, and the AMAP products are usually more expensive than average. Environmentally conscious customers who seek locally-sourced products and ask their AMAP to add fish to the offer.
- Communication channels : AMAPs, websites and local news

Environmental & Climate Smart USP

- 70% of fish products consumed in France are imported. The AMAPs foster sustainable practice for the agri resources (agriculture, fisheries...) that contribute to the environment, while strengthening local circuits of sales and distribution.
- This improves the carbon footprint of food consumed and produced locally, mutualizes short distance distribution channels, encourages a better valorization of local products and strengthens the link between producers and consumers locally.

Distribution & Upscaling

- Distribution and growth is currently mainly carried out through word of mouth, consumer-led
- A good communication coverage was also established at the beginning of the project, which allows some information and contacts to be replicated

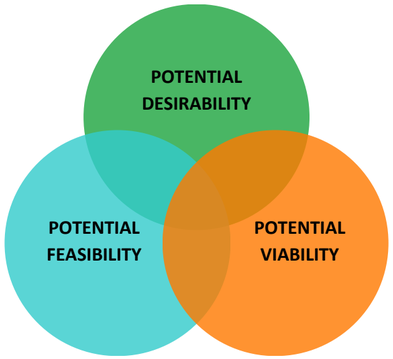
COSTS

- Distribution costs : employees, transportation, boxing...
- Storage and first processing costs
- Fishing costs : rising operation costs for fishermen

REVENUES

- Sales subscription model : 9-month contract with a set, fair price (2€per kilo above market price cf article age de faire, + distribution cost included) add : which also covers distribution costs
- Each box price includes a set fee that is shared between all fishermen (2€)
- Currently a small crisis among agri AMAPs regarding the sustainability of this model in an unstable economic context

THREE LENSES OF INNOVATION



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Interreg Atlantic Area FISHINN
Co-funded by the European Union

FISHINN - Innovation Canvas

COMPANY: *ASSOCIATION PLEIN MÉR* REGION: *BRITTANY, FRANCE*

THEME 6

Key Activities

- The Pleine Mer association aims to contribute to a sustainable transition in the fishing industry, in favour of the men and women who practice it. Its aim is to protect the oceans and support the development of sustainable fishing and aquatic farming methods and management.
- Interactive map facilitating direct link between consumers and fishermen (annual subscription)
- ***Local fisheries short circuits*** **-** development and promotion of short distribution/consumption circuits and direct sales in French fisheries
- To put fishermen and individual consumers directly in contact for direct sales.
- ***Coastal communities*** - participatory action research with coastal communities.

Key Partners & Suppliers

- Inshore Fishermen (providers) : fishing boats and sales to be offered via the interactive map
- Institutions and sponsors to finance the association
- Association paying members
- Digital development company or IT ready-made solution for the platform/map

Key & Local Resources

- Local fisheries and fishermen
- salespoints – currently, most members of the map offer direct sales fresh off the boat (“cul du bateau”)

Technical Resources

- Digital solution and maintenance: members of Coop Circuit worked on developing the map, and members of GogoCarto offer OpenSource mapping tools
- Website to host the interactive map
- Digital/technical resources to update and develop new features on the map

Energy Resources

- Energy can be a consideration for the data storage and digital carbon footprint

Value Proposition

- The map allows a direct link between consumers and fishermen for a yearly subscription fee
- Fishermen can sell at a fairer price than through the auction hall with some limitations
- They get to meet the consumers and give insights into their jobs and value chain, and they can sell lesser-known or lesser-attractive species.
- Consumers get locally sourced fresh fisheries products, usually at a lower price than at the fishmongers. They also get added value by getting to meet the fishermen in person, which reinforces the fisheries communities and transparency on the fishing techniques. Direct sales can contribute to diversifying the fisheries economic models through a better economic valorization (added value)

Customers/Targets & Communities

- The application creates value for customers of fish products
- Targets can also be visitors in the area, as part of the attraction of coastal fishing territories
- Fishermen subscribe to be featured on the map and increase direct sales
- Communication is achieved through the application
- The association benefits from an extensive mediatic coverage that relays information about the map

Environmental & Climate Smart USP

- This solution fosters short circuit distribution and sales, putting in direct contact consumers with producers which allows for a better valorisation of the resource for fishermen
- There is also reducing the carbon footprint since distance is shortened (distribution on site).
- This also contributes to a better understanding of the fisheries activity by the consumers, while promoting local consumption of seasonal, lesser-known species which in turns contributes to sustainable fisheries management.

Distribution & Upscaling

- Distribution is ensured through application forms via the website for fishermen, and webpage for users
- The application/map is free of charge for consumers/visitors

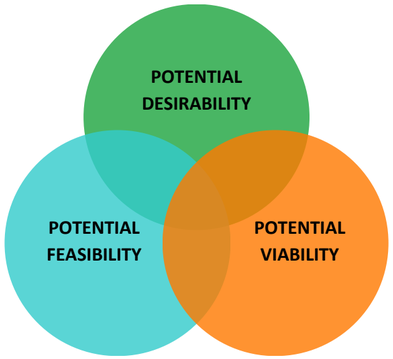
COSTS

- Map development costs
- Maintenance costs
- Communication costs are key to disseminate and reach targets

REVENUES

- Yearly subscription model for fishermen to be listed on the map
- Financial donations

THREE LENSES OF INNOVATION



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FISHINN - Innovation Canvas

COMPANY: *ALGOLESKO* REGION: *BRITTANY, FRANCE*

THEME 1

Key Activities

- R&D
- Seaweed production: all the process whose hatchery
- Manufacturing process: low temperature dehydration to preserve organoleptic properties, specific process for the fresh salted
- Marketing and Sales
- It has 370 hectares in concession in southern Brittany, including a 150-hectare concession off Lesconil located in the Natura 2000 area where it has developed ecological mooring lines which minimize the impact on the seabed.
- With its 10 years - expertise in seaweed cultivation, Algolesko has developed seeding techniques specific to each species of algae.
- It has a hatchery with 28 culture basins to preserve strains and seed the culture lines.

Key Partners & Suppliers

- Strong link with research organisation especially CNRS (Centre National de la Recherche Scientifique – national scientific investigation institute) and biologic Station of Roscoff
- Member of seaweed coalition: global partnership established by Lloyd's Register Foundation in partnership with the UN Global Compact (UNGC) and the CNRS to oversee the safety and sustainability of the seaweed industry as it scales up
- Member of Merci les algues, a NPO gathering several French players in the valorization of marine algae who have been working together to create a sustainable and controlled French algae sector.
- Involved in several European project as H2020 Seamark

Key & Local Resources

- The company is one of the largest Seaweed farms in Europe, possessing an extensive know-how about seaweed cultivation, research and development, marine biology, and marine engineering. By producing their own seaweed seedlings from indigenous plants at their hatchery facilities in Brittany, they can control the quality of the seaweed production through the entire value chain, from seedlings to finished product.
- The location in Lesconil + Moelan s/ Merand Brehat Island : mixed water and high-quality water

Technical Resources

- The farm is strongly linked with a research and development organisation
- They employ 14 persons
- Algolesko will provide its know-how on the engineering and installation of culture structures, as well as on the seeding of seaweed and their monitoring. Algolesko has a processing line with different washing, bleaching and cutting tools.

Energy Resources

- ???

Value Proposition

- Algolesko is a producer of cultured seaweed (brown laminarian seaweeds as wakame & Kombu royal mainly at the moment) in the open sea as European pioneer. 2OOT seaweed per year.
- Algolesko provides its know-how on the engineering and installation of culture structures, as well as on the seeding of algae and their monitoring
- Very high quality of certified organic seaweeds : fresh, frozen, dried (whole or in flakes, as desired, dried at low temperature, easy and practical to work with. Conservation 24 months), fresh-salted, flour (powder with cultured algae are dehydrated then micronized into fine flour, for maximum concentration of flavours and virtues) even extract and ready to eat (as pickles)
- Seafood Excellence Global Award for best HORECA Product in 2024

Customers/Targets & Communities

- Mainly B2B model
- Targeted market: Mainly food, also nutraceutical and cosmetic, feed and biofertilizers.
- France and international market, especially in Asia (as fresh-salted)

Environmental & Climate Smart USP

- Seaweed farm is one of the most ecological production possible, produced without water, inputs and pesticides. The production is located in a classified "Natura 2000" natural area.
- Seaweed cultivation can provide climate adaptation benefits including: decrease acidification, coastal protection, improve water quality, biodiversity enhancements and sequestering carbon. This production is sustainable with no need of input and fresh water.
- The world population continues to increase as well as chronic diseases such as hypertension, obesity and cancer due to population aging and bad eating habits. Seaweed contributes directly to global food security as a nutrient rich food source and indirectly by enhancing agriculture when serving as a feed supplements and bio-stimulants for plants.

Distribution & Upscaling

- Algolesko addresses B2B market through three distribution axes: catering / out of home (B2B brand), export Asia and food manufacturers.
- Algolesko has big ambition and wants to diversify the outlets for its production towards feed and biostimulant markets.

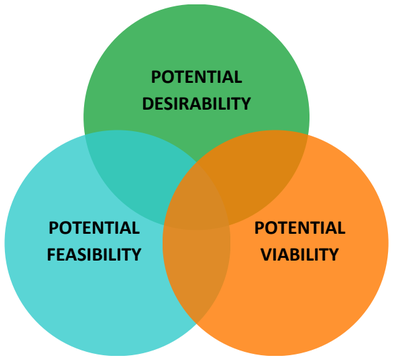
COSTS

- Harvesting costs
- Purchasing
- Processing
- Cutting
- Human resources

REVENUES

- Sales of seaweed product and service provision
- R&D project financing

THREE LENSES OF INNOVATION



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Interreg Atlantic Area FISHINN
Co-funded by the European Union

FISHINN - Innovation Canvas

COMPANY: *ALEGINA* REGION: *BRITTANY, FRANCE*

THEME 5

Key Activities

- **Ongoing research and innovation:**
- Development of innovative materials and products (porcelain, drainage paving stones, substrates for green roofs) from oyster shells.
- **Waste recovery and circular economy:**
- Collecting and processing oyster shells into reusable materials, limiting waste and environmental impact.
- **Product diversification:** pavingstones,greenbuilding and high-end porcelain marke
- **Partnerships and collaborations:**
- Support from the various agents to accelerate industrial transition and reduce production costs.
- Collaboration with designers and ceramists to develop product aesthetics and functionality.

Key Partners & Suppliers

- **Oyster farmers**: Provide oyster shells, the essential raw material for Alegina.
- **Local Authorities**: Collaborate on shell collection and use Alegina's eco-friendly materials in public projects
- **Consumers and restaurants :** Participate in recycling initiatives via shell return systems
- **Regional support**: Atlanpole, Pôle Mer Bretagne Atlantique, Région Pays de la Loire, Ruptur.
- Regional public authority and blue economy NPO association

Key & Local Resources

- **Oyster shells**: Collected locally from oyster farmers (Vendée, Normandy), consumers, and local councils via tailored collection networks.
- **Cement**: Used in eco-friendly, low-carbon formulations for manufacturing drainage pavers.
- **Energy**: For processing and production
- **Water**: to wash oyster shells. Alegina plans to reuse rainwater in the future.

Technical Resources

- **Crushing and sieving**: Reducing shells into granules and fine powders for various applications.
- **Material formulation**: Developing specific blends, such as the KAOMER porcelain paste, the result of 3yrs of research and development.
- **Product manufacturing**: Producing drainage pavers, green roofing substrates, and porcelain objects from the formulated materials.
- Expertise in material engineering and supply chain mgt (12 staff)
- Data Mgt to track collection of raw materials and to optimise resources

Energy Resources

- Electricity for machinery
- Fuel for logistic transports

Value Proposition

- **Products**:
- *Porcelain KAOMER*: High-quality porcelain for decorative objects and jewellery.
- *VIVAWAY Drainage Pavers*: Eco-friendly pavers that manage rainwater and prevent flooding.
- *VIVAROOF Green Roofs*: Shell-based substrate enhancing urban biodiversity and insulation.
- **Key Benefits**:
- Environmental sustainability through recycled materials.
- Innovation in eco-design and performance.
- High-quality, aesthetic, and durable products.

Customers/Targets & Communities

- Alegina creates value for multiple customers segments via several channels - official website, social media, trade fairs, events... Targeted customers include:
- - Individuals : enthusiasts of sustainable products, such as decorative items and jewellery made from KAOMER porcelain.
- Construction professionals: companies seeking eco-friendly materials for infrastructure projects, such as drainage pavers and green roofing.
- Local authorities: municipalities and public administrations engaged in circular economy initiatives and sustainable development, integrating innovative solutions into urban projects.

Environmental & Climate Smart USP

- Alegina advances the zero-carbon transition by transforming oyster shells into sustainable products, addressing the **9Rs** through reducing reliance on virgin materials, recycling marine waste, and repurposing it into drainage pavers and green roofing substrates. This aligns with the **EU Circular Economy Action Plan** and France's **National Low-Carbon Strategy (SNBC)**, contributing to carbon neutrality by 2050. The solution delivers societal benefits through local job creation and sustainability awareness, while environmental benefits include reducing waste, preserving resources, and lowering CO_2 emissions.
- **Partnerships with Local Authorities**: Alegina implements customised systems for shell collection and promotes environmentally responsible initiatives.

Distribution & Upscaling

- Direct sales: Products available through official website
- Partnerships with porcelain makers: Alegina collaborates with specialised artisans to market their premium porcelain
- Participation in trade fairs and events: Alegina showcases its products at professional events to increase visibility.

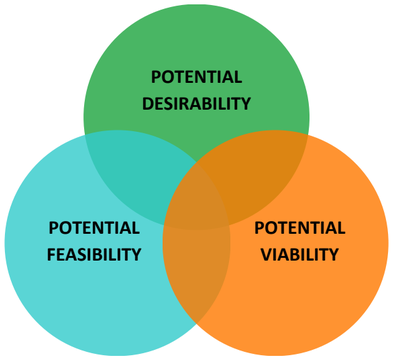
COSTS

- Production & manufacturing costs, Labour costs, Skilled personnel
- Research & Development, Intellectual Property
- Marketing & Distribution
- Specialised equipment
- Product development

REVENUES

- Product Sales: drainage pavers, green roofing substrates, and porcelain items
- Subsidies/Sponsoring: The company secured €2.7 million in financial support from the state through the Green Fund - Brownfield Fund and Green Fund - Industrial Territories for its 4.0 factory project, and received an additional €120,000 grant from Vie et Boulogne to finalise its real estate financing plan.
- Alegina can also rely on the support of the Region, Bpifrance, and the Banque des Territoires.

THREE LENSES OF INNOVATION



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Interreg Atlantic Area FISHINN
Co-funded by the European Union

FISHINN - Innovation Canvas

COMPANY: ***AGRILOOPS*** REGION: ***BRITTANY, FRANCE***

THEME **2**

Key Activities

- The company's unique patented aquaponics technology transforms effluent from prawns into fertiliser to co-produce fruit and vegetables with exceptional nutritional and taste qualities.
- After several years of research and development, a pilot farm was established to establish proof of concept: the use of a pilot farm enabled the company to establish key ties with other businesses in their value chain and build confidence in the viability and the promise of their process.
- A commercial demonstration site is currently under construction: it will be one of the largest aquaponics farm in Europe, capable of producing over 100 tons of prawns and fresh vegetables per year.
- Production of shrimps and gambas, mesclun and cherry tomatoes
- Monitoring and maintenance
- Management/human resources

Key Partners & Suppliers

- Funders (private and publics)
- Feed providers
- Economic support structures : Le Poool, Bretagne Compétitivité
- Network partners : Pôle Mer Bretagne Atlantique, work group
- Public authorities
- Groupe Pomona Terrazure: food wholesaler specializing in the distribution of food products (fresh vegetables and sea products) to catering professionals
- Test customers (mainly restaurantiers): customers who have Agriloops' products tested by end-consumers, enabling improvements to be made to packaging, taste, quality
- Logistic partners

Key & Local Resources

- Available land
- Adapted facilities and technical equipment: greenhouses with ponds, biofilters, machinery, market gardening equipment
- Energy source: saltwater and electricity
- Feed for shrimps and gambas: formulated food (plant and animal protein) with a willingness to replace fish meal with insect meal or other substitutes

Technical Resources

- Commercial site: 5,000 m2 of greenhouses + 2,000 m2 aquaculture building
- Pilot farm with technical facilities (for gardening and shrimp/gambas culture)
- Team: growing from a dozen employees to more than twenty by 2025
- Team's technical skills, particularly in R&D
- Working groups with partners (logistic, storage partners…) and customers (mainly restaurantiers) to test and improve products

Energy Resources

- Highly dependent on water supply: but reduced compared to traditional techniques (closed loop)
- Constant supply of electricity to ensure closed-circuit operation and basin stability
- Fertilizer for vegetable crops: recycling of effluents produced by prawns and shrimps
- Heat system working with renewable energy (biomass boilers and hedgerows resources)

Value Proposition

- Agriloops aims to produce French-grown jumbo shrimp that are never frozen, are sustainably raised without antibiotics and near the end-consumer: extra-fresh products with premium quality
- The company conceives unique farms that combine shrimp production with market gardening: deploying an aquaponics system, they can cultivate crustaceans and vegetables within a single system.
- Saltwater aquaponics: the special feature of this system is that, for the first time, it allows aquaponics to use salt water.
- The freshness and sustainability of the system are marketable qualities that are appreciated by consumers.
- proximity: prawns are raised close to the consumer and do not travel thousands of kilometers in containers
- Patented saltwater aquaponics

Customers/Targets & Communities

- Agriloops built ties with wholesalers and restaurantiers. Consumer demand confirmed the viability of the concept.
- Niche markets: top chefs, Michelin-starred restaurants, well-known fishmongers
- Main customers: wholesalers, as well as local Michelin-starred restaurants, fishmongers and greengrocers.
- Local market only

Environmental & Climate Smart USP

- Jumbo shrimp market in France represents around 100,000 tonnes a year, mostly from Central America and South-East Asia. As tropical shrimp production is the number one cause of mangrove deforestation, threatening these carbon sinks, the ecological stakes of relocating production are high.
- Agriloops application results in a large reduction in the use of fertilizer and a 90 percent decrease in water consumption compared to more traditional methods of cultivation.
- Antibiotic-free culture
- The process has proven successful in biological, environmental, culinary and economic terms.
- Their aim is to produce products without antibiotics, pesticides or sulfites, thanks to their new production methods.
- Proximity to limit transportation pollution
- Relocation of shrimp production to European sites to combat the deforestation of mangroves forest in Asia, Africa and South America, where they are normally produced
- Circularity: using waste as fertilizer
- Produce vegetables with salt water that are tastier, with more interesting nutritional values

Distribution & Upscaling

- Direct sales or using wholesalers
- Local word of mouth
- Willingness to spin off their model in the form of franchises
- Financial canvassing
- Pitch and participation in local medias/events

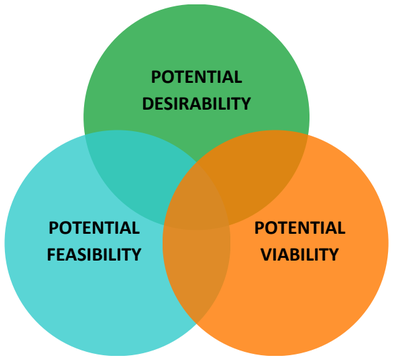
COSTS

- Installation costs
- production costs (energy, saltwater…)
- Feed for shrimps and gambas
- Patenting (in 2022)
- Extensive research and development: high costs
- Staff costs

REVENUES

- Public and private investors: 13 million euros from financial backing was secured from national and regional authorities, private investors, but also members of the broader public. Support of a banking pool for over 4 million euros
- 3 million euros in public funding (BPI and France Relance) and 5.5 million euros were contributed by private investors, such as BNP Paribas Dévelopement
- crowdfunding campaign: 1 million euros for the commercial site
- high consumer demand: ambition of producing over 100 tons of gambas and fruit and vegetables a year by 2025.
- Sales of products: objective of annual sales of over one million euros with around 25 tons of shrimps/gambas and 60 tons of vegetables and fruits (predicted)

THREE LENSES OF INNOVATION



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Interreg Atlantic Area FISHINN
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FISHINN - Innovation Canvas

COMPANY: *GAME OF TRAWLS* REGION: *BRITTANY, FRANCE*

THEME 4

Key Activities

- Equipping trawl nets with sensors and cameras to identify species in real-time.
- Developing AI algorithms to distinguish target from non-target species
- Designing activatable escape mechanisms to release unwanted by-catch
- Collaborating with research institutions (e.g., IFREMER, University of Bretagne Sud) for technical and scientific support. Example of project: GAME OF TRAWLS.
- Conducting controlled trials and sea trials to validate and refine the technology

Key Partners & Suppliers

- **Marport (company)**: Develops advanced fishing sensors and monitoring systems for real-time trawl performance data.
- **Ifremer (French oceanic research institute)** Provides scientific research, testing, and AI-driven solutions for selective fishing.
- **Université de Bretagne-Sud (University)**: Expertise in computer vision and AI for species identification.
- **Comité Départemental des Pêches du Morbihan (Local maritime fisheries committee)** Ensures industry relevance and practical application.

Key & Local Resources

- Onboard real-time monitoring and display system – Provided by Marport . Underwater Acoustic Modem - Integrated to the camera system by Marport for real time data collection
- Embedded Trawl Camera – Provided by I2S
- AI and Computer vision – Developed by Université Bretagne Sud & Kitware for species identification
- Prototype development and testing facilities – Conducted in Lorient, followed by sea trials
- Fishing community collaboration – Led by Comité Départemental des Pêches in the department of Morbihan.

Technical Resources

- Advanced sensors
- AI and computer vision
- Testing facilities
- Data processing and analysis

Energy Resources

- Energy is a consideration in the Game of Trawls project. The advanced sensors and monitoring systems developed by Marport are designed to be energy-efficient, with features like low power consumption and extended battery life, reducing the need for frequent recharging and minimizing energy demands.

Value Proposition

- Game of Trawls develops smart trawl nets with sensors and AI, enabling real-time species detection and selective release of bycatch. This enhances fishing efficiency, ensures regulatory compliance, and reduces environmental impact.

Customers/Targets & Communities

- Commercial fishing operators benefit by improving the selectivity and efficiency of their catches.
- Environmental regulators ensuring compliance and marine conservation organisation reducing bycatch.
- Communication channels:
- Collaborative Partnership
- Digital outreach – Update through official websites (Ifremer, CDPMEM56), scientific publications, YouTube
- Field demonstrations & Pilot testing – Practical testing with local fishing communities to gather feedback

Environmental & Climate Smart USP

- Social benefits: Support sustainable fishing, secures fish stocks
- Environmental benefits: reduces bycatch, protects biodiversity and aligns with sustainable marines practices.

Distribution & Upscaling

- Successful demo of sea trials confirmed real-time species detection and selective release mechanisms. Next Steps: Further development continues under the Horizon Europe MarineBeacon project, focusing on improving detection in complex conditions and expanding the AI database. The solution is still undergoing further testing and refinement before potential market adoption.

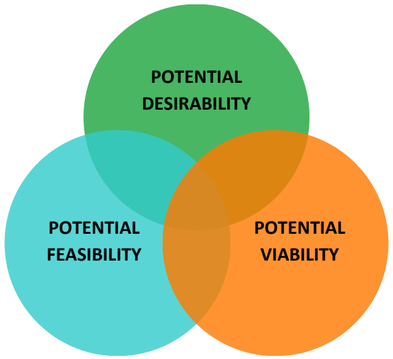
COSTS

- R&D, equipment (sensors, AI systems), and specialised personnel
- Sea Trials on pilot vessels with equipment development and maintenance in workshops, testing smart trawl nets in real-world conditions while refining the technology.
- Alignment with Value Proposition: Supports selective fishing, bycatch reduction, and sustainable practices.

REVENUES

- The total funding for the project was €1,444,134, with 80% of the funds coming from public sources, including the European Maritime and Fisheries Fund (EMFF) and the French government, and 20% from France Filière Pêche.

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FISHINN - Innovation Canvas

COMPANY: *HUBLOT.IO* REGION: *BRITTANY, FRANCE*

THEME 4

Key Activities

- Hublot.io is an application dedicated to managing seafood counters in supermarkets and independent fishmongers.
- Software Development and Maintenance: Designing and updating the app to support seafood counter operations, including pricing, sales, and margin tracking.
- Regulatory Compliance: Ensuring compliance with seafood labelling laws.
- Customer Support: Providing assistance via phone and chat six days a week.
- Training and Onboarding: Educating users on app functionalities for better operational efficiency.
- Performance Optimisation: Offering dashboards and tools to forecast sales, manage purchases, and improve profitability.

Key Partners & Suppliers

- Clients Include:
- Supermarkets
- Independent fishmongers
- Hublot works closely with its clients to tailor its solutions to their specific needs.

Key & Local Resources

- IT equipment : tablets and label printers
- Software development
- Customer support

Technical Resources

- **Tablets:** used for daily management tasks, including labeling, traceability, and customer order management.
- **Printers:** essential for producing labels compliant with current regulations, displaying all required legal information.
- **Internet connection:** necessary for the app's functionality, updates, and access to customer support.

Energy Resources

- The energy consumption associated with the devices needed (tablets and printers) is relatively low, and they can be powered using conventional electricity sources.

Value Proposition

- Management Solution: Simplifies daily seafood counter operations
- Performance Tools: Sales tracking, volumes forecast, and margins optimization
- User-Friendly: Easy adoption with dedicated support via phone and chat.
- Key Benefits: Boosts efficiency, ensures compliance, and improves profitability.

Customers/Targets & Communities

- The application creates value for supermarkets and independent fishmongers.
- Communication is achieved through their official website
- The customer support also offers assistance by phone and instant chat from Monday to Saturday ensuring accessibility for clients.
- Communication channels used:
- Social media : LinkedIn and X
- Partner communication relays (Pôle Mer Bretagne Atlantique, BpiFrance, Pavillon France, Aquimer, France Filière pêche, InitiativeNantes)

Environmental & Climate Smart USP

- **Reducing food waste:** By improving traceability and stock management, the application helps minimise waste in seafood products, reducing emissions associated with production and disposal.
- **Operational efficiency:** Digitising processes decreases the use of paper and optimises operations.
- These actions align with EU strategies promoting sustainability and digital innovation in the seafood sector : New policies and innovations to boost European seafood sector | SUCCESS Project | Results in brief | H2020 | CORDIS | European Commission

Distribution & Upscaling

- Official Website: Providing detailed information about the product, its features and benefits.
- Social media : LinkedIn and X
- Partner communication relays (Pôle Mer Bretagne Atlantique, BpiFrance, Pavillon France, Aquimer, France Filière pêche, InitiativeNantes)

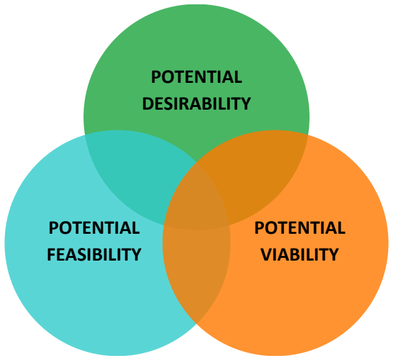
COSTS

- Staff
- Software
- Hosting and Compliance
- Development
- Customer Support
- Training

REVENUES

- Subscription model
- Service Charges
- Software Licences

THREE LENSES OF INNOVATION



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FISHINN - Innovation Canvas

COMPANY: *ACAV* REGION: *BRITTANY, FRANCE*

THEME 6

Key Activities

- The Armement Coopératif Artisanal Vendéen (ACAV) provides legal assistance, insurance advice, and administrative support to facilitate the co-ownership and operation of fishing vessels.
- Co-ownership of fishing vessels: ACAV supports young fishing captains in vessel ownership through co-ownership, financing up to 80% and enabling full ownership transfer within 10–15 years. It currently co-owns 10 vessels and three more via its subsidiary, A2G.
- ACAV is a shareholder in the Litto-Invest investment fund, established in 2015 with an initial capital of €5 million, aimed at supporting the blue economy, particularly the fishing and marine farming sectors. ACAV holds a €50,000 stake in the fund.
- Collaboration with shipyards like Socarenam and Piriou to build modern fishing boats.
- ACAV also provides administrative and financial management services to approximately 80 vessels
- Designing vessels for versatility in fishing techniques including bottom trawling, Danish seine

Key Partners & Suppliers

- Shipyards (Socarenam, Piriou) : Build modern boats for ACAV.
- The "Île Vertime" trawler-seiner built by Socarenam.
- Equipment Suppliers :Provide tools and technologies to improve fishing and crew safety.
- Local communities (fishermens etc.) : Share expertise

Key & Local Resources

- Fishing Vessels : Purchased from local shipyards (Socarenam, Piriou) or through second-hand acquisitions (e.g., "Marie-Lou"). These purchases support regional shipyards and eco-friendly designs are incorporated to reduce fuel consumption for instance (Tunnel of LoC)
- Human resources: 7 employees (legal assistance, insurance advice, administrative support, operation of fishing vessels)
- Financial resources: ACAV finances its activities through a combination of equity (own funds) and bank loans up to 80%.
- Co-owners who invest minimum 20% of the vessel's cost.

Technical Resources

- .....

Energy Resources

- ACAV relies on non-renewable diesel fuel for vessel operations but enhances energy efficiency with innovations like the "Tunnel of LoC" (Low consumption) to reduce consumption and environmental impact.

Value Proposition

- ACAV offers modern, eco-friendly fishing vessels designed for efficient and sustainable operations. Serving fishing companies and local communities, ACAV ensures innovation, reliability, and reduced environmental impact, making it a trusted partner for advanced fishing fleets.

Customers/Targets & Communities

- ACAV does not have traditional clients but serves its members, primarily local fishermen and fishing companies. As a cooperative, it provides them with modern vessels, equipment, and support for efficient and sustainable fishing.
- It also helps stabilize the crews on board (less turnover in ACAV fishing vessels).

Environmental & Climate Smart USP

- Environmental benefits:
- Reduction of CO2 emissions through energy-efficient vessel designs (e.g., "Tunnel of LoC")
- Reuse of second-hand vessels, like "Marie-Lou," refurbished for sustainable use.
- Supports decarbonization in maritime transport: EU Green Deal
- Societal benefits:
- Job creation in green shipbuilding and sustainable fishing sectors
- Strengthening local economies through eco-friendly practices and regional development

Distribution & Upscaling

- ACAV provides modern, eco-friendly vessels to its members through a network of partners, including Socarenam and Piriou, as demonstrated by the Île Vertime. ACAV promotes its sustainable practices, aligned and gains visibility through articles published in specialized media like Sea to Sea, Mer et Marine, Coopération Maritime and other platforms.

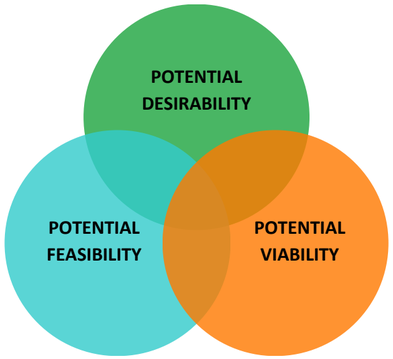
COSTS

- Baseline costs : Fleet acquisition, maintenance, fuel, and regulatory compliance.
- Key resources : Fishing vessels, technological upgrades, and skilled crew.
- Key activities generating costs: Fleet operations, ship renovation,

REVENUES

- Finances vessels with fishing skippers, sharing costs and profits
- Manages vessels for owners in exchange for fees
- Provide members with legal, insurance and administrative support

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Interreg Atlantic Area FISHINN
Co-funded by the European Union

FISHINN - Innovation Canvas

COMPANY: *PANIERS DE LA MER* REGION: *BRITTANY, FRANCE*

THEME 6

Key Activities

- Wholesaling/processing of fisheries products for food aid associations and food banks (fillets, soups...)
- Valorization of fisheries coproducts (unsold stocks)
- Professional training and social inclusion for people far from employment
- Integration / Inclusive fish processing workshop

Key Partners & Suppliers

- Producers supply unsold fish for the processing and wholesaling activity, from Fisheries auction halls
- Fishermen also contribute to the fish stocks
- Food aid associations are the buyers
- Social inclusion prescribers and employment players help source future employees
- Local processors collaborate to produce soup cans (protein-rich food product).
- Some storage and logistics / transportation companies provide services for “free” (refrigerated trucks, storage rooms). The logistics company can valorize their contribution (taxes benefits/free service)
- Innovation business support organizations such as Technopole (Business Innovation Center) or Universities can collaborate on specific projects (R&D, byproducts...)

Key & Local Resources

- Unsold Fish (Byproducts) in sufficient amounts
- Refrigerated storage rooms and refrigerated transports
- Human resources: training and supervising for the workshop .
- In 2024, over 580 tons of various fish were collected to produce 400 tons of fish ready for consumption and distributed to local food aid networks, representing some 2,685,000 portions

Technical Resources

- Processing workshop equipped with all the material
- Logistics/distribution networks with refrigerated transportation
- Health, hygiene and quality monitoring
- They have a great tracking and quality monitoring digital system in place (REMORA software) which could cover even more byproducts if needed one day (geographical origin/fishing vessel/dates/quality grade...)

Energy Resources

- Energy is key to maintain the cold chain and work on the processing
- Trucks are diesel-fuelled for the most part, not running on renewable energy sources

Value Proposition

- non-profit organization / association created in 1997, whose objectives are to reduce food waste, support disadvantaged/unemployed, and make ready-to-eat frozen fish available to food aid associations.
- To support its member organizations and organize the distribution of food aid products for food banks at a “solidarity contribution”
- To coordinate 5 social inclusion workshops that train people on fisheries processing/wholesaling (120 people trained per year). Workshops are located in the following fishing ports : Saint Guénolé (Penmarc’h), Lorient and Saint Malo in Brittany, Fécamp in Normandy and Boulogne-sur-Mer in the Haut de France Region;
- The federation also experiments and investigates potential new outcomes for a better valorization of coproducts, such as bones and skins, oil.

Customers/Targets & Communities

- They create value for food aid associations and socially fragile populations
- They also carry out byproducts experiments that could lead to a better valorization of coproducts/byproducts for the whole fisheries value chain

Environmental & Climate Smart USP

- In 2024, over 580 tons of various fish were collected to produce 400 tons of fish ready for consumption and distributed to local food aid networks, representing some 2,685,000 portions (based on 150 g per portion). The fish mainly comes from unsold stocks from the fisheries auction halls or directly from fishermen.
- The valorization of coproducts directly on fishing ports contributes to the transition towards a circular economy approach, with the use of resources formerly considered as waste
- Social benefits are part of the core values of the organization which contributes to improve food security, participates in social inclusion and professional training for people far from employment, and also contributes through the workshop to maintain and disseminate processing/wholesaling skillsets and other transferable skills.

Distribution & Upscaling

- This solution is replicated in 5 production sites (see : value proposition)
- Paniers de la Mer delivers to various national food aid networks
- Main Food Aid accredited associations who are interested in ordering their products can do so by e-mail

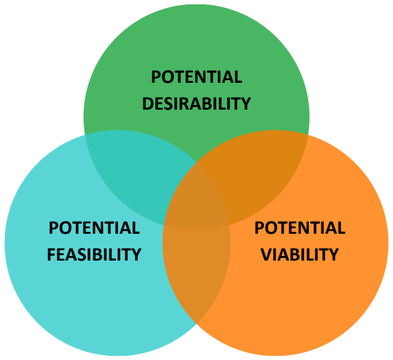
COSTS

- Human resources for training and supervising the food processing / fish cutting / wholesaling process
- Processing workshop / station
- Transportation costs
- Storage costs

REVENUES

- Subsidies
- Donation / tax valorization of some services (transportation, frozen storage)
- Sales of fish production « solidarity contribution

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
What can it make happen? What resources are needed? What skillsets are required?

Potential of viability
What value and/or impact will/could this idea bring to the organisation and to the territory?

FISHINN - Themes

1. Collaboration with the food and tourism sector
2. Advancing position in the value chain through collaboration and alliances with agents in the sector, aquaculture
3. Blue Economy opportunities other than fishing e.g. energy, algae, pharmaceuticals, nutraceuticals & health products
4. Blue biotechnology solutions and digitisation capabilities
5. Waste recovery and reuse i.e. plastics, fishing gear, circular economy solutions
6. Other innovations and best practice (non tech, non-business)

Interreg Atlantic Area FISHINN
Co-funded by the European Union

FISHINN - Innovation Canvas

COMPANY: *LAMINAK ENERGY* REGION: *BRITTANY, FRANCE*

THEME 6

Key Activities

- LAMINAK Energy, founded in 2021 and based in Quimper, specialises in consulting and commercialization support for innovative energy solutions. Its key activities include:
- Development of the EcoPro solution: Hydrogen On Demand (injects a controlled amount of hydrogen into the air intake of an engine, enabling faster and more complete combustion of fuel).
- Involvement on DEM-AWE project (Interreg NEW) for market, project management, communication and roadmap activities and wider activities in Airborne Wind Energy sector
- Support offshore activities for marine energies with Inyanga Tech and promotion of tidal solution HydroWing worldwide
- Project development in renewable energies (tidal, solar, wind)
- Engineering consultancy: The company provides engineering consultancy services, helping clients design and implement efficient energy solutions.
- Strategic and commercial development consultancy: LAMINAK Energy assists clients in crafting development strategies, optimising their positioning in the energy market.

Key Partners & Suppliers

- Laminak is working with Eco-Motus to promote and develop the EcoPro Hydrogen on Demand solution.
- Inyanga: Laminak Energy is providing its expertise and market knowledge to innovative players in offshore renewable energies such as Inyanga.
- Laminak Energy collaborates with Kitepower through the **DEM-AWE** project to demonstrate the efficiency of the K-BESS (Kite-powered Battery Energy Storage System). Laminak Energy provides market analysis and advisory support to facilitate the introduction of this airborne wind energy technology in North-West Europe.

Key & Local Resources

Resources Required by LAMINAK Energy

- Technical Expertise: Proficiency in renewable energy technologies, particularly in marine energy and airborne wind energy systems.
- Testing Facilities: Access to sites suitable for deploying and evaluating solutions such as fishing vessels for EcoPro
- Regulatory Approvals

Technical Resources

- EcoPro solution, Hydrogen on Demand to reduce fuel consumption and GHG emissions for fishing vessels
- Hydrowing solution, to produce electricity by harnessing marine current
- K-BESS (kite on Batery Energy System Solution)

Energy Resources

- Primary energy source: LAMINAK Energy focuses on renewable energy to generate electricity.
- Renewability: The energy harnessed is entirely renewable, contributing to sustainable energy solutions.

Value Proposition

- **Value offering for the end user:**
- Consultancy and innovative solutions in the renewable energy sector and transport decarb.
- Specialising in marine energy, LAMINAK Energy offers unique expertise in this sector, providing services throughout the pre-project and development phases, including economic studies and financial modelling.
- **Target Clients**: The company serves stakeholders in the renewable energy industry, including project developers, investors, and operators seeking expertise in marine energy and other renewable technologies. Fishing vessels for HoD solution.

Customers/Targets & Communities

Customer Segments of LAMINAK Energy

- Marine industry to decarbonised transport
- Renewable energy project developers: LAMINAK Energy supports project leaders in developing and implementing innovative energy solutions.

Reaching Communities and Communication Channels

- Direct business development activities with key clusters
- Participation to event such as European Maritime Days

Environmental & Climate Smart USP

- LAMINAK Energy contributes to the zero-carbon transition by developing renewable energy solutions, such as EcoPro solution, that reduce reliance on fossil fuels and cut carbon emissions.
- These innovations align with the European Green Deal's climate neutrality goals and the EU Circular Economy Action Plan by promoting resource efficiency and sustainable growth.

Distribution & Upscaling

- Collaborative projects: Participates in initiatives like the FISHINN project to promote the solution
- Partnerships: Collaborates with industry cluster to implement first solution in France.

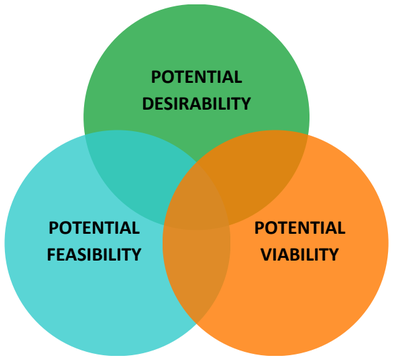
COSTS

- One EcoPro modules is around €5k and correspond to a 10 to 12 litres per hour consumption
- First projects will be highly monitored on new countries to get flag approval

REVENUES

Service Fees: The company generates income by offering a solution on the shelf with 3 years maintenance and guarantee.

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
What can it make happen? What resources are needed? What skillsets are required?

Potential of viability
What value and/or impact will/could this idea bring to the organisation and to the territory?

FISHINN - Themes

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WP2

FISHINN Innovation Canvas

Submitted By Munster Technological University

FISHINN - Innovation Canvas

COMPANY: *ICELAND OCEAN CLUSTER 100% FISH* REGION: *ICELAND*

THEME **1-6**

Key Activities

- The Icelandic Ocean Cluster provides comprehensive consultancy for companies, institutions, and communities worldwide, aimed at improving the utilization of seafood, fostering innovation, and strengthening cooperation that can contribute to increased value creation.
- The Mission of the 100% Fish Project at the Iceland Ocean Cluster is to inspire the seafood industry and seafood communities to utilize more of each fish, increase the value of each fish landed, support new business opportunities, increase employment and decrease waste.
- 100% Fish project is to show seafood companies the value in cooperation. This is done by building trust and showing companies that cooperation can brighten the future for seafood companies and coastal regions all around. The 100% Fish project assists companies in making valuable connections with academia, start-ups, R&D etc. The Ocean Cluster Network, which is a network of global ocean clusters established by the Iceland Ocean Cluster, is a valuable tool to share information and knowledge in full utilization of seafood across oceans.

Key Partners & Suppliers

- The IOC collaborates with over 70 companies within its full utilization network. Notable partners include major seafood companies like Brim, UR Seafood, and Skinney-Þinganes. Innovative firms such as Kerecis, which develops medical products from fish skin, are also integral to the cluster. Additionally, companies like Feel Iceland produce collagen supplements and energy drinks from fish skin, contributing to the diverse product range.Notable partners include:
- Nordic Fish Leather: Manufactures exotic leather from fish skins like salmon and wolffish for high-end fashion products
- Primex: Extracts chitosan from shrimp shells for use in cosmetics and biomedical applications
- Feel Iceland: Produces collagen supplements and energy drinks from fish skin.
- Kerecis: Develops medical products from fish skin, such as biological skin substitutes for wound healing
- Brim, UR Seafood, and Skinney-Þinganes: Major seafood companies focusing on the supply of fish fillets.

Key & Local Resources

- Iceland's rich marine ecosystems provide abundant fish species central to the country's economy and culture. The IOC leverages these resources by promoting sustainable fishing practices and full utilization of catches. The country's commitment to sustainable fisheries management has facilitated the development of innovative products from marine resources.
- The Iceland Ocean Cluster team possesses expertise in marine innovation, business development, sustainability, biotechnology, and circular economy solutions. Their skills include strategic networking, entrepreneurship, fisheries management, research, and commercialization of marine by-products. They excel in fostering collaboration between industries and academia.

Technical Resources

- The cluster emphasizes research and development, leading to technological advancements in fish processing and handling. This includes improved methods for extracting valuable compounds from fish by-products, enabling the creation of diverse products. For example, Kerecis utilizes fish skin to develop medical grafts for treating wounds and burns, showcasing the technical innovation within the cluster.
- University of Akureyri: Offers programs related to marine management and fisheries science.
- University Centre of the Westfjords: Provides master's programs in Coastal and Marine Management and Marine Innovation

Energy Resources

- Iceland's energy landscape is predominantly renewable, with extensive use of geothermal and hydroelectric power. The seafood processing industry benefits from this clean energy, reducing the environmental footprint of operations. This alignment with sustainable energy sources enhances the overall sustainability of the "100% Fish" initiative.

Value Proposition

- By promoting the full utilization of fish, the IOC enhances the economic value derived from each catch. This approach not only increases profitability but also aligns with global sustainability goals, making Icelandic seafood products more attractive in international markets. The initiative has transformed the perception of fish by-products from waste to valuable resources, leading to a more sustainable and profitable seafood industry.
- The Iceland Ocean Cluster and its "100% Fish" project exemplify innovative and sustainable practices in the seafood industry, transforming traditional approaches and setting a benchmark for others to follow. Their holistic approach to resource utilization not only boosts economic value but also aligns with environmental sustainability goals, making them a model for the global seafood industry.
- Codland: Producing valuable products from fish by-products, such as fish protein and fish oil.
- Kerecis: Develops medical products from fish skin, including grafts for wound healing and tissue regeneration.

Customers/Targets & Communities

- Iceland Deep Drilling Project (IDDP): Explores high-temperature geothermal resources, contributing to sustainable energy initiatives.
- Eimskip: Offers shipping and logistics services, focusing on the transportation of seafood.
- Atlantic Leather: Produces leather from fish skins, used in fashion and design products.
- Landsbankinn: Provides banking services, including financing for marine sector projects
- Marel: Offers advanced food processing equipment and systems, including solutions for the seafood industry.
- Skaginn 3X: Provides innovative cooling and processing technology for the seafood sector.
- D-TECH: Specializes in technological solutions for fish processing, focusing on microbiological safety.
- Financial and Investment Services
- Institutions offering financial services and investments in the marine industry:
- Government agencies, local authorities and public bodies

Environmental & Climate Smart USP

- The opportunity for sharing of knowledge and experience in fully utilizing seafood products is enormous. By doing so, the world's protein supply will increase (and fisheries profits) substantially. In Iceland, the industry has reached 80% usage of white fish.
- The "100% Fish" project's commitment to reducing waste and maximizing resource efficiency positions it as a model for climate-smart practices. By transforming by-products into valuable goods, the initiative contributes to a circular economy and showcases sustainable innovation. This approach not only mitigates environmental impacts but also promotes economic resilience within the seafood sector.
- Through initiatives like "Kelponomics," the IOC explores the economic and environmental potential of kelp cultivation in Icelandic waters. Kelp farming offers environmental benefits such as carbon sequestration and mitigation of ocean acidification, aligning with European climate policies aimed at reducing greenhouse gas emissions and promoting sustainable aquaculture practices.
- The IOC's involvement in the AEC's Blue Economy Working Group facilitates the creation of a pan-Arctic alliance of ocean clusters. This collaboration leverages knowledge, expertise, and funding instruments across the region to accelerate product development and economic growth in the blue economy sector. Such initiatives align with European strategies to promote sustainable economic activities in the Arctic region.

Distribution & Upscaling

- The IOC's model has gained international attention, inspiring similar initiatives globally. For instance, the "100% Great Lakes Fish" initiative in the United States and Canada aims to replicate Iceland's success by fully utilizing commercially caught fish in the Great Lakes region. The cluster's collaborative approach facilitates the scaling of innovations and their distribution across global markets.

ÇOSTS

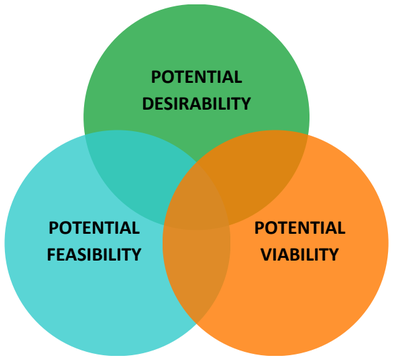
The Iceland Ocean Cluster (IOC) operates as a self-sustaining entity, generating revenue through various services and initiatives. This financial model enables the IOC to cover operational expenses, including staff salaries, without reliance on government subsidies.

- While specific figures are not publicly disclosed, the integration of advanced processing technologies and the development of high-value products from fish by-products likely contribute to cost efficiencies and diversified revenue streams. The emphasis on full utilization reduces waste disposal costs and maximizes the return on raw materials, enhancing overall operational efficiency.

REVENUES

- The diversified product range resulting from full fish utilization—including food products, health supplements, cosmetics, and medical applications—creates multiple revenue streams. This diversification enhances economic resilience and profitability within Iceland's seafood sector. Companies like Kerecis and Feel Iceland exemplify how innovative products derived from fish by-products can open new markets and revenue opportunities.
- The IOC emphasizes maximizing the utilization of marine resources, aiming for 100% fish utilization. This approach aligns with European Union (EU) objectives to promote sustainable use of ocean resources. Iceland participates in the Blue Bioeconomy Cofund, a collaboration involving Norway and 14 EU countries, which receives support from EU research funds. This cofund aims to finance projects that explore new methods to derive value from the blue bioeconomy.

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
What can it make happen? What resources are needed? What skillsets are required?

Potential of viability
What value and/or impact will/could this idea bring to the organisation and to the territory?

FISHINN - Themes

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Interreg Atlantic Area FISHINN
Co-funded by the European Union

FISHINN - Innovation Canvas

COMPANY: *CELTIC SEA MINERALS* REGION: *IRELAND*

THEME 2/4

Key Activities

- Our nutritional solutions are used as animal feed ingredient to support animal health, healthy animal gut function, and sustainable animal livestock production for dairy cows, beef cattle, small ruminants, swine, broiler chickens and egg laying hens. Celtic Sea Minerals applied the science to seaweed nutrition with products such as Acid Buf, CalMin, ProMin, CeltiCal and CeltiMin. Our mission is to help animal feed producers, integrators and farmers to feed a growing global population in a natural, ethical and sustainable way.
- Celtic Sea Minerals is an animal nutrition company powered by science. We are worldwide market leader in the research and production of marine minerals derived from the red seaweed algae *Lithothamnium calcareum*.
- Lithothamnium calcareum is a small red seaweed. This particular seaweed rapidly absorbs minerals and nutrients from the seawater. It eventually grows into a hard and brittle coral-like structure and is deposited on the seabed where harvesting occurs.

Key Partners & Suppliers

- They are part of the Marigot Group of companies whose core business involves the production and development of naturally derived marine ingredients for the enhancement of animal and human health. We currently export from Ireland to over 52 countries and source our seaweed from the pristine waters of the North Atlantic
- This reliable source of natural products is marketed and sold by a worldwide network of distributors into the animal feed industry, animal hygiene and environmental markets
- Collaborations with distributors and integrators facilitate market expansion and reinforce the brand's reputation for quality and reliability.
- AB Vista distributes Celtic Sea Minerals' Acid Buf in the UK and Ireland. Noack Group lists Celtic Sea Minerals as a supplier for Central/Eastern Europe.
- Over 100 research papers, including 50+ peer-reviewed journal publications evidencing collaborations with universities and research institutes worldwide.

Key & Local Resources

- Celtic Sea Minerals specialises in the development, manufacture and marketing of natural products, sourced from the clear, clean waters of the Atlantic Ocean off the South West coast of Ireland. This local resource is central to their operations, providing a reliable supply of high-quality raw materials.
- Celtic Sea Minerals have exclusive access to unique Lithothamnium calcareum deposits of the coast of Iceland. Celtic Sea Minerals holds a government license in Iceland to harvest 50,000 tonnes per year, ensuring sustainable use by collecting only naturally detached "dead" algae fragments and leaving live beds intact.

Technical Resources

- We have our own biotechnology centre for non-stop innovation. We use state-of-the-art materials & methods and have a team of scientists with different areas of expertise. Our research facility also serves our customers across the globe with strategic insights.
- Our research platform offers animal nutrition insights for animal nutritionists, integrators, farmers and animal feed business. We make our **peer reviewed scientific papers** available true this platform. Science published by a.o. Journal of Dairy Science.
- Market leader in the field of marine minerals based on red seaweed algae Lithothamnium calcareum.

Energy Resources

- In the year 2015 Celtic Sea Minerals switched to using renewable sources of energy. By doing this, Celtic Sea Minerals have reduced their carbon footprint significantly. The energy used for the production process is generated by either Geo-thermal energy or Hydro Electric. These sources are completely 100% renewable energy sources.
- Celtic Sea Minerals employs modern, efficient, and environmentally friendly harvesting technologies. Each extraction operation is meticulously planned, utilizing GPS to log coordinates and ensure that no area is harvested more than once.

Value Proposition

- Celtic Sea Minerals were one of the first companies to apply science to seaweed and the role that seaweed nutrition can play in improving the health of animals/plants/ humans.
- Their research facility also serves our customers across the globe with strategic insights. This allows them to stay one step ahead. Science confirms that our natural, ethical and sustainable nutritional solutions will enhance a healthy animal gut function and optimise livestock performance.
- Their expertise and production techniques optimize the nutritional value of our marine minerals being rich in bioavailable trace minerals. Our products help nutritionists to formulate excellent nutritional requirements for feeding animal livestock in a responsible and sustainable way.
- Animal feed ingredients are safe and fully compliant with the globally recognised quality assurance schemes. All production facilities and harvesting operations are audited by FEMAS (Feed Materials Assurance Scheme) and certified by GMP+, Organic Trust and ISO 9001:2015.
-

Customers/Targets & Communities

- Exporting to over 52 countries across Asia Pacific, Central America, South America
- Their primary customers include animal feed producers, integrators, and farmers involved in livestock production, such as dairy and beef cattle, swine, and poultry sectors. These stakeholders seek to improve animal health, optimize feed efficiency, and enhance overall livestock performance.
- The company positions itself as a leader in marine mineral research, highlighting its extensive scientific backing. This emphasis on evidence-based benefits appeals to a market increasingly focused on animal health and sustainable practices.
- Through platforms like their Marine Minerals Nutrition Platform, the company disseminates scientific findings and practical insights, positioning itself as a thought leader and building trust within the industry

Environmental & Climate Smart USP

- Environmental impact assessments are regularly carried out by independent marine institutes.
- Our harvesting technology is modern, efficient and environmentally friendly.
- By logging the GPS location and coordinates of the individual grids during extraction, we ensure that no grid area is harvested from more than once.
- The energy used for the production process is generated by either Geo-thermal energy or Hydro Electric. These sources are completely 100% renewable energy sources.
- Our production expertise is also designed to keep our marine minerals rich, natural and the nutritional content intact.
- The marine minerals produced by Celtic Sea Minerals are truly sustainable and support the global agriculture sustainability goals to feed the future in a responsible way.
- The company's products offer natural, ethical, and sustainable nutritional solutions that enhance animal health and performance. By controlling every step of the production process and leveraging extensive scientific research, Celtic Sea Minerals provides high-quality marine mineral supplements that meet the evolving needs of animal feed producers, integrators, and farmers in a sustainable and health enhancing way.
- Celtic Sea Minerals has capitalized on feed industry trends like reducing antibiotic use (by improving gut health naturally) and lowering the environmental footprint of livestock. Its R&D-proven claims – such as improved feed conversion efficiency and methane reduction – have become selling points that drive uptake.

Distribution & Upscaling

- Celtic Sea Minerals has invested in enhancing its production capabilities. In 2005, the company inaugurated a new factory in Bildudalur, Iceland, to bolster its manufacturing capacity. Subsequent expansions were made in 2015 at both the Castletownbere facility and the Bíldudalur site, significantly increasing production capacity to meet rising global demand.

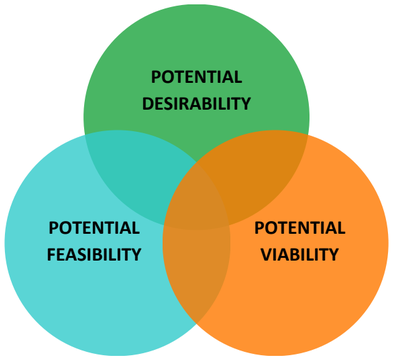
COSTS

- **Baseline Costs**: Raw Material Sourcing and Procurement. Administrative overhead also includes the cost of corporate facilities and services.
- Manufacturing and Production Expenses: The manufacturing cost structure includes labor, energy, and maintenance. Drying the seaweed is energy-intensive (e.g. fuel or electricity for evaporating thousands of liters of water), contributing to significant utility costs.
- Distribution and Logistics Costs; Sales expenses also include maintaining a salesforce or distributor support team.
- Research & Development Investments: Celtic Sea Minerals' strategy is heavy investment in research and development (R&D) to validate and improve its products.
- Various marketing and sales expenses to promote its products globally and educate the industry about marine minerals.

REVENUES

- Celtic Sea Minerals' revenues come primarily from the direct sale of its marine mineral products to the animal nutrition market. Overall, direct product sales are the lifeblood of the company's revenue, with partnership-enabled distribution broadening the customer base.
- Partnerships do play a role in the revenue model, mainly by expanding market reach. The company often partners with regional feed distributors under agency or distribution agreements.
- Looking ahead, Celtic Sea Minerals has several opportunities to further increase its revenues. One major driver is market expansion in new regions and species.

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
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Interreg Atlantic Area FISHINN
Co-funded by the European Union

FISHINN - Innovation Canvas

COMPANY: *AQUAMONITRIX* REGION: *CARLOW, IRELAND*

THEME 4

Key Activities

- Aquamonitrix Ltd is dedicated to providing water resource managers with accurate, simple and affordable analysers for nutrient monitoring. Recognising that nutrient pollution is one of the most widespread, costly and challenging environmental problems, particularly for water and wastewater treatment operators, industry, agriculture, regulators and those charged with protection of our aquatic and marine resources. The Aquamonitrix® Next Generation Nitrate and Nitrite Analyser addresses the challenges associated with existing real-time nitrate and nitrite analysers. It offers accurate and precise real-time measurements, combined with stable calibration and simple set-up, operation and servicing – all adding up to low life-time costs and affordable high-frequency monitoring.
- Aquamonitrix Ltd is a spinout from T.E. Laboratories (TelLab), which was established thirty years ago, and through a series of acquisitions and organic growth, is today a multi-division company, focused on laboratory analysis services, laboratory chemicals, water and wastewater research and new product development.

Key Partners & Suppliers

- Existing distributors in RAS market segment. Ideally with an existing presence in the RAS market segment.
- We require some instrumentation experience with capacity to service equipment. Most RAS sites are in remote parts.
- An ability to convey the value proposition to RAS facilities.
- Complementary suppliers of monitoring equipment e.g. Blue Unit.
- Designer of RAS facilities – Pure Salmon Kaldnes, AquaBio Tech, AKVA Group, AquaMaof etc
- T.E. Laboratories (TelLab): Aquamonitrix Ltd is a spin-out from TelLab, benefiting from its 30-year expertise in laboratory analysis, chemical production, and water research.
- Linkwave Technologies and Sierra Wireless: Collaborations with these technology providers have enabled the integration of IoT capabilities into Aquamonitrix® analyzers, facilitating real-time data transmission and cloud connectivity.
- On the technology side, it collaborates with IoT providers such as Sierra Wireless and Linkwave Technologies to enable wireless, cloud-connected data transmission for its analysers.

Key & Local Resources

- Aquamonitrix benefits significantly from its geographic and industry context in Ireland with access to TelLab's local laboratory and manufacturing facilities, enabling development of prototype in-house.
- Access to Ireland's educated talent pool and tech-oriented, cross-disciplinary knowledge (from fields like pharma, IT and engineering) that can be applied to water technology innovation.
- Participated in Ireland's BIM (Bord Iascaigh Mhara) Innovation Studio accelerator for aquaculture tech, which helped it tailor its value proposition to fish farming and ultimately led to an industry award.
- Aquamonitrix has received support from Enterprise Ireland (a state economic agency) for funding, intellectual property strategy, and scaling advice.

Technical Resources

- Advanced Analytical Instruments: The company utilizes cutting-edge technology to ensure high precision in water quality monitoring.
- Cloud-Based Data Management: Through partnerships, Aquamonitrix Ltd offers cloud services for real-time data access and management.
- Aquamonitrix continues to expand its technical capabilities through R&D collaborations. In a recent Horizon Europe project (AGRARSENSE), the company is working with University College Cork's Tyndall Institute to integrate additional electrochemical sensors.
- At the end users' site, maintenance and service of the analyser can be completed by a trained operator
- Remote technical support is provided by Aquamonitrix

Energy Resources

- Energy efficiency and sustainability are integral to Aquamonitrix's product design and company ethos. The Aquamonitrix analyser was engineered to have low power consumption, allowing it to operate in the field for extended periods with minimal energy input.
- The analyser has a low power requirement in a RAS environment
- Where power is not available, a solar/battery solution can be provided (subject to availability of day light hours)
- By providing real-time data, Aquamonitrix also indirectly helps optimize energy usage in water management systems.
- Aquamonitrix's own operations benefit from the energy efficiency of its device as well: minimal power draw means lower operating costs.

Value Proposition

- Accurate and Real-Time Monitoring: Aquamonitrix® analyzers provide reliable data on nitrate and nitrite levels, enabling proactive water quality management in the RAS.
- Post biofilter to understand the effectiveness of the biofilter. The conversion of Ammonia to Nitrate. This is important during the start up phase and periods of fluctuating loads into the biofilter ie vaccination.
- Final effluent monitoring to assess the water quality prior to discharge into watercourse or sewer. This is important in area with stringent guidelines on water quality.
- Environmental compliance with strict discharge limits - Netherland, Denmark, Germany.
- Increased frequency in testing allows early detection of abnormal operating conditions in the biofilter.
- Labour cost saving. Traditional methods of monitoring are time consuming. Important in high labour cost countries such as Norway.
- Fish Health – prolonged exposure to nitrate is stressful to salmon and can lead to reduced appetite.
- Aquamonitrix will work in varying saline conditions – RAS Salmon Farming. This is a USP for the analyser against our competitors.

Customers/Targets & Communities

- USA, Ireland, Netherlands, UK, Denmark
- Municipal Water and Wastewater Authorities: City and regional water utilities use Aquamonitrix to monitor nitrates and nitrites in drinking water sources, distribution networks, and wastewater treatment plants.
- Industrial and Commercial Dischargers: Industries such as food and beverage processing, agriculture (e.g. dairy co-ops), pharmaceuticals, or any manufacturing facilities that release effluent containing nitrogen compounds.
- Aquaculture and Fisheries: Aquamonitrix has quickly gained traction in the aquaculture industry, particularly with operators of land-based fish farms and RAS facilities.
- Environmental Monitoring Agencies
- Agricultural Sector and Water Resource Managers
- Denitrication
- Researchers & Academia

Environmental & Climate Smart USP

- Aquamonitrix offers clear climate-smart advantages: it helps protect water ecosystems by reducing pollution, aids resource conservation (water, energy, nutrients), and supports the decarbonization of water management. By enabling evidence-based, real-time decisions, it empowers stakeholders to maintain water quality in a sustainable way, which is crucial as environmental compliance and climate resilience become ever more important. Aquamonitrix's role in various environmental programs and its alignment with directives on water and emissions underscore its contribution to a cleaner, climate-friendly future for water management
- Reduced energy consumption. Improved effluent compliance. 99% accuracy and precision in fresh water and 95% in waste water monitoring. Controls nitrous oxide emissions by using real-time nitrite (and nitrate) data to improve process control in biological nitrogen removal
- Enhanced Environmental Stewardship: By providing real-time data, Aquamonitrix® enables users to promptly address nutrient pollution, contributing to healthier ecosystems and supporting climate resilience.
- The device itself is built with sustainability in mind: its low power requirements mean it can run on solar panels, supporting the use of renewable energy in monitoring networks.
- Aquamonitrix's analyser also promotes water conservation and efficient water use. In aquaculture systems, continuous monitoring of nitrite and nitrate means farmers can recirculate water longer and only flush or replace water when necessary for quality.
- Aligns with goals of the EU Water Framework Directive.

Distribution & Upscaling

- Aquamonitrix uses a blend of direct engagement and partnerships. For sophisticated clients (like large utilities or government projects), Aquamonitrix often engages directly or via pilot programs (e.g., Horizon Europe consortia, EPA challenges) to demonstrate value.
- Product Line Expansion: The company is developing additional analyzers to monitor other nutrients and parameters, aiming to cater to a broader range of water quality monitoring needs.
- Trade Events

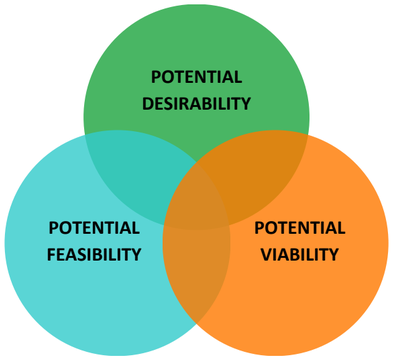
COSTS

- Operating costs for Aquamonitrix include research and development expenses (though a substantial part of these were offset by grants during its early years)
- R&D costs have been significant given the development of a novel sensor
- Maintenance and logistics of deploying units (e.g., travel to pilot sites, shipping of units to customers, and providing replacement reagents/parts) also factor into operating costs
- Salaries for its more than 50 employees (including scientists, engineers, and sales staff)

REVENUES

- Aquamonitrix's revenue streams are diversified across multiple customer segments. It earns from public sector clients (municipal utilities, environmental agencies), private industrial clients, and aquaculture businesses
- Primary revenue streams: Aquamonitrix generates income primarily through sales of its analyser units and related services
- Annual maintenance contracts, calibration services, or consumables (e.g. replenishment of the IC eluent or replacement columns)
- Potential to employ a subscription model for cloud data access or remote monitoring software

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
What can it make happen? What resources are needed? What skillsets are required?

Potential of viability
What value and/or impact will/could this idea bring to the organisation and to the territory?

FISHINN - Themes

1. Collaboration with the food and tourism sector
2. Advancing position in the value chain through collaboration and alliances with agents in the sector, aquaculture
3. Blue Economy opportunities other than fishing e.g. energy, algae, pharmaceuticals, nutraceuticals & health products
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6. Other innovations and best practice (non tech, non-business)

Interreg Atlantic Area FISHINN
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FISHINN - Innovation Canvas

COMPANY: *BANTRY MARINE RESEARCH STATION* REGION: *BANTRY, IRELAND*

THEME 6

Key Activities

- Bantry Marine Research Station (BMRS) is marine biotechnology company located on the shores of Bantry Bay, Ireland. Established to harness the rich marine biodiversity of the North Atlantic, BMRS focuses on delivering marine bio-based products and processes.
- Cleaner fish production (lumpfish and wrasse) which are used by the salmon industry to remove sea lice
- Seaweed nursery (Alaria esculenta and Saccharina latissima) producing seeded string and gametophytes
- On shore and coastal seaweed production of Asparagopsis armata, Porphyra umbilicalis, Alaria esculenta and Saccharina latissima
- Research in the aquaculture sector mainly focussed on the delivery of marine biomass, bio-based products and processes
- Fish trial unit & hatcheries
- Environmental Monitoring: BMRS engages in oceanographic studies and Geographic Information System (GIS) mapping to monitor marine ecosystems, contributing to environmental conservation efforts.

Key Partners & Suppliers

- Salmon farmers who buy the cleaner fish
- Seaweed farmers who buy the seaweed string
- Seaweed processers who buy the harvested seaweed
- Aquaculture and research equipment and consumable suppliers
- Feed suppliers
- Funding agencies
- Academic Institutions: Collaborations with universities and research centers facilitate knowledge exchange and joint research initiatives.
- Industry Stakeholders: Partnerships with marine-based industries support the practical application of BMRS's research findings
- Government Agencies: Engagements with bodies like the Marine Institute and Bord Iascaigh Mhara (BIM) align BMRS's projects with national marine strategies.

Key & Local Resources

- Marine Biodiversity: Bantry Bay's diverse marine life provides a rich source of specimens for research and product development.
- Community Engagement: Strong ties with local communities enhance collaborative efforts in marine conservation and sustainable resource utilization.
- Ripe seaweed sori
- Fish eggs
- Feed for the cleaner fish
- Seawater (pumped ashore)
- Inorganic nutrients for seaweed cultivation

Technical Resources

- 50 indoor tanks from 600L to 8000L (Total capacity >100m3)
- Three Recirculating Aquaculture Systems (RAS)
- Drum filter, UV and ozone treatment and sand filters
- Biofilter to treat wastewater
- Oxygen generation equipment
- Temperature controlled rooms (4) and cabinets (9)
- Alarmed Sensors to measure the water quality in the tanks
- Analytical lab equipment that includes a centrifuge, freezers (-20C and -86C), laminar flow unit, microplate reader, spectrophotometer, UHPLC (Ultra High Performance Liquid Chromatography), freeze driers and micro-scopes

Energy Resources

- BMRS currently depends on the national grid for its energy needs, with ongoing considerations for future renewable energy integration.
- BMRS operates Ireland's first pilot-scale marine Recirculating Aquaculture System (RAS), designed to cultivate lumpfish used in salmon farming for natural sea lice control. This system minimizes water usage by continuously filtering and reusing water, reducing the need for constant fresh seawater intake.
- BMRS employs a combination of advanced aquaculture technologies and proactive energy management practices to support its research and operational activities.

Value Proposition

- Bantry Marine Research Station (BMRS) pioneers sustainable marine biotechnology and aquaculture solutions, leveraging cutting-edge research to enhance ocean health, seafood security, and environmental conservation. With advanced aquaculture systems, bioactive marine compounds, and eco-friendly innovations, BMRS empowers industries, researchers, and communities to harness the ocean's potential responsibly for a sustainable future.
- Cleaner fish: These are used as a biological control of lice by salmon farmers
- Seaweed: High quality seed supplying seaweed growers. Also, the seaweed produced by BMRS is organic and can be used for food and feed and the extraction of high value compounds. Specifically, Asparagopsis armata is known to reduce methane in ruminants so can be used by animal feed companies.
- Research and Consultancy: BMRS has vast experience in aquaculture research so can consult on a variety of aquaculture related issues and take part in research projects including subcontracts for fish trials.

Customers/Targets & Communities

- Salmon farmers: Procuring the cleaner fish
- Seaweed farmers: Procuring the seaweed seeds
- Seaweed wholesalers and processor: Procuring the mature seaweed
- Research: BMRS collaborates with universities, research institutes and companies in research projects and commercial trials
- Biotechnology Firms: Companies seeking marine-based compounds for pharmaceuticals, nutraceuticals, and cosmetics.
- Aquaculture Industry: Stakeholders interested in sustainable cultivation techniques and species diversification.
- Environmental Agencies: Organisations requiring data and solutions for marine ecosystem monitoring and preservation.
- local communities, promoting sustainable marine resource use and supporting marine-based economic development.
- BMRS's target audience encompasses research entities, industry stakeholders, environmental groups, governmental agencies, biotech firms, and local communities, all benefiting from its marine research and sustainable development efforts.

Environmental & Climate Smart USP

- Seaweed uses carbon dioxide as a carbon source, hence it has the potential to sequester carbon.
- We practice Integrated Multi-Trophic Aquaculture on land (using the wastewater from the fish hatchery as a nutrient source for seaweed) and at sea one of our seaweed sites is located beside a salmon farm for the same purpose.
- The seaweed *Asparagopsis armata* produced at BMRS is known to reduce methane emissions in ruminants.
- Therefore production at BMRS is focused on the circular economy and the sustainable blue bioeconomy.
- Sustainable Aquaculture Practices: BMRS's research promotes low-impact aquaculture, aligning with global sustainability goals.
- Carbon Sequestration Initiatives: Seaweed cultivation projects contribute to carbon capture, addressing climate change mitigation.
- Bantry Marine Research Station (BMRS) aligns its value proposition with key national and European policies through its dedication to sustainable marine practices and environmental conservation such as: Marine Strategy Framework Directive (MSFD); European Green Deal and Biodiversity Strategy for 2030
- Ireland's National Marine Planning Framework (NMPF): The NMPF is Ireland's strategy for managing its marine resources, promoting sustainable development, and protecting marine biodiversity.
- By integrating its operations with these policies, BMRS reinforces its commitment to fostering a sustainable and resilient marine environment, contributing to both national and European environmental goals.

Distribution & Upscaling

- The research output is disseminated via peer reviewed journals, conferences and on the BMRS website
- The products (fish and seaweed) are advertised on the website and during industry events.
- Collaborative Networks: National and international partners facilitate the dissemination and application of research outcomes.
- Pilot Projects: Implementation of scalable models for marine product development and aquaculture practices.

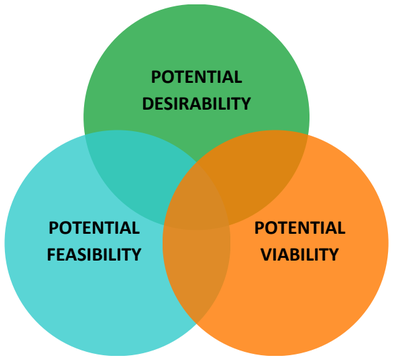
COSTS

- The heaviest expense is on energy costs to run the RAS systems, temperature control and drying seaweed
- Feed costs are also high. Operating Costs:
- Expenses include research and development
- Facility maintenance
- Personnel
- Compliance with environmental regulations

REVENUES

- Research projects: EU funded and national projects. Tenders awarded. Private research contracts.
- Research grants, consultancy services, and collaborations with industry partners.
- Cleaner Fish: These are sold directly to salmon farmers
- Seaweed: The seaweed is sold to primary producers (seeds) and processors (mature plant)

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
What can it make happen? What resources are needed? What skillsets are required?

Potential of viability
What value and/or impact will/could this idea bring to the organisation and to the territory?

FISHINN - Themes

1. Collaboration with the food and tourism sector
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6. Other innovations and best practice (non tech, non-business)

Interreg Atlantic Area FISHINN
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FISHINN - Innovation Canvas

COMPANY: *IMPACT-9* REGION: *IRELAND*

THEME 2/6

Key Activities

- IMPACT-9 focuses on creating inflatable marine structures for aquaculture. The patented SeaStrut inflatable beams and the Net9 offshore fish pen system. These designs leverage flexible, high-strength materials (synthetic fiber ropes, elastomeric fabrics) to build pens that can withstand open-ocean conditions while remaining collapsible and lightweight.
- They apply offshore engineering expertise (drawn from the wave energy sector) to innovate aquaculture enclosures with unique wave compliance and elasticity.
- R&D – IMPACT-9 conducts numerical modeling and simulation (using tools like ProteusDS and OrcaFlex) to optimize designs for harsh marine environments.
- IMPACT-9 engages in producing prototype hardware for trials. They have developed SeaStrut-SW inflatable beam products for early adopters in shellfish and seaweed farming.
- IMPACT-9's solutions are applied in both open-ocean fish farming and nearshore aquaculture. Their flagship Net9 concept is an offshore finfish pen designed to be moored in deep, high-energy sites (60m+ water depth

Key Partners & Suppliers

- IMPACT-9 relies on a network of strategic partners for engineering, research, funding, and eventual commercialization of its technology.
- TTI Marine Renewables (Scotland): A marine engineering firm specializing in fiber ropes and mooring design
- University College Cork & MaREI (Ireland): Through projects like the Offshore Aquaculture Renewable Power Solutions (OARPS), UCC's MaREI Centre provided research facilities and expertise
- UK Seafood Innovation Fund (SIF) & SAIC & The Sustainable Aquaculture Innovation Centre (Scotland) provided additional support, reflecting industry interest in bringing the concept to market.
- Simply Blue Group: A blue-economy project developer that joined the Net9 development consortium.
- European Marine Energy Centre (EMEC): The Orkney-based EMEC is another partner in demonstrating the technology.
- HATCH Aquaculture Accelerator: plugged IMPACT-9 into a global network of aquaculture experts and investors.

Key & Local Resources

- IMPACT-9 capitalizes on the natural and regional resources of the North Atlantic maritime cluster. Being based in Dublin, Ireland, the company has access to a strong local maritime industry and research ecosystem. Ireland's Atlantic coast offers realistic testing conditions (strong waves, winds) which IMPACT-9 uses for trials.
- IMPACT-9 benefits from proximity to European suppliers of advanced textiles and marine equipment. North Sea/Baltic region.
- Founder and team come from the regional offshore engineering sector (wave energy and marine renewables in Ireland/UK). This means they are familiar with local regulatory environments and industry standards, navigating permitting and compliance.

Technical Resources

- The company also boasts strong simulation and engineering capabilities. They perform advanced dynamic modeling of cages and moorings to meet marine engineering standards
- IMPACT-9's innovations are grounded in a multidisciplinary understanding – from hydrodynamics and structural engineering to fish biology.
- R&D efforts are supported by technical partners (like TTI and research institutes) and are crucial for de-risking the technology.
- Engineering tools and software, and a network of test facilities and experts – all orchestrated to bring a novel aquaculture solution to market.

Energy Resources

- A distinguishing aspect of IMPACT-9's approach is integrating and leveraging renewable energy in its operations. The company's offshore fish farm design is conceived to co-locate with offshore wind farms, effectively turning wind turbine sites into dual-use zones for energy and aquaculture
- The company has actively researched embedded renewable power solutions for its aquaculture platforms.
- More prominently, the energy resource strategy is in the product itself: by aligning fish farm deployment with clean energy projects, the company ensures the farms can be powered sustainably.

Value Proposition

- Unlocking Offshore Production: The company's inflatable containment systems enable fish farming in the open ocean, beyond sheltered bays. This opens up vast new "ocean real estate" for seafood production without increasing pressure on inshore ecosystems.
- Enhanced Fish Health & Welfare: The design prioritizes the well-being of stock. Net9 pens keep salmon in deeper, oxygen-rich water below the sea-lice layer, which helps prevent parasite infestations and harmful algal bloom exposure.
- Cost and Operational Efficiency: A key selling point is that IMPACT-9's inflatable system is intended to be more affordable and easier to maintain than traditional offshore cages.
- Innovative & Modular Solutions: The flexibility of the system is a value in itself. The same core technology (inflatable beams and elastic tendons) is versatile and can support multiple aquaculture uses – from finfish pens to shellfish rafts. This modular approach means a client could adopt IMPACT-9's solution for salmon, and potentially expand it to seaweed or mussel culture in an integrated way.

Customers/Targets & Communities

- Salmon Farming Companies: Large salmon producers in regions like Scotland, Ireland, Norway, and Chile are key targets.
- Aquaculture Equipment Providers: Companies that build and supply fish farming gear (e.g. cage manufacturers, mooring system providers) are another segment.
- Shellfish and Seaweed Farmers: The technology's applicability to other marine farming means mussel farmers, oyster growers, and seaweed cultivation enterprises are also potential customers.
- Government and Development Projects: Agencies and consortia aiming to boost seafood production sustainably are indirect customers/stakeholders.
- Geographic Markets: Initially, IMPACT-9 is focused on the North Atlantic region – UK and Ireland as launch markets, with a clear eye on Norway and Scotland's large salmon sectors. The North European market is attractive due to its size (global salmon farming is a $15+ billion industry with Europe as a major share

Environmental & Climate Smart USP

- IMPACT-9's climate-smart USP is the promise of sustainable aquaculture growth with minimal environmental cost. It offers a way to produce more seafood for a growing population without exacerbating climate change – in fact, potentially helping mitigate it through integration with renewables and carbon-sequestering co-farms. By reducing local pollution, enabling cleaner operations, and dovetailing with green energy, IMPACT-9's technology aligns with global sustainability goals and differentiates itself as an eco-conscious choice in the aquaculture market.
- A core unique selling point is the reduction of ecological impact compared to conventional aquaculture: by operating in offshore environments, the system takes advantage of natural processes to maintain cleaner water and healthier fish stocks. Waste from fish (uneaten feed, feces) disperses in strong ocean currents, which means less organic buildup and less risk of local eutrophication.
- Another climate-smart aspect is the potential for integrated multi-trophic aquaculture. The flexible SeaStrut structures could support seaweed cultivation alongside fish, creating a mini-ecosystem where seaweed absorbs CO_2 and nutrients from the fish, contributing to carbon sequestration and nutrient recycling.
- Energy efficiency is another USP: the design's compatibility with renewable energy (wind, solar, wave) means that the farms themselves can be low-carbon in operation.
- IMPACT-9's solution targets the climate impact of protein production. Farmed salmon already has a lower carbon footprint than red meat, by enabling offshore expansion, this technology helps meet protein demand reducing land-based resource use.

Distribution & Upscaling

- IMPACT-9's go-to-market and scaling strategy involves demonstrative pilots, partnerships, and alignment with existing marine industries to distribute its technology.
- IMPACT-9 uses direct engagement as its sales channel
- Scaling Potential: The ultimate vision is to embed Net9 pens within offshore wind farm arrays as a scalable model.
- Collaborative projects: governments or industry groups funding offshore farm trials where IMPACT-9 provides the tech.

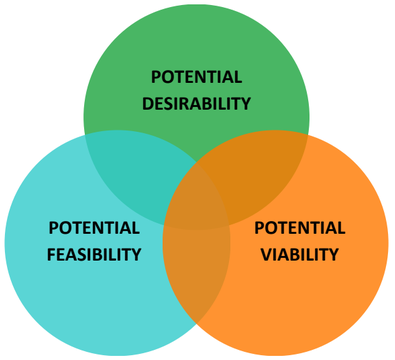
COSTS

- Research and development. This includes engineering design work, simulation and testing expenses, and prototype construction.
- Manufacturing costs are currently limited to small batches/prototypes, but will scale up as they move to producing full systems.
- Prototyping and testing
- Business development
- Personnel (a team of engineers and marine specialists), intellectual property management, and general admin.

REVENUES

- Revenue Streams (Current and Future): At present, IMPACT-9's revenue comes mainly from innovation grants and seed funding, rather than product sales. The company has raised at least €100,000 in seed investment through the HATCH accelerator and it benefits from grant awards for R&D (UK Seafood Innovation Fund, SEAI, etc.). These funds are essentially non-dilutive revenue that support development.
- Provision of technical consulting services
- Future revenues - commercial sales or licensing of the aquaculture systems. Once the Net9 pen is proven and approved, IMPACT-9 can sell full pen units (or turnkey farm solutions) to salmon farming companies.

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
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FISHINN - Innovation Canvas

COMPANY: ***BLUE PET CO*** REGION: ***KERRY, IRELAND***

THEME **3**

Key Activities

- Blue Pet Co is an Irish-owned and operated blue biotechnology company specializing in the production of seaweed-derived bioactive ingredients using clean, sustainable bioprocessing technologies.
- They farm and sustainably harvest certified organic Irish seaweed for inclusion in our marine-powered dog supplements.
- Our research and development pipeline features proprietary, scientifically validated seaweed extracts.
- Focus on delivering advanced, sustainable solutions for pet health through innovative product development.

Key Partners & Suppliers

- Manufacturing Partnerships: Collaborates with Green Treats and Connolly Redmills for manufacturing processes.
- Strategic Alliance with international PLC to produce their range in Ireland for global distribution.
- US Expansion Efforts: Engaging with US manufacturers to expand production of our range while mitigating potential tariff risks.
- Veterinary Expertise: contribute to product development, innovation, brand ambassadors.
- Pet Support Groups & Rescue Collaborations
- Enterprise Ireland: funding & grants to support our go-to-market strategies in Germany and France, participation in global events.

Key & Local Resources

- Collaboration with Local Harvesters: Partners with harvesters in remote areas of West Ireland, preserving traditional practices
- Established Farms: Operates farms in Clew Bay and Kinvara, with licenses pending for Galway Bay and Donegal Bay

Technical Resources

- Expert team of scientists, veterinarians, and product developers advancing pet nutrition science.
- Ensures full control, traceability, and sustainability throughout production ("Sea to Pet").
- Planning a carbon-negative seaweed biorefinery to manage the entire value chain, from farming to consumer products.

Energy Resources

- Sustainable Manufacturing: Utilise clean, sustainable cascading technologies in an industrial environment to produce high-value ingredients. • Zero-Waste Innovation: Develop bioprocesses for the sequential extraction of high-value actives and ingredients from seaweed biomass, progressing toward zero waste. • Eco-Friendly Packaging: Focus on minimizing packaging impact with recyclable and compostable solutions.

Value Proposition

- Pioneering scalable, sustainable extraction of bioactive molecules.
- Unique formulations benefit canine digestive, immune, joint, skin, weight, and dental health
- Collaborates with seaweed harvesters and scientists for premium solutions
- Leverages Ireland's rich marine biodiversity with 400+ seaweed species. • Efficient Processing: Minimises food miles with local, sustainable seaweed processing. • Innovative Bioprocessing: Green extraction methods utilise seaweed fully
- Combines bioactives with essential nutrients for superior pet supplements. • Ingredient Transparency: Ensures full traceability across the supply chain. • Expert Team: Scientists, veterinarians, and product developers advancing pet nutrition science.

Customers/Targets & Communities

Primary Audience: • Demographic: Millennials (70% own a pet). • Spending Habits: High disposable income; average spend of £31 per month on dog supplements. • Lifestyle: Often pre-children, they follow healthy diets, live active lifestyles, and buy natural, nutrient-enriched foods for themselves. • Health Consciousness: Regularly take daily supplements/vitamins to enhance their own well-being.

Secondary Audience: • Demographic: Adults aged 40+ and families with children, where the dog is an integral part of the family. • Spending Habits: Reasonable disposable income; average spend of £9 per month on dog supplements. • Health Focus: Willing to invest in foods with specific health benefits to maintain fitness and health for their pets. • Lifestyle: Often provide healthy snacks to their children and may take or give daily vitamins/supplements.

Environmental & Climate Smart USP

- Heritage focused hand-harvesting methods ensure seabed preservation and environmental sustainability
- Utilise a low-carbon, zero-waste cascading biorefinery extraction process to create unique bioactive extracts for our dog supplements
- Eco-friendly methods achieve zero carbon emissions with low energy, sustainable practices
- Committed to developing innovative, carbon-negative products that support environmental sustainability.
- Ensures a secure supply while promoting carbon and nitrogen sequestration to support ocean habitats, biodiversity, and climate mitigation

  Employing a zero-waste, closed-loop cascading system for high-value bioactive ingredients

Distribution & Upscaling

- Three tiered sales strategy
- Strategic traffic generation across portfolio of product ranges
- D2C subscription model
- Personalised Nutritional Plans
- B2B success: 50 retailer groups in 30+ countries

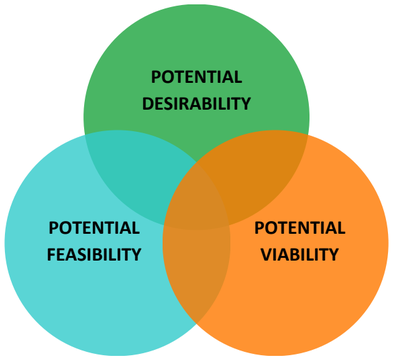
COSTS

- Baseline Costs: Allocated to Marketing, Finance, and Logistics to ensure smooth operations and strong brand visibility. 2. Key Resources: Sales and Marketing teams are essential for driving the success of both Direct-to-Consumer (DTC) and Retail channels. 3. Manufacturing and New Product Development (NPD): Requires additional funding for product innovation, packaging design, manufacturing, and associated costs. 4. Strategic Investment: Focused on these core areas to meet market demands, drive growth, and create value for stakeholders

REVENUES

- B2B - Retail Revenue
- International Partnership PLC Revenue: - Largest contributor to total revenue set to quadruple 2024-2029. Demonstrates strong and steady growth
- D2C (Direct-to-Consumer)

THREE LENSES OF INNOVATION



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FISHINN - Innovation Canvas

COMPANY: *TEAL MARINE TECHNOLOGIES LTD* REGION: *CORK, IRELAND*

THEME 4

Key Activities

- Design and build rugged boats for harsh atlantic environments from recyclable HDPE plastic. Our boats are not only one off the shelf design - we create custom solutions for special jobs on the water.
- Develop cutting edge marine technologies - remote controlled and autonomous unmanned Boats. USVs for survey work as well as for search and rescue or first response.
- Developing autonomous underwater monitoring and data collection technology. We develop a novel solution for long term underwater monitoring.

Key Partners & Suppliers

- Naval architects to ensure standards to comply with MSO
- Material suppliers - produced in Germany - buy through Irish local distributor
- Local Irish distributor for welding equipment
- We partner and team up with the whole Irish marine network as much as possible.
- Marine Institute of Ireland
- Bord Iascaigh Mhara
- Hatch Blue - Innovation & Start-up Support
- Munster Technological University
- Technological University of the Shannon

Key & Local Resources

- To grow our business we need to recruit junior engineers who are interested in modern marine and Aquatech.
- Teal is local employer in West Cork aiming to make space for aquatic innovation and space for young marine enthusiasts to live, work and progress career opportunities in the marine sector in West Cork

Technical Resources

- There is a huge demand in technological development of remote/internet connection for autonomous vessels and remote monitoring.
- We need more resources to increase the development of better data communication solutions.

Energy Resources

- Teal aims to become a carbon neutral company powering the workshop from purely local sustainable energy (power the workshop from own solar on the roof etc).
- Our workshop is ran in an energy saving and circular economy focused manner
- We conduct in-house recycling of plastic offcuts
- We are seeking collaboration with 3d printing companies in the region

Value Proposition

- Focused on marine decarbonization and robotics through the development of sustainable electrically powered smart vessels and robotic devices
- Our boats are built from sustainable and recycled materials, novel in design, combined with IOT solutions and an open architecture approach
- Innovative design & solutions with CNC, HPDE (high-density polyethylene) welding capabilities, electrical integration conducting trials and rapid prototyping skills in-house

Customers/Targets & Communities

- Commercial sectors in Offshore renewable energy (surveying boats manned and unmanned. And harbour workboats)
- Leisure sector - sustainable, accessible, low maintenance Adventure boats
- Commercial sector - sailing schools, tourism, training
- Aquaculture, fish farms, seaweed farms - autonomous monitoring
- Custom technology and boat solutions for various professional sectors

Environmental & Climate Smart USP

- Local employer
- Circular economy - in-house recycling
- Using low energy manufacturing methods
- Using 100% recyclable materials
- Aiming for fully self sufficient green energy
- Ocean-Friendly Design: low-noise, electric-powered vessels to reduce underwater sound pollution.
- End-of-Life Solutions: Offering a take-back program for boats and components to ensure responsible recycling and minimize environmental waste.
- Empowering a Green Workforce: Creating career opportunities in sustainable marine industries, inspiring a new generation of environmentally conscious engineers and technicians.

Distribution & Upscaling

- Word of mouth, local network
- National and international networking (attending to conferences and shows)
- Website
- (In planning) Workshop (build your own sensor) to engage with customers and recruiting
- Sales channels to grow:
- Active social media
- Website,
- SEO (search engine optimization)
- Web shop
- Exhibiting at shows
- Magazines and newspapers
- Create events and workshops to showcase boats and technology solutions

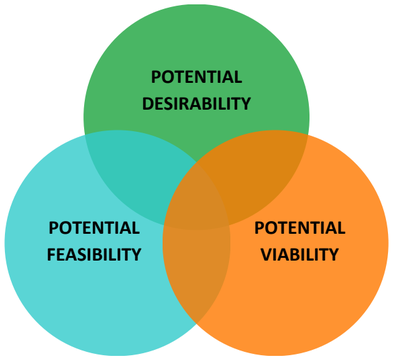
COSTS

- Local European Material is still too expensive to compete with cheap abroad manufactured
- R&D of technology, recruitment, rent is cost intensive

REVENUES

- Product sales
- Service fees
- Development of custom products
- Engineering Cosultancy

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
What can it make happen? What resources are needed? What skillsets are required?

Potential of viability
What value and/or impact will/could this idea bring to the organisation and to the territory?

FISHINN - Themes

1. Collaboration with the food and tourism sector
2. Advancing position in the value chain through collaboration and alliances with agents in the sector, aquaculture
3. Blue Economy opportunities other than fishing e.g. energy, algae, pharmaceuticals, nutraceuticals & health products
4. Blue biotechnology solutions and digitisation capabilities
5. Waste recovery and reuse i.e. plastics, fishing gear, circular economy solutions
6. Other innovations and best practice (non tech, non-business)

Interreg Atlantic Area FISHINN
Co-funded by the European Union

FISHINN - Innovation Canvas

COMPANY: *PURE OCEAN ALGAE* REGION: *CORK, IRELAND*

THEME 3/4

Key Activities

Pure Ocean Algae is an Irish biotechnology company specializing in the cultivation and processing of macro-algae (seaweed) for applications across various sectors.

- They create vertically integrated value chains from macro-algae and other marine resources.
- Vegetative proteins have become extremely popular, as they are considered a “healthy” protein and are very much “on-trend” with customers. Macro- Algae species are particularly high in protein and functional compounds and are valued for their food medicinal, pharmaceutical and cosmetics uses.
- Production of much sort after vegetative protein isolate products.
- Production of functional Dulse based supplements
- Development of Kelp based Bio-stimulant products
- Research and development of Functional seaweed ingredients
- Design and development of sea based growing structures
- Design and development of land-based tank and raceway systems

Key Partners & Suppliers

- Wholesale suppliers to Ireland, Europe and USA.
- Pharmacy and Health Shop Wholesalers
- Independent retail
- Irish Universities, MTU, YUS, UL and UCC.
- Irish Seafood Authority
- SFPA
- Investors: Pure Ocean Algae has secured funding from various investors, including The Yield Lab, Carbery Group, SeaAhead Blue Angels, and Enterprise Ireland, to support its expansion and technological advancements.
- Marine Institute Ireland – Collaborating on sustainable marine resource management.
- Bord Iascaigh Mhara (BIM) – Receiving support for seaweed aquaculture projects.
- Teagasc – Exploring seaweed applications in agriculture and animal feed.
- Fisheries & Local Coastal Communities – Sourcing wild and farmed seaweed from sustainable suppliers.

Key & Local Resources

- A 30,000 sq. foot, State of the art, fully licenced, equipped, Hatchery and Nursery facility.
- 40 Hectares of Multi Seaweed species growing sites.
- Geographical Location: Situated on the Beara Peninsula in West Cork, Ireland, the company benefits from the region's pristine marine environment, ideal for sustainable seaweed cultivation.
- Coastal Infrastructure – Access to marine research hubs and fishing ports supports seaweed farming logistics.

Technical Resources

- 20,000 sq foot state of art, fully licensed and equipped hatchery with primary processing facility.
- Bioprocessing & Extraction Equipment – Facilities for drying, grinding, and extracting bioactive compounds.
- Water Filtration & Purification – Ensuring high-quality processing standards for food, pharma, and cosmetic applications.
- Research & Testing Facilities – Labs for nutrient profiling, quality control, and microbial testing of seaweed-based products.
- Supply Chain & Logistics Technology – Managing traceability and sustainability certification of seaweed products.
- Production and engineering expertise & senior research team

Energy Resources

- Energy security is a consideration for our operations as it is the largest external cost of production.
- Energy Needs: We have high levels of pumping and lighting costs associated with our land-based activities. Energy requirements for the sea-based operations are based around fuel costs for our vessels.
- Where possible we have utilised highly efficient systems for the various processes.
- Renewable Energy Options: Incorporating renewable sources, such as Heat pumps has reduced our existing requirements, we intend to instal solar panels or wind turbines, to create our own power, over the next couple of years, we are also looking to build a new harvesting vessel that will be able to utilise energy that we produce on our land-based facilities.

Value Proposition

- Pure Ocean Algae have developed a low impact and high value blue biotech aquaculture based business in the remote and rugged Beara Peninsula near the Kerry, Cork border.
- Provision of functional ingredients for precision fertilisers, bioplastics, pharmaceuticals, protein source.
- Functional supplements are targeting customers who require a totally natural supplement product, in the areas of Inner Beauty, Immunity, Improved Gut Biome, hormone Balance and cognitive response.
- We also intend to supply targeted bio stimulants into the Agricultural and Horticultural sectors.
- We are also working on functional seaweed extracts with Clinical trials having taken place
- We supply Cultivation material to the industry

Customers/Targets & Communities

- Exporting to over 52 countries across Asia Pacific, Central America, South America
- Supplements - ABC1, Females 20 -60.
- Bio-stimulants – Agri /Horticulture farmers/ Wholesalers.
- Extract Supplements – Sufferers of Diabetes requiring a natural management option.
- Cultivation Material – Seaweed farmers in Ireland and EU.
- Communications through:
- Social media and E-commerce platforms
- Trade publications
- Trade Events
- General PR

Environmental & Climate Smart USP

- Renewable Energy Integration: Transition to maximum renewable usage is underway
- Resource Efficiency: Maximising efficiency across all elements of existing production will allow for maximum impact as transition to full renewable energy production
- Societal Benefits: Fosters sustainable ocean economies and supports UN SDG 14("Life Below Water").
- Policy Alignment: Aligns with the EU Green Deal and national strategies for ocean conservation and decarbonization.
- Pure Ocean Algae has the ultimate “Green” credentials, based on a raw material that is 100% environmentally sustainable and ultimately Carbon negative.
- Removal of excess nutrients from existing ecosystems
- Creation of new habitats and protected areas for juvenile fish and shellfish species
- Creation of high quality proteins with no inputs, from a completely sustainable source that does not require fresh water or land.
- Providing sustainable alternatives to artificial fertilisers and pesticides
- Seaweed farming and cultivation has the opportunity to impact peripheral coastal communities, creating new and varied opportunities in areas where job creation has been historically difficult.
- The seaweed industry, can help sustain this communities, utilising the unique set of marine based skills, built up over generations and provide a solid foundation, not only to maintain coastal communities, but ultimately to see theme develop and flourish.

Distribution & Upscaling

- B2B Sales Model – Supplying bulk ingredients and extracts to manufacturers in food, cosmetics, pharma
- Online & Direct Sales – Potential for selling retail-ready seaweed-based products (supplements, powders)
- Export Expansion – Into EU, US and Asian markets, capitalizing on rising demand for marine superfoods.
- Collaborating with major biotech and FMCG companies for co-branded product innovations.

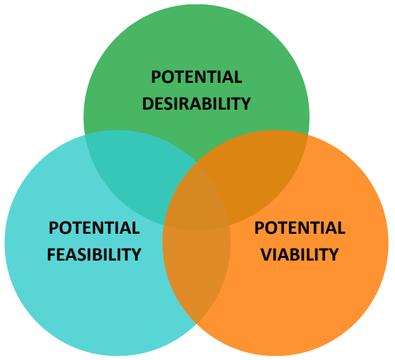
COSTS

- Seaweed Farming & Harvesting – Infrastructure, marine permits, and labor.
- Processing & Extraction – Energy-intensive drying, milling, and liquid extraction.
- Quality Testing & Certifications – Compliance with EU Organic, FDA, and EFSA food safety regulations.
- R&D & Innovation – Investments in new bioactives, fermentation, and hydrocolloid applications.
- Marketing & Distribution – Branding, logistics, and B2B partnerships.

REVENUES

- B2B Ingredient Supply – Selling bulk seaweed extracts and powders to manufacturers.
- Retail Sales – Offering packaged seaweed supplements and skincare via online and health stores.
- Licensing & Co-Development – Partnering with biotech firms for new product formulations.
- Carbon Credits & Sustainability Funding – Potential revenue from blue carbon sequestration projects.

THREE LENSES OF INNOVATION



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Interreg Atlantic Area FISHINN
Co-funded by the European Union

FISHINN - Innovation Canvas

COMPANY: *AURANTA* REGION: *DUBLIN, IRELAND*

THEME 3

Key Activities

- **Auranta is a pioneering biotech company** developed a line of functional fish feed products, including its flagship AuraAqua product, which enhances immunity and gut health in various aquaculture species such as shrimp and salmon. Its core business centers on formulating plant extract and organic acid-based supplements that improve gut health, immunity, and performance in livestock and aquaculture.
- Alternative to Antibiotics and Chemicals
-

Key Partners & Suppliers

- Bioscience Nutrition - Limerick Ireland
- Agriculture Food Bioscience Institute in Belfast – UK
- Banat Veterinary Medicine – Romania
- Cluj University – Romania
- Edinburgh University – UK
- London School of Tropical Medicine – UK
- University College Cork – Ireland
- University of Georgia – USA
- University College Dublin – Ireland
- Academic and commercial links with veterinarians in different parts of the world.
- Auranta's growth in aquaculture was accelerated by its participation in the BIM Innovation Studio, a mentoring program for aquatech startups run by Ireland's seafood development agency (BIM) in partnership with Hatch Blue

Key & Local Resources

- Auranta's supply chain makes use of local or regional producers for its ingredients where possible. The formulation of AuraAqua is done in Ireland with inputs from Bio-Science Nutrition Ireland (BSN)
- While Ireland itself is not a source of citrus or olives, Auranta's innovation lies in combining natural extracts (like citrus peel extract and olive leaf extract) with organic acids. These components are globally sourced but processed locally. Ireland's role is in the value-add – converting into a finished, value-added product.

Technical Resources

- Expert team of scientists, veterinarians, and product developers advancing pet nutrition science.
- Laboratory and testing facilities both in-house within the company and involving university researchers.
- In-house microbiologists, bacteriologist, virologist, biotechnologist, plant biologist.
- Research & Development Infrastructure: Since its inception, Auranta has invested heavily in R&D. The company prides itself on a science-based approach, backing its products with rigorous data.

Energy Resources

- Energy Usage in Feed and Food Additives Manufacturing: (R&D) – laboratory testing, formulation, and trials. Manufacturing – Packaging & Distribution
- Ingredient extraction and processing – converting plant-based compounds into active, bioavailable forms.
- Drying and mixing – if producing powdered forms of their additives. Cold storage – some bioactive ingredients may require refrigeration.
- Auranta is headquartered in Dublin, Ireland, where over 40% of electricity is generated from renewable sources.

Value Proposition

- AuraAqua's formula is a result of technological know-how in chemistry and nutrition. The product combines multiple ingredients in a synergistic way – notably organic acids (like citric and malic acid) with natural extracts (citrus and olive extracts
- AuraAqua is a natural functional ingredient to support fish and shrimp health and performance.
- Promotes growth of beneficial microbiota and a healthy gut microbiome increasing production of organic acids to hinder the growth of harmful bacteria and stimulate enzyme, improving nutrient digestion.
- Reinforces the natural immune response capabilities and digestive capabilities, reducing morbidity and increasing growth performance.
- Reduces the ability of pathogenic bacteria and parasites to colonise and infect the intestinal tract.

Customers/Targets & Communities

- Fish & Shrimp Farmers: The end-users of AuraAqua are aquaculture producers who raise species like shrimp, salmon, trout, tilapia, and other fish.
- Aquaculture Feed Companies: Auranta also markets to feed manufacturers and feed additives distributors. These B2B customers act as intermediaries, incorporating AuraAqua into formulated feeds or selling it as a premix to farms
- Aquaculture Integrators and Enterprises: In some markets, large integrated seafood companies operate hatcheries, farms, and sometimes feed mills internally.
- Domestic and Niche Markets: While the bulk of AuraAqua's market is international, Auranta would also target local or niche segments. Irish and UK fish farms (for trout, salmon, or shellfish) are smaller in scale but can serve as reference customers and early adopters.

Environmental & Climate Smart USP

- Reducing Antibiotic Usage and Pollution: One of AuraAqua's greatest environmental contributions is that it enables farms to use fewer antibiotics and chemicals, thereby reducing pharmaceutical discharge into water systems.
- Natural, Biodegradable Ingredients: The product is composed of food-grade, natural ingredients (organic acids like citric/malic acid and botanical extracts from citrus and olive)
- pmc.ncbi.nlm.nih.gov
- . These substances are readily biodegradable in the environment.
- Auranta mission is to create all-natural antimicrobial solutions to improve the shelf life of food and reduce food waste.
- Enhancing Resource Efficiency: AuraAqua helps fish and shrimp convert feed into body mass more efficiently
- Supporting Sustainable Certifications: Farms aiming for sustainability certifications (like GlobalGAP, ASC, or organic labels) must minimize chemical use and demonstrate environmental care.
- Lowering Emissions Through Local Production: Although a smaller aspect, it's worth noting that Auranta produces AuraAqua in Ireland and ships concentrated product to end markets.

Distribution & Upscaling

- Sales channels across the brand in 11 countries. Currently appointing distributors in 12 more including Thailand, Vietnam, Mozambique, The Philippines, Saudi Arabia, Jordan, Kuwait, Egypt, Turkey, UK, Benelux, Russia and the Baltics.

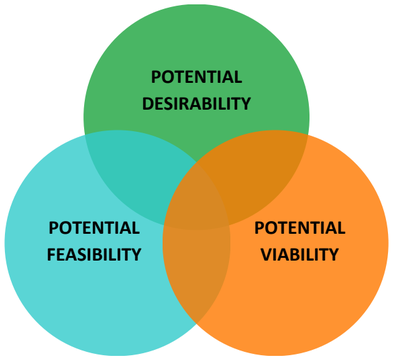
COSTS

- Research and Development Costs: A significant portion of Auranta's costs has historically been devoted to scientific research, trials, and product development.
- Personnel and Staffing: Human capital is a major operating expense.
- Manufacturing and Supply Chain Costs: Auranta outsources production to a contract manufacturer (BSN in Ireland) for AuraAqua, which means it pays for manufacturing services as well as raw materials.
- Administrative and Overhead Costs: Running offices (rent at NovaUCD or other facilities), utilities, insurance, and general administration are part of the cost structure.

REVENUES

- Regional Distribution Partnerships
- Broad Product Portfolio – Multiple Revenue Lines: Auranta's array of products means diversified revenue streams across different sectors. Revenue comes from the agri-feed segment (cattle, poultry, swine) and now the aquaculture segment.
- Feed Additive Sales (Aquaculture – AuraAqua): With the introduction of AuraAqua, Auranta opened a significant new revenue stream in aquaculture. AuraAqua is sold to shrimp and fish farming operations
- Auranta generates revenue primarily through the sale of its feed additive products to the agriculture and aquaculture industries. Its business model revolves around product revenue rather than services.

THREE LENSES OF INNOVATION



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Interreg Atlantic Area FISHINN
Co-funded by the European Union

FISHINN - Innovation Canvas

COMPANY: *CLEAN OCEAN INITIATIVE* REGION: *OFFALY, IRELAND*

THEME 5

Key Activities

- Marine Litter Collection: At the core of the Clean Oceans Initiative are programs that physically remove waste from the marine environment. The flagship Fishing for Litter scheme equips fishing vessels with large, durable bags to collect plastic debris and other litter caught in nets during normal fishing operations for appropriate recycling and disposal.
- Aquaculture Clean-Ups: The initiative extends to aquaculture through the Coordinated Local Aquaculture Management Systems (CLAMS) network.
- Gear Retirement and Waste Prevention: A proactive component of the Clean Oceans Initiative is the Fishing Gear Retirement Scheme, piloted in 2022. collecting old or damaged fishing gear (nets, ropes, etc.) before it becomes marine waste.
- Waste Management & Recycling Programs: The Initiative encompasses improving waste management systems at harbors and promoting recycling.
- A notable innovation is BIM's acquisition of a mobile shredding unit (funded by the European Maritime and Fisheries Fund) to process plastics from fishing/aquaculture gear.

Key Partners & Suppliers

- Government and Funding Partners: The initiative is backed by the Department of Agriculture, Food and the Marine (DAFM), with Ministerial leadership setting ambitious targets (such as 100% trawler participation).
- Fishing Industry: Ireland's catching sector (both offshore trawlers and inshore crews) is a primary partner.
- Aquaculture Producers: Through the CLAMS network, aquaculture farms (shellfish and finfish) collaborate on bay clean-ups and waste prevention.
- Local Communities and NGOs: Coastal communities are deeply involved, reflecting the initiative's "bottom-up" ethos.
- Harbour Authorities and Local Government: Port companies and harbour masters are key logistical partners. They allocate space for waste collection (skips, bins) and often waive fees for landing litter, under the Port Reception Facilities regulations.
- Gear Suppliers and Recyclers: Uniquely, the Clean Oceans Initiative engaged the fishing gear supply chain as partners.
- Academia and Research Bodies: Research institutions contribute scientific guidance and evaluation.

Key & Local Resources

- Geographic Advantages: Ireland has an extensive coastline with numerous fishing harbors and aquaculture sites scattered from the Atlantic west to the Irish Sea. This allows the initiative to be truly national in scope, leveraging the local presence of the seafood industry in coastal communities.
- Local Recycling and Waste Facilities: The initiative benefits from existing waste-management infrastructure in Ireland, while also enhancing it specifically in coastal counties recycling centres.
- Renewable Synergies: Ireland's coastal regions are increasingly hubs for renewable energy (notably offshore wind projects in development). While not a direct part of the Clean Oceans Initiative, there are potential future synergies.

Technical Resources

- Onboard Waste Collection Systems: Early on, BIM recognized that one technical hurdle was simply storing trash on fishing vessels safely and conveniently. Through EMFF support, onboard storage facilities were provided.
- Port Reception and Disposal Infrastructure: Technology and process improvements continue onshore when vessels land the collected litter.
- Mobile shredding unit which is a heavy-duty industrial shredder mounted on a low-loader trailer with its own generator for power.
- Onboard Technology Trials: BIM has trialled new technologies to reduce waste generation during normal fishing operations.

Energy Resources

- Sustainable Energy Use: While the Clean Oceans Initiative is primarily an environmental clean up program, it aligns with Ireland's broader shift to sustainability, including energy.
- The initiative's emphasis on recycling plastic waste has indirect energy benefits: every tonne of recycled plastic nets or ropes saves the significant energy that would be required to produce new plastic from petrochemicals.
- As offshore wind farms expand, there is an opportunity to collaborate on marine monitoring – clean up vessels to partner with energy companies to monitor debris around turbine areas, and ensure those new installations don't contribute waste.

Value Proposition

- Protecting Ireland's Seafood Industry and Reputation: A healthy ocean is the lifeblood of the fishing and aquaculture business. By actively removing plastics and debris, the initiative helps safeguard fish stocks and shellfish beds from the harms of pollution. Plastic pollution threatens fish populations and the future of the fishing industry.
- Supporting Marine Biodiversity: By reducing marine litter, the initiative directly benefits marine life – from the smallest plankton to top predators.
- Environmental Sustainability and Cleaner Communities: The initiative contributes significantly to Ireland's environmental sustainability targets. It has already prevented hundreds of tonnes of plastic from degrading into microplastics or washing up on beaches.
- Compliance and Risk Reduction: Participating in Clean Oceans also has a risk-management value for industry. As environmental regulations tighten globally, being ahead of the curve on waste reduction shields businesses from potential penalties or market barriers.

Customers/Targets & Communities

- The Clean Oceans Initiative does not operate in a traditional commercial market, so instead of "customers" it has beneficiaries and stakeholders who reap the benefits or have a vested interest in its success.
- Fishers and Fishing Vessel Owners: They are the front-line participants and beneficiaries. By engaging in the program, fishers benefit from cleaner fishing grounds.
- Aquaculture Farmers: Seafood farming operations (mussel ropes, oyster trestles, salmon pens, etc.) are both contributors to and sufferers from marine litter.
- Seafood Processors and Industry Bodies: Companies that process and market Irish seafood are indirect beneficiaries. They rely on the industry's good reputation and on stable supply of quality seafood.
- Regulatory Bodies and Government Agencies: The Irish government (DAFM, Department of Environment, etc.) and the European Commission are stakeholders in that the initiative helps meet policy goals.
- Local Coastal Communities

Environmental & Climate Smart USP

- Climate Resilience of Marine Ecosystems: Healthy oceans are more resilient to climate change. By removing plastics and other stressors, the initiative helps marine ecosystems (like fish populations, coral reefs, kelp forests) maintain their robustness in the face of warming seas and ocean acidification.
- Reducing Carbon Footprint through Recycling: A major climate-smart aspect of Clean Oceans is its promotion of recycling and material reuse, which cuts carbon emissions compared to producing new materials.
- Energy Efficiency in Fishing Operations: The initiative dovetails with efforts to make fishing operations more fuel-efficient, which is a climate mitigation strategy. As part of Clean Oceans, fishers have been educated on waste and also on improving onboard practices.
- Alignment with Climate Policies (Green Deal): The EU Green Deal and Circular Economy Action Plan consider reducing plastic pollution a key component of transitioning to a climate-neutral economy. By participating in Clean Oceans, Ireland's seafood sector is contributing to these broader climate strategies.
- Preventing Greenhouse Gas from Marine Debris Breakdown: When plastics eventually break down (especially in landfills or the ocean surface), they can release greenhouse gases like methane and ethylene under sunlight.
- Clean Oceans Initiative complements climate action by reducing waste-related emissions and fostering resilient ecosystems.
- The initiative's focus on collaboration and innovation embodies a "climate-smart" approach – proactive, preventive, and adaptive – benefiting both the planet's climate and the local marine environment.

Distribution & Upscaling

- Nationwide Rollout: began as localized pilots (e.g. initial Fishing for Litter trials in a few ports in 2015) quickly scaled up to a national program by 2019, with all major fishing ports involved.
- Integration into Routine Operations: A strategy for scaling now integrate Clean Oceans activities into the normal routines of the industry, making it sustainable long-term.
- Expansion to New Sectors and Gear Types: Initially focused on trawlers and large fishing vessels, the initiative is expanding to encompass all vessel types and seafood segments.

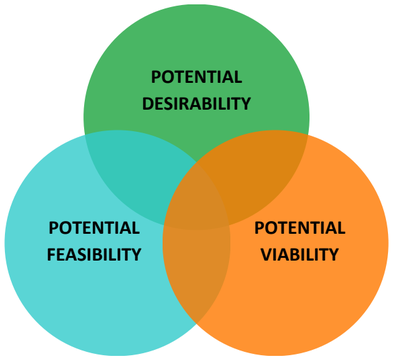
COSTS

- Operational Expenditures: The main operating costs of Clean Oceans Initiative can be grouped into a few categories: Materials and Equipment: Purchasing and distributing the big waste collection bags, gloves, skips, and other consumables to participating vessels and communities.
- Logistics and Waste Treatment: Paying for the transportation and processing of collected waste. Once waste is landed and in skips, BIM or the harbour authority must pay waste contractors to haul it to recycling or disposal facilities.
- Personnel and Program Management: BIM dedicates staff time to coordinate Clean Oceans. This includes a Sustainability Manager and development officers for outreach, data management & education.
- Communications and Education: Producing educational materials, running awareness campaigns.

REVENUES

- Revenue Streams and Economic Benefits: The Clean Oceans Initiative itself isn't structured to generate revenue, but it does create some by-product revenue. Notably, recycled material sales: when collected fishing gear is processed, the resulting plastic granulate or metal can be sold to recyclers. For instance, shredded nets yielding 2.5 tonnes of plastic might be sold as raw material, and steel from cables sold as scrap.
- The economic benefits to the seafood sector from the initiative, while not direct revenue, are significant. By preventing gear loss and reducing damage, fishers save money on replacing equipment or repairing fouled propellers.
- Marketing and tourism benefits can translate into economic value. A cleaner marine environment supports coastal tourism.
- Cost Efficiency and Support: The initiative has been noted for being cost-effective by leveraging voluntary participation

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Interreg Atlantic Area FISHINN
Co-funded by the European Union

FISHINN - Innovation Canvas

COMPANY: *MOUNT LUCAS* REGION: *OFFALY, IRELAND*

THEME 5

Key Activities

- Bioeconomy demonstration as scale for end-users via Mount Lucas IMTA. Peatland-based approach in Irish midlands operated by TUS with partners
- Aquaculture and aquatech with nexus to innovations in the bioeconomy
- Regional ecosystem of industry and communities for site use including transition to low carbon economies
- Mount Lucas IMTA site operates to zero waste, zero pollution, food security and climate action principles.
- Site is to be fully digitised for physicochemical parameter monitoring, energy systems and emissions
- Site operates extended reality (virtual, augment and mixed reality) suite for bespoke training, design thinking and co-creating innovation
- Site has biorefinery for biobased products from macroalgae, microalgae and duckweed biomass and waste stream cascades
- Site also supports darksky tourism and eco-tourism
- Site does not discharge effluent to environment nor rely on complex end-of-pipe treatment technologies

Key Partners & Suppliers

● TUS provides freshwater aquaculture, ecology and biodiversity, biotechnology, business development and ICT with extended reality for training and linked darksky tourism ● UCC provides expertise in botany such as duckweed harvesting ● University of Galway creates value from waste water and sludge innovation and energy systems monitoring ● Teagasc co-creates value through onsite biorefinery and bespoke training in agritech ● Derlinx (SME) has created open data portal for Mount Lucas site ● Indigo Rock Marine Research Institute creates value from waste stream in terms of culturing freshwater macroalgae for on site biorefinery and valorization ● Maynooth University provide value in digital business and trustiworthiness ● Bord Iascaigh Mhara (BIM) provide added value in aquaculture and aquatech domain ● Offaly County Council support regional development and community engagement including via EU Just Transition ● Eastern and Midlands Regional Assembly provide value in transition to low carbon economy ● Swarm of SMEs collaborating and partnering on biobased and digital opportunities.

Key & Local Resources

- Mount Lucas is fully IMTA process for aquaculture with innovation from waste stream in terms of commercial demonstration at scale.
- On site sustainable resources and infrastructure include living lab, innovation suite (including accelerator), extend reality suite, biorefinery and anaerobic digester, welfare office and storage facilities for technologies). Site is 5.4 hectares and connected by sensors and drones for full digital monitoring.
- Next generation sequencing and informatics reveals 982 different species of microalgae in the peatland ponds where many may be of innovation potential. Site is powered by wind turbine and has on site tanks (macroalgae)
- Full trophic levels testing enable green monitoring of technology.

Technical Resources

- Site is fully digitized for monitoring of physicochemical parameters, energy systems and emissions including form culture ponds and from 16 linked channel
- Site has unique €500k extended reality suite
- Site will operate to 5G including hosting 10 office space for visiting researchers and for industry to including training and sampling
- Drones used for capturing visual coverage of duckweed and for aerial monitoring site for security

Energy Resources

- Energy is supplied by on site turbine at Mount Lucas and is fully renewable
- However, additional solar panels will be fitted to demonstrate energy systems in action and will return energy to local communities

Value Proposition

- First tangible fully recirculating aquaculture (IMTA) site geared for demonstrating bioeconomy at scale for industry and end-users. It operates to zero waste, zero pollution, organic and climate action principles. It fosters interdisciplinary ecosystem of multi-actors to address problems and to offer end-to-end solutions on site. It demonstrates clear reuse and cascades for viable business propositions including aquaculture, biobased and digital applications. It operates at interface between end-users and top-down policy-makers to tailor needs for companies. It operates on site biorefinery and valorization linked to swarm of industry users for new products and technologies. It operates using renewable energy sources where there is no reliance on complex chemicals, pesticides or antibiotics where fish mortality is very low that will inform new approaches for food and pharma sectors. It is linked to education processes and also operates to de-risk investment. There is considerable expertise in LCA and transnational modelling of innovation and drivers to support regional resilience and regeneration.

Customers/Targets & Communities

- Aquaculture and food companies
- Cosmetics and pharma industries
- Digital technologies (including XR) and energy companies
- Commmunities transitioning to low carbon enterprises including social enterprises for change of land use
- Local government for strategic policies and value streams
- Academic institutions for upskilling and training next generation of change makers.

Environmental & Climate Smart USP

- Site operates to zero pollution, zero waste and climate action principles where zero carbon economy will be modelled and developed
- Promotes and advances:
- EU Biodiversity;
- EU Digital Transformation;
- EU Food Security;
- EU New Green Deal;
- UN SDGs
- Site is IMTA but open to weather events thus can be used to study and model impact of climate variance on open food system for security

Distribution & Upscaling

- Dedicated website
- Workshops and conference presentations
- School summer camps
- Industry trade shows
- Collaborating with other demo sites and research providing organisations

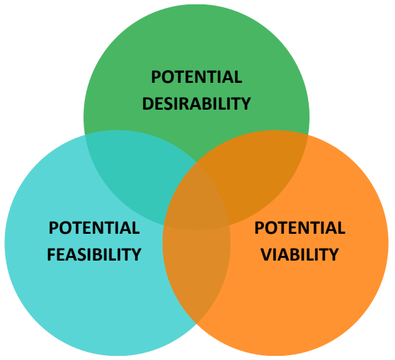
COSTS

- Staff salaries, consumables (including cost of fish feed and fish stock) and
- maintaining equipment and clearance of channels.
- Key activities include demonstration of technologies, innovation and training for
- companies at scale and entrepreneurship - also nexus to education for scalable
- demonstration regionally, nationally and across Europe form visiting training site
- Testing of aquatech and confirming balanced ecological profile.
- Services and maintaining on site equipment

REVENUES

- Revenue will be a blend of product sales, Service fees, Usage fee for accessing
- specialist equipment; lending, renting, or leasing temporary access; licensing and
- brokerage fee and so forth – but this will be confirmed post establishment and
- operation of demonstration site proper.

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
What can it make happen? What resources are needed? What skillsets are required?

Potential of viability
What value and/or impact will/could this idea bring to the organisation and to the territory?

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1. Collaboration with the food and tourism sector
2. Advancing position in the value chain through collaboration and alliances with agents in the sector, aquaculture
3. Blue Economy opportunities other than fishing e.g. energy, algae, pharmaceuticals, nutraceuticals & health products
4. Blue biotechnology solutions and digitisation capabilities
5. Waste recovery and reuse i.e. plastics, fishing gear, circular economy solutions
6. Other innovations and best practice (non tech, non-business)

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WP2

FISHINN Innovation Canvas

Submitted By Sines Tecnopolo

FISHINN - Innovation Canvas

COMPANY: *EXPARSADO* REGION: *PORTUGAL*

THEME 2

Key Activities

- Exparsado is a company specializing in aquaculture, focusing on the production of premium *Crassostrea angulata* oysters in the Sado River estuary. The company manages a 28-hectare production area to increase output.
- Production and commercialization of premium oysters through aquaculture.
- Sustainable management of maritime concessions in the Sado Estuary and Ria de Alvor.
- Their published project notes expansion of Crassostrea angulata ("ostra-portuguesa") cultivation via a new 28-hectare production unit in the Sado estuary. Day-to-day workflows include estuarine aquaculture operations, husbandry/harvesting of bivalves and post-harvest grading/quality control for domestic and export markets

Key Partners & Suppliers

- Grainocean (supply of oyster juveniles and purchase of the final product).
- Partnerships with local producers to complement production.
- Local fridge transport companies
- Direct partners are not listed by name publicly, but signals of ecosystem links include: (i) footprint in SAPEC Bay Industrial Park (co-located industrial/port environment), and (ii) participation in education/blue-economy outreach (e.g., TecAtlantic visit; SEATRACES project visit to Exporsado's oyster parks). These indicate ties to local authorities, education/research actors and the port/industrial community.

Key & Local Resources

- Maritime concessions in the Sado Estuary and Ria de Alvor (total area of 33.75 ha).
- Equipment and infrastructure for oyster cultivation and processing.
- Specialized human resources in aquaculture production
- The company leverages the Sado Estuary Natural Reserve—a renowned site for oysters near Moinho da Mourisca—with the regional know-how and brand heritage of Setúbal oysters. The local presence of C. angulata populations in the Sado provides a distinctive biological resource base.

Technical Resources

- Infrastructure for oyster cultivation and handling.
- Combination of traditional methods with technological innovation.
- Water quality and oyster growth monitoring systems.
- Optimized logistics and distribution for international markets
- Corporate records list aquaculture (salt/brackish) and harvesting of other sea products among its activity codes, implying access to aquaculture infrastructure and handling equipment typical for bivalve production.

Energy Resources

- Energy dependence for maintaining production and logistical processes.
- Feasibility study for adopting renewable energy sources (solar).
- Potential carbon footprint reduction in distribution.
- Operations occur within SAPEC Bay (an industrial area adjacent to the Natural Reserve), but energy strategy at company level isn't detailed online. (If needed, we could request this from the company directly.)

Value Proposition

- Exporsado positions itself around high-quality Portuguese oysters with stringent quality standards, emphasising origin (Sado Estuary) and premium taste attributes associated with C. angulata. Their messaging targets "top quality oysters… to the most demanding export markets," suggesting a premium, provenance-led offer.
- High-quality, artisanal premium oysters.
- Commitment to environmental sustainability and social responsibility.
- Export to demanding markets with certified quality assurance.
- Support for the revitalization of Portuguese aquaculture and local job creation.

Customers/Targets & Communities

- Primary customers inferred from public messaging are premium seafood buyers (HORECA/wholesale), distributors, and export clients; the company invites producers/distributors to engage on partnerships. Public posts also show engagement with local civic/policy audiences via visits.
- The end customer are:
- Supermarket chains and gourmet markets (especially in France).
- Restaurants and chefs specializing in fine dining.
- However, the production is repurchased by the supplier of the juveniles, which is a shareholder of the company.

Environmental & Climate Smart USP

- Sustainable use of marine resources with minimal environmental impact.
- Contribution to marine biodiversity restoration.
- Support for responsible and regenerative aquaculture practices.
- Carbon footprint reduction through efficient logistics and renewable energy research.
- The focus on C. angulata, a heritage oyster with conservation interest in Sado, aligns with local biodiversity value—though any conservation programme involvement by Exporsado isn't stated publicly. (Background sources document the ecological and genetic significance of C. angulata in the Sado.)

Distribution & Upscaling

- Direct export to France through the Grainocean partnership.
- Production expansion with new aquaculture farms and facilities.
- Adoption of new technologies to optimize production and distribution.
- Exploration of new European and Asian markets.

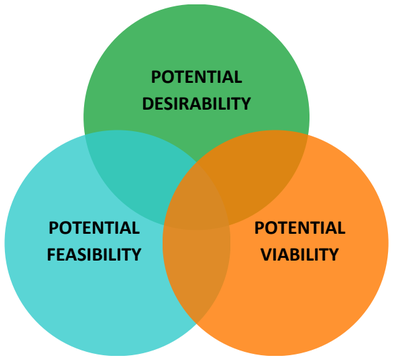
COSTS

- Main operational costs: maritime concessions, equipment, and labor.
- Investment in innovation and process improvement.
- High costs for international aquaculture insurance (lack of supply in Portugal).

REVENUES

- Direct oyster sales for export (France as the primary market).
- Long-term supply agreements with international distributors.
- Innovation and expansion project funding through EU grants

THREE LENSES OF INNOVATION



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Who will benefit from the idea?

Potential of feasibility
What can it make happen? What resources are needed? What skillsets are required?

Potential of viability
What value and/or impact will/could this idea bring to the organisation and to the territory?

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FISHINN - Innovation Canvas

COMPANY: ***ALGAPLUS*** REGION: ***PORTUGAL***

THEME **3**

Key Activities

- ALGAplus is a Portuguese company specializing in the sustainable cultivation of native Atlantic seaweeds. The company has developed and implemented a production system based on Integrated Multi-Trophic Aquaculture (IMTA), combining seaweed cultivation with semi-intensive farming of sea bass and sea bream, replicating natural ecosystem conditions to ensure sustainability and organic certification.
- Optimizing production processes and developing new products. The company operates a nursery dedicated to cultivating species such as Atlantic Nori (Porphyra umbilicalis and Porphyra dioica) and a seaweed processing unit that enables the production of high-quality biomass.
- Sustainable production of organically certified marine macroalgae.
- Integration with certified fish aquaculture.
- Development of new products and innovation in cultivation.
- Commercialization of macroalgae for the food, cosmetic, and pharmaceutical industries.

Key Partners & Suppliers

- Partnerships with R&D institutions for cultivation optimization.
- Networks of international distributors and resellers.
- ALGAplus participates in R&D collaborations – they engage with universities and research institutions (as indicated in their publications list) and with European projects (e.g., the AquaVitae project) supporting their seaweed cultivation and valorisation
- They also supply to food companies (co-developing products such as seaweed bread, honey, ready meals) and they customise seaweed biomass in collaboration with clients for desired specifications.
- They are part of sector networks and associations (international algae networks) and appear to rely on external supply chains for packaging, distribution and retail segmentation.

Key & Local Resources

- Production unit in the Ria de Aveiro.
- Technology for controlled cultivation.
- Specialized team in marine biotechnology.
- Their location is in Ílhavo, Ria de Aveiro (Portugal) in a zone that is part of the Natura 2000 ecological network.
- The local lagoon provides marine/brackish water, a suitable environment for macroalgae cultivation. The site uses a land-based modular cultivation system within the coastal lagoon region.
- They draw on local human capital (biologists, aquaculture technicians) and link to local maritime/aquaculture heritage. Their access to “old salt marsh” infrastructure and coastal lagoon geography is leveraged.

Technical Resources

- Infrastructure for algae cultivation and processing.
- Monitoring and quality control systems.
- Drying and packaging technology.
- ALGAplus employs a land-based modular IMTA system for seaweed propagation and cultivation, including maternity/seed-nursery tanks, growth tanks, and outdoor tanks.
- They have in-house processing facilities for washing, drying, milling, salting and packaging of seaweed.
- They operate in-house biobanking and domestication of new species.
- Their online retail platform (store) and B2B product customisation capabilities indicate digital/marketing infrastructure.

Energy Resources

- Feasibility study for adopting solar energy.
- Optimization of energy consumption in processing.
- Their cultivation system does not require arable land, freshwater, or synthetic fertilisers, demonstrating an efficiency and sustainability orientation.

Value Proposition

- ALGAplus offers high-quality, organic-certified Atlantic seaweed produced under controlled, sustainable conditions in Europe. They provide customisable seaweed biomass and derived products (food, feed, cosmetics) tailored for clients. Their B2C brand offers retail seaweed foods and ingredients, emphasising provenance (Portuguese/coastal) and sustainability credentials.
- Certified and sustainable organic macroalgae.
- Diversified offerings for high-value-added industries.
- Contribution to the blue economy and sustainability.
- They differentiate by offering farmed (not wild-harvested) seaweed, enhancing traceability and quality control.

Customers/Targets & Communities

- Food, cosmetic, and pharmaceutical industries.
- Nutrition and wellness companies.
- Export to global markets.
- Their customers include food industry clients (ingredient suppliers, manufacturers), cosmetic/formulation companies, feed producers, restaurants/retailers (B2B) and retail consumers (B2C) via their online store.
- They engage local community (schools, associations, governmental bodies) and participate in outreach and education, which strengthens their local stakeholder community.
- They export products (Europe, USA, Canada, Australia as referenced for similar companies) hinting at global customer reach.

Environmental & Climate Smart USP

- ALGAplus emphasises sustainable seaweed production: no arable land, no freshwater required for cultivation, no synthetic fertilisers.
- Their cultivation contributes to CO_2 uptake and O_2 release (as part of seaweed growth) and uses coastal lagoon resources rather than terrestrial agriculture. Their participation in biotechnological valorisation of seaweed (e.g., bioactives) supports circular economy and high-value use of marine biomass.
- Being located within a Natura 2000 site means they must operate under strict ecological regulation, which may contribute to lower ecological impact.
- Production based on circular bioeconomy.
- Reduction of ecological footprint in food production.

Distribution & Upscaling

- Partnerships for expanding international distribution.
- Commercialization via e-commerce and specialized distributors.
- ALGAplus has retail distribution via its online store (serving Portugal, Spain and other regions) and is already producing customised biomass for clients internationally.
- They are actively pursuing system upscaling (including demonstration ponds) to meet market demand.
- Their product range includes value-added seaweed foods, which suggests a growth and diversification pathway.

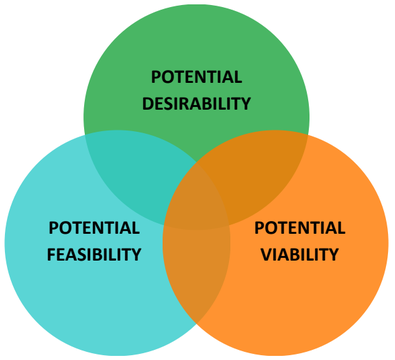
COSTS

- Cultivation and processing infrastructure.
- Investment in innovation and certification.
- Operational and logistics costs.

REVENUES

- Direct sales of algae and derivatives.
- Long-term supply partnerships and contracts.
- Funding for innovation and sustainability projects. (UE/Public)

THREE LENSES OF INNOVATION



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FISHINN - Innovation Canvas

COMPANY: ***ALLMICROALGAE*** REGION: ***PORTUGAL***

THEME **3**

Key Activities

- Allmicroalgae – Natural Products S.A. is a Portuguese company specializing in the sustainable production of microalgae, providing high-quality plant-based solutions for the food, beverage, nutraceutical, feed, and agricultural industries.
- The company collaborates with business and industry partners to tailor solutions that meet specific needs, contributing to the advancement of microalgae applications globally
- Production of microalgae for the food, nutraceutical, and cosmetic industries.
- Innovation in microalgae cultivation and processing.
- Partnerships for new product development.
- Allmicroalgae is committed to research and development, optimizing culture conditions to maximize production, biochemical profiles, and functional activities of its microalgal biomasses.

Key Partners & Suppliers

- Biotechnology companies and research institutions.
- Food regulation authorities.
- Allmicroalgae is part of European consortia (for example the ALGAVALOR project) for integrated production & valorisation of microalgae biomass.
- They have strategic shareholder arrangement with Greentech Group (France) from 2020, to boost scientific and market outreach.
- They supply to ingredient, nutraceutical, feed and agro-industry customers globally and are certified to supply markets requiring Halal, Kosher, organic etc.

Key & Local Resources

- Cultivation facilities in industrial zones.
- Specialized bioengineering team.
- Partnerships for international distribution.
- Their facility in Pataias (near Leiria) in Portugal leverages local human capital (specialised R&D team in microalgal biotechnology) and national infrastructure supporting biotechnology/blue economy projects.
- The location in Portugal enables access to European regulatory environment for organic production and to the local skill base.

Technical Resources

- Their R&D labs include instrumentation for monitoring growth parameters, contamination control, biochemical profiling of biomass.
- Drying and preservation technology.
- Traceability and quality control systems.
- Allmicroalgae uses closed systems (raceway ponds, tubular photobioreactors) and heterotrophic fermenters (5L up to large scale) for cultivation.
- They operate membrane filtration systems, centrifuges, spray-dryers for processing biomass.

Energy Resources

- Studies for transitioning to renewable energy sources.
- Efficient energy use in processing.
- Allmicroalgae emphasises sustainability in production: for example, they stated they do not use fertilisers or pesticides, reuse circulating water in photobioreactors, optimise energy use.

Value Proposition

- Allmicroalgae offers high-quality, traceable, sustainable microalgae biomass and derived ingredients for multiple sectors (food, nutraceutical, feed, agro)
- Microalgae with high nutritional value and certifications.
- Sustainable products for emerging markets.
- Eco-friendly alternatives to traditional ingredients.
- They also grow a variety of species including marine and freshwater microalgae, leveraging species diversity available in the region.
- Target functional nutrition and sustainable ingredient trends, offering proteins, omega-3, bioactive compounds from microalgae as alternatives to traditional sources.

Customers/Targets & Communities

- customers include food & beverage manufacturers seeking plant-based ingredients, nutraceutical brands, animal feed companies (aquafeed, petfood), agricultural biostimulant providers.
- Food, pharmaceutical, and cosmetic industries.
- Supplement and wellness companies.
- Exports to European and Asian markets.
- Operate B2B ingredient supply but have brands (e.g., ALLMA) targeting consumer markets.
- Engagement includes collaborations, R&D partnerships, trade-shows in food ingredients sector.

Environmental & Climate Smart USP

- Reduction of carbon footprint in production.
- Sustainability in the supply chain.
- Allmicroalgae emphasises closed-system cultivation (reducing contamination, ensuring control), reuse of water, minimal use of fertilisers/pesticides.
- Their origin story includes capturing CO_2 (initially from cement industry) via microalgae cultivation, aligning with CO_2 valorisation and circular economy.
- The certification for organic production, and the sustainability claims support alignment with climate-smart and bioeconomy policy goals (EU). However, specific metrics on carbon reduction, life-cycle analysis or ecosystem benefits are not publicly detailed.

Distribution & Upscaling

- Expansion of global distribution. Allmicroalgae has upgraded its facilities (installation of a second fermenter) to increase output, aiming to double capacity.
- New partnerships for market growth.
- Their membership in multiple European projects (e.g., ALGAVALOR) indicates ambition to scale and regionalise production processes and product applications.

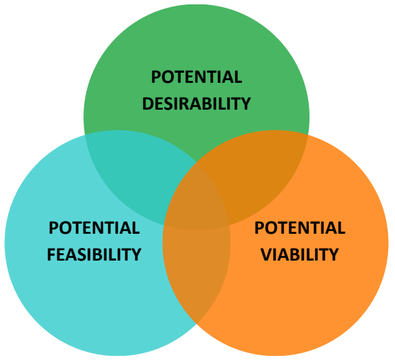
COSTS

- Cultivation and extraction infrastructure.
- Research and development.
- Marketing and international expansion.

REVENUES

- *Direct sales to industries.*
- *Long-term commercial partnerships.*
- *Public and private funding.*

THREE LENSES OF INNOVATION



Potential of desirability
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Potential of feasibility
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FISHINN - Innovation Canvas

COMPANY: ***SUNCONCEPT*** REGION: ***PORTUGAL***

THEME **3**

Key Activities

- Sun Concept is a Portuguese company founded in 2015, specializing in the development and construction of boats powered exclusively by solar energy. Their mission is to promote the use of renewable energies in the nautical sector, creating integrated technological solutions to develop non-polluting, energy-efficient, and independent vessels. Initially based in Olhão, Algarve, the company announced in July 2023 its relocation to Setúbal, aiming to expand its production capacity and strengthen its position in the sustainable boat market.
- Manufacturing of sustainable boats powered by solar energy.
- Development and innovation in eco-friendly propulsion systems.
- Commercialization targeting tourism and maritime transport sectors.

Key Partners & Suppliers

- Suppliers of solar technology and batteries.
- Partnerships with shipyards and research institutions.
- Networks for international distribution and resale.
- Hull and boat building activity implies partnerships with ship-yard engineering, composite/metal fabrication, naval architecture and finishing suppliers.
- appear within EU support networks; for example they are listed as a “Technology provider” on the EU Clean Energy Islands portal.

Key & Local Resources

- Sun Concept is located in Portugal (address listed as Área Empresarial de Marim, Lote D, 8700-221 Olhão) in the Algarve region.
- Boat production infrastructure.
- Team specialized in naval engineering and renewable energies.
- The location offers marine/boat-building heritage, access to coastal/lagoon water bodies for testing and demonstration, and a skilled workforce in shipbuilding and marine engineering sectors. The use of local waters (rivers, estuaries, lagoons) for demonstration and professional vessel use (e.g., aquaculture support) leverages place-based natural assets.

Technical Resources

- Advanced solar panel technology and electric propulsion.
- Energy optimization systems for vessels.
- Hull and structural design for catamarans and monohulls optimised for low resistance; integration of photovoltaic panels and battery banks; electric motor systems for silent, emission-free propulsion; boats certified CE; prototypes such as the OYSTER 9.0 designed for aquaculture/oyster nursery use.
- Their system engineering emphasises autonomy (8-14 hours without sun, potentially unlimited with solar) and low maintenance (electric motors ~85% cheaper to maintain than combustion) per their website.

Energy Resources

- Sun Concept’s core energy resource is solar energy: photovoltaic panels mounted on vessels capture sunlight, which is stored in a battery bank to power electric motors, enabling zero-fossil-fuel operation.
- Research into efficient energy storage. Eemphasise “zero CO_2, zero hydrocarbons into the water, zero fossil fuel” for their craft

Value Proposition

- Sun Concept offers a distinctive value proposition centred on sustainable, clean, silent, low-maintenance marine transport and leisure vessels. Their boats deliver “zero € per mile” fuel cost (once solar panels/battery systems deployed) and minimal environmental impact (no exhaust, no oil spills, low noise) per their marketing.
- Eco-friendly boats with zero carbon emissions.
- Reduction of operational costs for clients.
- Contribution to the maritime energy transition.
- They target both leisure users (private yachts, tour operators) and professional users (passenger transport, aquaculture/fishing support vessels) with a premium but cost-efficient, ecologically responsible alternative to conventional boats.

Customers/Targets & Communities

- Customers include: tourists/tour operators needing comfortable, eco-friendly vessels for lakes/coastal tours; private leisure boat owners seeking sustainable electric-solar craft; professionals in aquaculture/fishing/shellfish nurseries (e.g., the OYSTER 9.0 model tailored for oyster nurseries) and passenger transport operators in estuarine/coastal areas.
- Maritime tourism companies and eco-friendly transport operators.
- Marina and sustainable port operators.
- They engage with the marine community, sustainability-oriented markets, and the broader “blue economy” stakeholders who value clean marine technologies.

Environmental & Climate Smart USP

- Reduction of fossil fuel dependence in navigation.
- Promotion of sustainable mobility in aquatic environments.
- Contribution to CO_2 emission reduction policies.
- The company aligns strongly with climate-smart and sustainability objectives: their vessels produce zero greenhouse-gas emissions in operation, no oil/hydrocarbon discharge into water, negligible noise and minimal ecological disturbance.
- They emphasise the compatibility of their craft with sensitive ecosystems (e.g., lagoons, estuaries) and highlight reduced maintenance costs and absence of fossil fuel.
- Their use of solar energy and electric propulsion places them in the low-carbon maritime transport and blue-economy innovation space.

Distribution & Upscaling

- Expansion of production into new international markets.
- Partnerships with tourism operators and local governments.
- Development of new solar boat models.

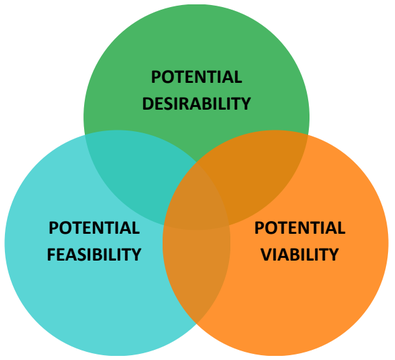
COSTS

- Investment in propulsion technology and solar panels.
- Production and environmental certification costs.
- Infrastructure and distribution logistics.

REVENUES

- Direct sales of solar boats.
- Leasing and maintenance contracts for tourism operators.
- Funding for innovative projects in sustainable maritime transport.

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
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FISHINN - Innovation Canvas

COMPANY: ECOALGA REGION: PORTUGAL

THEME 1

Key Activities

- Ecoalga - Agricultura Subaquática, Sociedade Unipessoal Lda., also known as Adega do Mar, is a Portuguese company specializing in underwater agriculture and marine-related activities. Based in Porto Covo, Sines, the company operates as a diving school along the Alentejo coast, promoting marine literacy through recreational and educational activities. They engage in environmental education via scientific and archaeological diving, and develop projects aimed at enhancing marine ecosystems. Ecoalga offers innovative underwater wine aging services, collaborating with producers to utilize the unique conditions of the marine environment for maturation.
- Operate a diving school and center specialized in the Alentejo coast.
- Environmental education via scientific and archaeological diving.
- Development of projects aimed at enhancing marine ecosystems.
- Conducting underwater tourism activities for visitors and researchers.
- Implementation of innovative techniques for aging wines and other beverages in underwater environments, including submersion of bottles for maturation at sea.

Key Partners & Suppliers

- Universities and research centers for marine studies.
- Suppliers of diving equipment and underwater safety gear.
- Tourism operators and governmental entities focused on ecotourism.
- Wineries and artisanal beverage producers interested in underwater aging of their products.

Key & Local Resources

- Strategic location on the Alentejo Coast, with rich and preserved marine ecosystems.
- State-of-the-art diving equipment for courses and expeditions.
- Specialized infrastructure for diving education and training.
- Qualified professionals in marine biology and underwater archaeology.
- Facilities suitable for submersion and monitoring of wines and other beverages in marine environments.

Technical Resources

- Safety systems and advanced training for recreational and technical diving.
- Underwater audiovisual equipment for recording scientific and tourist activities.
- Infrastructure for certification of divers at recreational and professional levels.
- Specialized equipment for the safe submersion and retrieval of wine bottles and other beverages.

Energy Resources

- Implementation of sustainable practices to minimize the environmental impact of operations.
- Use of renewable energy systems in the diving school's facilities.
- Reduction of carbon footprint through the use of low-energy consumption equipment.
- Efficient planning of expeditions and diving outings to avoid waste.

Value Proposition

- Offering unique experiences in underwater tourism and environmental education.
- Opportunity to explore and study preserved marine ecosystems.
- Training new divers and specialized researchers.
- Development of projects for the enhancement and conservation of marine life.
- Promotion of sustainable practices through ecological tourism.
- Introduction of an innovative method for aging wines and other beverages, adding value and distinction to the products.

Customers/Targets & Communities

- Tourists interested in ecotourism and unique underwater experiences.
- Students and researchers focused on marine biology and underwater archaeology.
- Companies and organizations promoting environmental education activities.
- Institutions and programs dedicated to sustainable tourism and ocean protection.
- Producers of wines and artisanal beverages interested in innovative aging techniques.

Environmental & Climate Smart USP

- Contribution to the preservation and monitoring of marine biodiversity.
- Promotion of sustainability in underwater tourism and nautical sports.
- Education and awareness about the impacts of climate change on oceans.
- Reduction of ecological footprint through responsible use of marine resources.
- Innovation in the beverage industry by introducing aging practices that utilize the marine environment, potentially reducing the need for traditional energy resources.

Distribution & Upscaling

- Expansion of diving and underwater tourism activities to new regions.
- Strategic partnerships to increase the attraction of tourists and students.
- Investment in digital marketing and social media to enhance global visibility.
- Expansion of partnerships with wine producers and artisanal beverage makers for underwater aging.

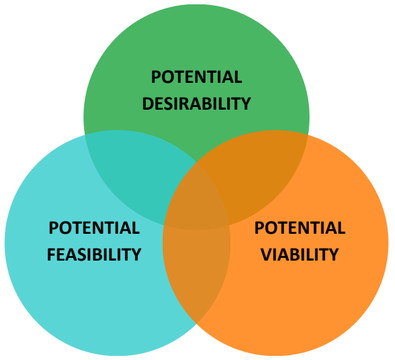
COSTS

- Investments in diving equipment and infrastructure for courses and expeditions.
- Operational costs related to maintenance and safety of facilities.
- Expenses with certifications and compliance with environmental regulations.
- Investments in marketing and strategic partnerships for business expansion.
- Costs associated with the development and maintenance of facilities for underwater aging of beverages.

REVENUES

- Sale of diving packages to tourists and ecotourism enthusiasts.
- Partnerships with research institutions for studies and underwater exploration.
- Commercialization of products and services related to diving practices.
- Projects funded by governmental entities and NGOs focused on marine conservation.
- Revenue from underwater aging services of wines and other beverages for interested producers.

THREE LENSES OF INNOVATION



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2. Advancing position in the value chain through collaboration and alliances with agents in the sector, aquaculture
3. Blue Economy opportunities other than fishing e.g. energy, algae, pharmaceuticals, nutraceuticals & health products
4. Blue biotechnology solutions and digitisation capabilities
5. Waste recovery and reuse i.e. plastics, fishing gear, circular economy solutions
6. Other innovations and best practice (non tech, non-business)

Interreg Atlantic Area FISHINN
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FISHINN - Innovation Canvas

COMPANY: ***NECTON*** REGION: ***PORTUGAL***

THEME **3**

Key Activities

- Necton – Companhia Portuguesa de Culturas Marinhas, S.A., founded in 1997, is a pioneering European company specializing in the production and commercialization of microalgae and traditional sea salt. Located in the Algarve region of Portugal, Necton operates two main business units: the Microalgae Business Unit and the Traditional Sea Salt Business Unit. The company has a strong focus on research and development, collaborating with universities and research centers to innovate in marine biotechnology. Over the years, Necton has expanded its production capacity and entered new international markets, establishing itself as a leader in microalgae biotechnology.
- Production and commercialization of microalgae for the food, nutraceutical, and cosmetic industries.
- Extraction and processing of high-quality artisanal sea salt.
- Research and development of new applications for microalgae and marine biotechnology.

Key Partners & Suppliers

- Strategic partnerships with universities and research centers for innovation in marine biotechnology.
- Companies in the food, cosmetic, and pharmaceutical sectors that utilize microalgae and derivatives.
- Suppliers of cultivation, harvesting, and processing equipment for microalgae.
- Environmental organizations and certifiers ensuring sustainable production.

Key & Local Resources

- Production infrastructure located in Ria Formosa, Algarve, leveraging ideal natural conditions.
- Modern equipment for the cultivation and processing of high-quality microalgae.
- Multidisciplinary team with experience in biotechnology, aquaculture, and chemical engineering.
- Well-established national and international commercialization networks.
- Optimized production technology to minimize environmental impact and waste.

Technical Resources

- Photobioreactors and tank cultivation systems for efficient microalgae production.
- Advanced harvesting and drying technology to preserve the nutritional properties of microalgae.
- Monitoring and automation systems for precise product quality control.
- Equipment for extracting bioactive compounds for various industrial applications.
- Rigorous certifications in food safety and good manufacturing practices.

Energy Resources

- Implementation of sustainable energy practices to reduce the carbon footprint of production.
- Optimized use of sunlight in microalgae cultivation to minimize energy consumption.
- Exploration and implementation of renewable energy sources to enhance production efficiency.
- Continuous monitoring of energy consumption to reduce operational waste.

Value Proposition

- Supply of high-quality microalgae for multiple industrial applications.
- Premium artisanal sea salt with distinctive and sustainable characteristics.
- Innovative products derived from marine biotechnology for food and cosmetics.
- Commitment to ecological practices and sustainable production aligned with the blue economy.
- Market differentiation through traceability and environmental certifications.

Customers/Targets & Communities

- Food companies utilizing microalgae as functional and healthy ingredients.
- Pharmaceutical and cosmetic industries employing microalgae and bioactive compounds.
- Animal nutrition and aquaculture sectors demanding microalgae-based feeds.
- End consumers interested in natural, sustainable, and high-nutritional-value products.
- Distributors and supermarket chains specializing in ecological and premium products.

Environmental & Climate Smart USP

- Sustainable production that respects marine ecosystems and minimizes environmental impacts.
- Ecological alternative to conventional sources of food and cosmetic ingredients.
- Compliance with European standards for sustainable marine biotechnology.
- Utilization of technologies that reduce CO_2 emissions and water consumption.
- Promotion of a circular and ecological production chain for an efficient blue economy.

Distribution & Upscaling

- Development of new innovative products based on microalgae and marine biocompounds.
- Strategic partnerships to increase production capacity and broaden offerings.
- Participation in international fairs and conferences to strengthen the brand and client network.
- Continuous investment in technology and certifications to stand out in the market.

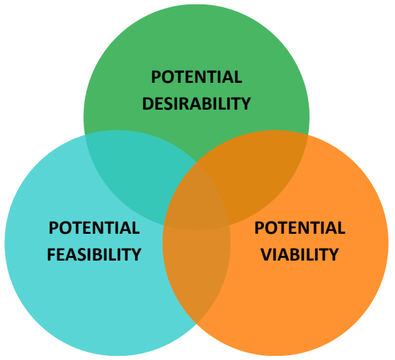
COSTS

- Significant investments in microalgae cultivation and processing technology.
- Operational costs associated with maintaining production infrastructure.
- Expenses with certifications and regulations to comply with international standards.
- Logistics and export costs for international product distribution.
- Investments in research and development for innovation and competitiveness.

REVENUES

- Sales of microalgae and derived products to the food, cosmetic, and pharmaceutical industries.
- Commercialization of artisanal sea salt for gourmet and specialized markets.
- Long-term supply partnerships and contracts with international companies.
- Securing European funding and incentives for sustainable innovation and expansion.

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
What can it make happen? What resources are needed? What skillsets are required?

Potential of viability
What value and/or impact will/could this idea bring to the organisation and to the territory?

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FISHINN - Innovation Canvas

COMPANY: ***HABTRAIL*** REGION: ***PORTUGAL***

THEME **4**

Key Activities

- **Habtrail** is an AI-powered web-based platform designed to predict, monitor, and issue early warnings for Harmful Algal Blooms (HABs). By integrating satellite data with deep learning algorithms, Habtrail provides highly accurate three-day forecasts of HAB severity and bivalve toxicity. Users can access these predictions through an interactive web dashboard, which offers HAB severity maps, species-specific interdiction forecasts, and customizable alerts via email or SMS.
- The platform serves various sectors, including aquaculture operations, national regulatory bodies, public health offices, tourism businesses, and insurance companies. By offering predictive analytics and automated alerts, Habtrail enables proactive management of HABs, reducing financial losses, enhancing food safety, and ensuring the sustainable use of marine resources.

Key Partners & Suppliers

- Technology companies specializing in remote sensing and artificial intelligence.
- Research institutions and universities focused on marine biology and environmental conservation.
- Non-governmental organizations dedicated to ocean and marine biodiversity protection.
- Government agencies responsible for marine resource management and conservation.
- Suppliers of monitoring equipment and cutting-edge technology for environmental data collection.

Key & Local Resources

- Technical team with expertise in remote sensing, data analysis, and marine conservation.
- Technological infrastructure for processing and analyzing large volumes of environmental data.
- Strategic partnerships with research centres and marine conservation organizations.
- Access to protected marine areas and other sites of interest for implementing monitoring solutions.

Technical Resources

- Remote sensing technologies for collecting environmental data in marine habitats.
- Machine learning systems for analyzing and interpreting complex data.
- Digital platforms for visualizing and sharing information about the health of marine ecosystems.
- Predictive modeling tools to support decision-making in conservation.
- Infrastructure for large-scale data storage and processing.

Energy Resources

- Implementing energy efficiency practices in data collection and analysis processes.
- Optimizing energy consumption in data processing operations and system maintenance.
- Continuous monitoring of energy consumption to identify improvement opportunities.
- Researching sustainable energy solutions to support operations in remote marine environments.

Value Proposition

- Providing accurate, real-time data on the health of marine habitats, aiding in biodiversity conservation.
- Technological solutions that enable efficient and sustainable monitoring of marine ecosystems.
- Supporting public policies and conservation initiatives with up-to-date and relevant information.
- Contributing to ocean sustainability through innovative technologies and responsible practices.
- Educating and raising awareness in society about the importance of marine conservation and environmental monitoring.

Customers/Targets & Communities

- Non-governmental organizations and conservation institutions that require data for their initiatives.
- Government agencies responsible for marine resource management and environmental policies.
- Research institutions and universities conducting studies on marine ecosystems.
- Private sector companies interested in sustainable practices and environmental responsibility.
- Coastal communities and fishermen who depend on the health of marine ecosystems for their livelihoods.

Environmental & Climate Smart USP

- Continuous and precise monitoring of marine habitats, enabling rapid responses to environmental threats.
- Contributing to climate change mitigation through the conservation of marine ecosystems that sequester carbon.
- Promoting sustainability and responsible use of marine resources.
- Educating and raising awareness about the importance of oceans in regulating the global climate.
- Developing technologies that reduce the environmental impact of monitoring activities.

Distribution & Upscaling

- Expanding solutions to different regions and marine ecosystems.
- Partnering with international organizations to broaden the reach of developed technologies.
- Adapting solutions to meet the specific needs of different habitats and species.
- Participating in global conferences and events to disseminate knowledge and technologies.
- Developing scalable business models to ensure financial and operational sustainability.

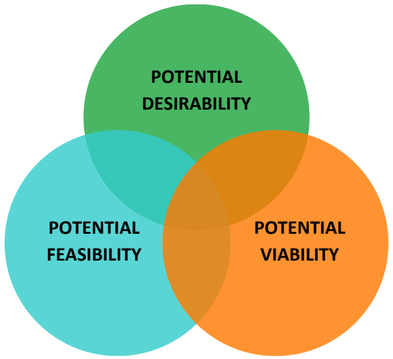
COSTS

- Investments in research and development of monitoring technologies and data analysis.
- Operational costs related to the collection, processing, and storage of environmental data.
- Expenses with certifications and compliance with environmental and safety regulations.
- Costs for training and capacity building of the technical and scientific team.
- Investments in technological infrastructure and equipment upgrades.

REVENUES

- Sale of monitoring and data analysis services to conservation organizations and government agencies.
- Licensing of developed technologies and platforms to companies and research institutions.
- Partnerships and consultancy contracts in conservation and environmental management projects.
- Participation in funding programs and grants for innovation and sustainability.
- Development and commercialization of educational products and awareness materials on marine conservation.

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
What can it make happen? What resources are needed? What skillsets are required?

Potential of viability
What value and/or impact will/could this idea bring to the organisation and to the territory?

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FISHINN - Innovation Canvas

COMPANY: ***SELO DE MAR*** REGION: ***PORTUGAL***

THEME **1**

Key Activities

- **Selo de Mar** is a Portuguese company dedicated to reviving and innovating traditional fish preservation techniques, with a special focus on producing garum—a fermented fish sauce originating from Roman times.
- Study and recovery of ancestral fish preservation techniques, focusing on the production of garum, a fermented fish sauce of Roman origin.
- Development of new gastronomic products based on traditional fish preservation methods.
- Partnerships with archaeological and cultural institutions to promote the history and gastronomic heritage related to garum.
- Commercialization of garum and other derived products, respecting ancient recipes and adapting them to contemporary tastes.
- Promotion of workshops and educational events on fish preservation techniques and the history of garum.
- Selo de Mar develops new gastronomic products based on these traditional preservation techniques and collaborates with archaeological and cultural institutions.

Key Partners & Suppliers

- Archaeological institutions and museums, such as the Museu de Lisboa, for collaboration on cultural and historical projects.
- Local fishermen who provide fresh, high-quality fish for garum production.
- Chefs and gourmet restaurants interested in incorporating traditional and innovative products into their menus.
- Suppliers of materials and equipment necessary for artisanal garum production.
- Cultural and educational entities for conducting workshops and events on the history and production of garum.

Key & Local Resources

- Production facilities located in historical areas, such as Tróia, known for garum production during the Roman era.
- Traditional and modern equipment for controlled fermentation and garum production.
- Team with deep knowledge in fish preservation techniques and fermentation.
- Partnerships with archaeological sites to recreate authentic garum production methods.
- Distribution network to market products both locally and online.

Technical Resources

- Controlled fermentation techniques to ensure the quality and food safety of garum.
- Measurement and monitoring equipment to ensure ideal conditions during the fermentation process.
- Packaging systems that preserve quality and extend the shelf life of products.
- Online platform for sales and communication with customers and partners.
- Laboratories for sensory analysis and development of new products based on garum.

Energy Resources

- Production processes that minimize energy consumption, aligned with ecological practices.

Value Proposition

- Rescue of a millenary gastronomic tradition, offering an authentic and high-quality product.
- Innovation in Portuguese cuisine through the introduction of garum in contemporary recipes.
- Connection between historical heritage and modern gastronomy, providing a unique experience to consumers.
- Artisanal products that value sustainability and local production.
- Public education on the historical and cultural importance of garum in the Mediterranean diet.

Customers/Targets & Communities

- Chefs and gourmet restaurants seeking unique and historical ingredients to enrich their menus.
- Consumers interested in artisanal gastronomic products with historical origins.
- Enthusiasts of Roman history and culture who wish to experience authentic ancient flavors.
- Educational and cultural institutions seeking partnerships for thematic workshops and events.
- Specialized markets and gourmet product stores that value traditional and innovative products.

Environmental & Climate Smart USP

- Sustainable production that respects marine resources and promotes environmental conservation.
- Valorization of local fish species, contributing to the regional economy and responsible fishing practices.
- Production processes that minimize waste and utilize ecological techniques.
- Public education on sustainable consumption practices and ocean conservation.
- Alignment with sustainability policies and preservation of cultural and natural heritage.

Distribution & Upscaling

- Commercialization of products through online platforms and specialized stores.
- Partnerships with renowned restaurants and chefs to increase garum's visibility.
- Participation in gastronomic fairs and cultural events to promote products.
- Expansion of presence in international markets.
- Development of a distribution network that ensures product quality and authenticity.

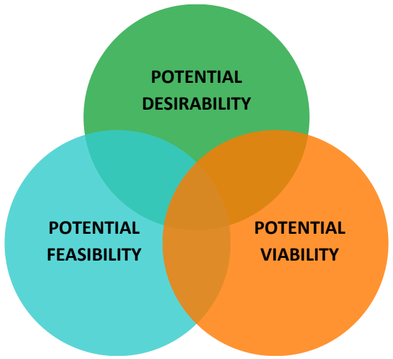
COSTS

- Investment in research and development of preservation and fermentation techniques.
- Operational costs related to artisanal production and quality control of garum.
- Expenses with certifications and compliance with food and environmental regulations.
- Logistical expenses for product distribution in national and international markets.
- Investment in marketing, branding, and strategic partnerships for brand positioning.

REVENUES

- Direct sale of garum and other derived products through the online store and specialized distributors.
- Supply of products to chefs and gourmet restaurants interested in unique ingredients.

THREE LENSES OF INNOVATION



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FISHINN - Innovation Canvas

COMPANY: *SENSEFINITY* REGION: *PORTUGAL*

THEME 4

Key Activities

- Developing intelligent IoT sensors for real-time cold chain monitoring.
- Implementing NB-IoT and LTE-M-based solutions to globally connect refrigerated assets.
- Integrating blockchain technology to securely trace temperature throughout the supply chain.
- Utilizing artificial intelligence to predict failures and optimize the preservation of sensitive products.
- Reducing food and medicine waste through efficient cold chain management.

Key Partners & Suppliers

- Telecommunications operators such as Vodafone and Deutsche Telekom to ensure global connectivity.
- Manufacturers of refrigeration equipment that integrate IoT sensors for temperature monitoring.
- Transportation and logistics companies requiring real-time visibility of their refrigerated products.
- Supermarkets and food distributors needing compliance with food safety standards.

Key & Local Resources

- Low-energy IoT devices, allowing continuous monitoring for up to 10 years.
- AI-based cloud platform for analysis and prediction of failures in the cold chain.
- Plug & play sensors for monitoring temperature, humidity, vibration, and location.
- Global connectivity infrastructure to ensure uninterrupted monitoring, even in remote areas.
- Technical teams specialized in implementing and maintaining IoT solutions.

Technical Resources

- Temperature and humidity sensors that ensure compliance with standards such as HACCP and GDP (Good Distribution Practices).
- Blockchain integration for transparent traceability and data security.
- Real-time alert systems that notify operators in case of temperature variations outside safe limits.
- AI analytical platforms to predict failures and prevent losses in the cold chain.
- Open APIs for integration with logistics management software (ERP, WMS, TMS).

Energy Resources

- Low-energy consumption sensors, ensuring longer battery life without frequent replacement.
- Optimization of energy efficiency by reducing energy waste in refrigeration systems.
- Monitoring the energy consumption of cold rooms and refrigerated containers to avoid waste.
- Use of predictive algorithms to optimize refrigeration cycles and reduce operational costs.

Value Proposition

- Ensuring regulatory compliance (HACCP, GDP) for the transport and storage of temperature-sensitive products.
- Reducing food and pharmaceutical waste through real-time traceability.
- Increased transparency and security in the cold chain with blockchain-based monitoring.
- Minimizing operational risks through preventive alerts and predictive analyses.
- Ease of implementation with plug & play sensors and integration with existing systems.

Customers/Targets & Communities

- Supermarkets and retailers needing to ensure the integrity of refrigerated foods.
- Logistics operators and carriers requiring real-time traceability of their refrigerated containers.
- Catering and food distribution companies to prevent temperature breaches in perishable foods.
- Regulators and certifiers requiring compliance with food.

Environmental & Climate Smart USP

- Reducing food waste by preventing losses due to cold chain failures.
- Decreasing CO_2 emissions by optimizing the energy efficiency of refrigeration systems.
- Intelligent management of energy consumption, reducing costs and environmental impact.
- Fewer medication disposals due to precise monitoring of storage conditions.
- Sustainability and circular economy, improving the efficiency of the refrigerated transport sector.

Distribution & Upscaling

- Global expansion to logistics and refrigerated transport operators.
- Partnerships with refrigeration equipment manufacturers for direct integration of IoT sensors.
- Growth in the pharmaceutical sector, ensuring the safety of vaccines and medications.
- Adaptation to other sectors such as floriculture and chemicals.
- Continuous development of new features to meet emerging regulatory requirements.

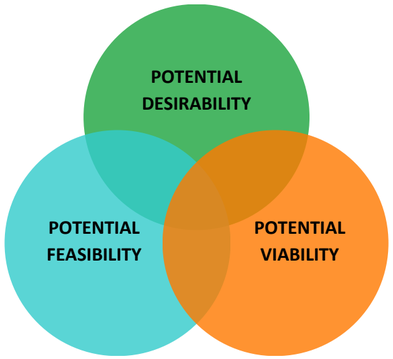
COSTS

- Investments in research and development to improve sensors and data analysis.
- Operational costs of IoT connectivity, including partnerships with telecommunications operators.
- Expenses with certifications for compliance with international regulations.
- Support and maintenance costs for enterprise clients.
- Expenses with market expansion and marketing to increase solution adoption.

REVENUES

- Sales of IoT sensors and plug & play devices to clients in the logistics and pharmaceutical sectors.
- Subscription models for access to the real-time monitoring platform.
- Strategic partnerships with refrigeration equipment manufacturers for integration of Sensefinity solutions.
- Provision of consulting and data analysis services for cold chain optimization.
- Securing funding and incentives for innovation and expansion in the blue economy and sustainable logistics sector.

THREE LENSES OF INNOVATION



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FISHINN - Innovation Canvas

COMPANY: *BAKE MY DOG HAPPY* REGION: *PORTUGAL*

THEME 5

Key Activities

- Bake My Dog Happy is an innovative Portuguese brand specializing in natural and sustainable pet treats. Founded by Tiago Braga, a marine biologist, and Luísa Custódio, a biotechnology researcher, the company offers unique pre-mixed biscuit kits that allow pet owners to bake healthy snacks at home. Their products utilize by-products from the fish canning industry, including various fish species, promoting sustainability and reducing waste. Each mix is crafted with carefully selected ingredients, ensuring both flavor and nutritional benefits for pets. Beyond treats, Bake My Dog Happy is developing a pet skincare line using invasive coastal plants and algae extracts. Their commitment to quality and innovation has quickly made them a favorite among conscientious pet owners.
- Utilization of by-products from the canning industry, transforming waste into nutritious snacks.
- Promotion of "zero waste" practices in the production of pet food.
- Educating consumers on the importance of natural and sustainable pet nutrition.

Key Partners & Suppliers

- Canning industries supplying by-products for snack production.
- Local suppliers of natural and fresh ingredients.
- Companies providing sustainable packaging for products.
- Pet product stores distributing the snacks.
- Online platforms and marketplaces specializing in natural pet products.

Key & Local Resources

- Production facilities located in Gambelas, Faro, Portugal.
- Equipment for dehydrating and preparing natural snacks.
- A team knowledgeable in animal nutrition and sustainable production.
- Partnerships with local suppliers to ensure ingredient freshness.
- Online presence for product commercialization and promotion.

Technical Resources

- Dehydration technologies that preserve ingredient nutrients.
- Quality control systems to ensure the food safety of snacks.
- E-commerce platform for direct-to-consumer sales.
- Digital marketing tools for product promotion and customer education.
- Production processes that follow sustainability practices and waste reduction.

Energy Resources

- Use of energy-efficient equipment in production.
- Implementation of production practices that minimize energy consumption.
- Educating the team on energy efficiency practices.

Value Proposition

- Offering natural, healthy, and sustainable snacks for dogs and cats.
- Reducing food waste by utilizing by-products from the canning industry.
- Providing snack options that contribute to pets' health and well-being.
- Allowing pet owners to participate in homemade biscuit preparation for their animals.
- Promoting sustainability and environmental responsibility in pet nutrition.

Customers/Targets & Communities

- Dog and cat owners seeking natural and healthy food options for their pets.
- Stores specializing in natural and sustainable pet products.
- Communities that value sustainability practices and waste reduction.
- Organizations and events related to animal well-being and healthy nutrition.
- Influencers and bloggers focused on pets and sustainability.

Environmental & Climate Smart USP

- Transforming food industry by-products into high nutritional value snacks, preventing waste.
- Local production that reduces the carbon footprint associated with transportation.
- Sustainable packaging that minimizes environmental impact.
- Educating consumers on conscious and sustainable consumption practices.
- Contributing to the circular economy by valuing food waste.

Distribution & Upscaling

- Direct-to-consumer sales through the online store.
- Partnerships with specialized physical stores for product distribution.
- Participation in fairs and events for brand promotion & expansion.
- Exploring international markets interested in natural and sustainable pet products.
- Development of new products and flavors to meet different pet preferences.

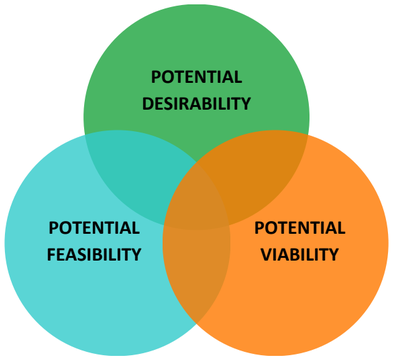
COSTS

- Acquisition of natural and fresh ingredients for production.
- Investment in production and dehydration equipment.
- Expenses with sustainable packaging and marketing materials.
- Operational costs related to production, logistics, and distribution.

REVENUES

- Sales of Pre-Mix Biscuit Kits: Offering kits that allow pet owners to prepare homemade biscuits for dogs, using natural and healthy ingredients.
- Sales of Natural Dehydrated Snacks: Providing ready-to-eat snacks, such as lamb liver, duck necks, and salmon tails, produced from canning industry by-products, promoting sustainability.
- Partnerships with Physical and Online Stores: Distributing products through stores specializing in natural and sustainable pet products, as well as online platforms and marketplaces.
- Participation in Fairs and Events: Participating in events related to animal well-being and healthy nutrition, where they sell products and promote the brand.

THREE LENSES OF INNOVATION



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FISHINN - Innovation Canvas

COMPANY: *OCEAN ALIVE* REGION: *PORTUGAL*

THEME 2/6

Key Activities

- Ocean Alive is Portugal's first cooperative dedicated to ocean protection, envisioning thriving oceans safeguarded by coastal communities. The "Guardians of the Sea" project is a cornerstone of Ocean Alive's initiatives. This project empowers women from local fishing communities to become leaders in marine conservation.
- Making significant strides in marine conservation, blending traditional knowledge with scientific approaches to ensure the health and sustainability of ocean ecosystems.
- Empowering women from fishing communities as "Keepers of the Sea" to protect seagrass meadows.
- Implementing awareness campaigns, such as "Shellfishing Without Litter," to promote sustainable shellfishing practices.
- Conducting scientific monitoring of seagrass meadows.
- Developing educational programs and marine experiences for schools and the general public.
- Promoting best practices in fishing and shellfishing to minimize environmental impact.

Key Partners & Suppliers

- Scientific institutions and universities for research and monitoring support.
- Non-governmental organizations and environmental associations.
- Local and national governmental entities related to marine conservation.
- Local fishing communities and fishermen's cooperatives.
- Companies and foundations that fund conservation and environmental education projects.

Key & Local Resources

- Seagrass meadows of the Sado estuary as the focus of conservation activities.
- Traditional knowledge of local fishing communities.
- Multidisciplinary teams composed of marine biologists, educators, and awareness agents.
- Facilities for workshops, educational sessions, and community events.
- Equipment for environmental monitoring and coastal area cleanups.

Technical Resources

- Methodologies for monitoring seagrass meadows.
- Tools and materials for awareness campaigns and environmental education.
- Systems for collecting and analyzing environmental data.
- Online platforms for information dissemination and education.
- Diving and navigation equipment for field activities.

Energy Resources

- Use of sustainable and low-energy consumption practices in operations.
- Incorporation of circular economy practices in daily operations.

Value Proposition

- Empowerment of women from fishing communities as leaders in marine conservation.
- Protection and recovery of seagrass meadows, essential for biodiversity and fishing sustainability.
- Education and awareness of the community for sustainable shellfishing and fishing practices.
- Promotion of a participatory conservation model that can be replicated in other regions.
- Contribution to the economic sustainability of fishing communities through responsible practices.

Customers/Targets & Communities

- Local fishing communities benefiting from the sustainability of marine resources.
- Schools and educational institutions participating in environmental education programs.
- Tourists and the general public interested in ecotourism experiences and marine education.
- Environmental and scientific organizations collaborating on conservation projects.
- Government entities seeking to implement effective conservation policies.

Environmental & Climate Smart USP

- Conservation of seagrass meadows that act as carbon sinks, helping to mitigate climate change.
- Reduction of marine pollution through cleanup and awareness campaigns.
- Promotion of sustainable fishing practices that preserve marine ecosystems.
- Education of communities on the importance of biodiversity and ecosystem services.
- Implementation of nature-based solutions for coastal protection.

Distribution & Upscaling

- Replication of the "Keepers of the Sea" model in other fishing communities in Portugal and internationally.
- Partnerships with other organizations to expand the impact of conservation initiatives.
- Participation in international marine conservation networks and platforms. Development of educational materials available online.
- Promotion of public policies that support the conservation of seagrass meadows and the empowerment of local communities.

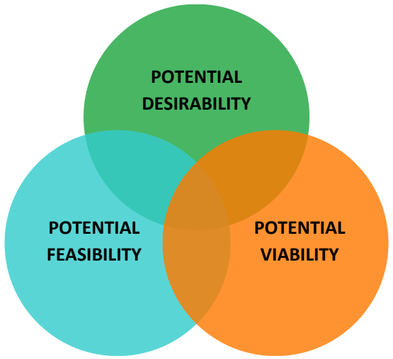
COSTS

- Continuous training and capacity building of the Keepers of the Sea.
- Acquisition and maintenance of monitoring and cleanup equipment.

REVENUES

- Funding from governmental and non-governmental organizations for conservation projects.
- Donations and sponsorships from companies and foundations supporting environmental initiatives.
- Revenue from educational programs, workshops, and marine experiences offered to schools and the public.
- Sale of educational materials and merchandise related to marine conservation.
- Grants and awards from national and international entities recognizing innovative conservation projects.

THREE LENSES OF INNOVATION



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What can it make happen? What resources are needed? What skillsets are required?

Potential of viability
What value and/or impact will/could this idea bring to the organisation and to the territory?

FISHINN - Themes

1. Collaboration with the food and tourism sector
2. Advancing position in the value chain through collaboration and alliances with agents in the sector, aquaculture
3. Blue Economy opportunities other than fishing e.g. energy, algae, pharmaceuticals, nutraceuticals & health products
4. Blue biotechnology solutions and digitisation capabilities
5. Waste recovery and reuse i.e. plastics, fishing gear, circular economy solutions
6. Other innovations and best practice (non tech, non-business)

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FISHINN - Innovation Canvas

COMPANY: ***WAVEC*** REGION: ***PORTUGAL***

THEME **6**

Key Activities

- WavEC Offshore Renewables is a private non-profit research organization established in 2003, dedicated to advancing offshore renewable energy through technical and strategic support to companies and public bodies.
- Initially focused on promoting wave energy in Portugal, WavEC has expanded its scope to include offshore wind and various aspects of the blue economy, reflecting its adaptability and foresight.
- Conducting applied research and development in marine renewable energy technologies, including wave and offshore wind energy.
- Providing consultancy services in technical, strategic, and environmental aspects of offshore renewable projects.
- Engaging in environmental monitoring and impact assessments for offshore renewable installations.
- Participating in national and international collaborative projects to promote innovation in the marine renewable energy sector.
- Offering training and capacity-building programs to support the development of expertise in marine renewable energy.

Key Partners & Suppliers

- Universities and research institutions specializing in marine and renewable energy studies.
- Government agencies and regulatory bodies involved in energy and environmental policy.
- Industry partners, including energy companies and technology developers in the offshore renewable sector.
- Non-governmental organizations focused on environmental sustainability and marine conservation.
- Suppliers of specialized equipment and services for offshore renewable energy projects.

Key & Local Resources

- A multidisciplinary team of experts in engineering, environmental science, economics, and policy related to marine renewable energy.
- Access to offshore test sites, such as the Aguçadoura test site, for deploying and monitoring renewable energy devices.
- Laboratories and facilities equipped for testing and developing marine renewable energy technologies.
- Comprehensive databases and analytical tools for environmental and technical assessments.
- Strategic location in Portugal, facilitating collaboration with European and international partners.

Technical Resources

- Advanced modeling and simulation software for designing and optimizing marine renewable energy systems.
- Instrumentation and monitoring equipment for assessing environmental and operational parameters of offshore installations.
- Data management systems to handle large datasets from environmental monitoring and device performance evaluations.
- Proprietary methodologies for environmental impact assessments and consenting processes.
- Platforms for disseminating research findings and best practices to stakeholders and the public.

Energy Resources

- Utilization of renewable energy sources to power research facilities and operations.
- Implementation of energy-efficient practices in organizational operations.
- Development of technologies aimed at harnessing marine renewable energy, contributing to a sustainable energy mix.
- Participation in projects that integrate renewable energy solutions into local and regional energy grids.
- Promotion of energy sustainability principles within the marine renewable energy sector.

Value Proposition

- Delivering innovative solutions for the sustainable exploitation of marine renewable energy resources.
- Providing expert consultancy that ensures the technical feasibility and environmental compatibility of offshore renewable projects.
- Enhancing the knowledge base and technical capacity of stakeholders in the marine renewable energy industry.
- Contributing to the global transition towards low-carbon energy sources through the development of offshore renewable technologies.
- Supporting policy development and regulatory frameworks that facilitate the growth of the marine renewable energy sector.

Customers/Targets & Communities

- Energy companies and utilities seeking to invest in offshore renewable energy projects.
- Government bodies and policymakers involved in energy and environmental planning.
- Research institutions and academic entities collaborating on marine energy research.
- Coastal communities interested in sustainable development and local renewable energy initiatives.
- Environmental organizations advocating for the conservation of marine ecosystems.

Environmental & Climate Smart USP

- Expertise in integrating environmental sustainability into the development of marine renewable energy projects.
- Proven track record in conducting comprehensive environmental impact assessments for offshore installations.
- Leadership in projects that combine technological innovation with environmental conservation efforts.
- Commitment to advancing renewable energy solutions that mitigate climate change impacts.
- Active role in international initiatives aimed at promoting sustainable use of ocean resources.

Distribution & Upscaling

- Engagement in EU and international consortia to expand the reach and impact of marine renewable energy projects.
- Collaboration with industry stakeholders to scale up the deployment of offshore renewable technologies.
- Participation in policy dialogues to influence the scaling of renewable energy initiatives.
- Utilization of digital platforms to disseminate research globally.
- Adaptation of technologies and services to meet the needs of diverse geographic and market contexts.

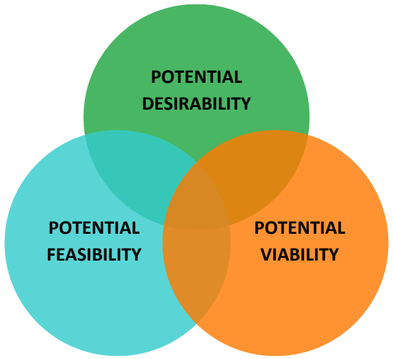
COSTS

- Investment in research and development activities to innovate and improve marine renewable technologies.
- Operational expenses related to environmental monitoring and field assessments.
- Costs associated with maintaining and upgrading research facilities and equipment.
- Expenditures on staff training and professional development to maintain high expertise levels.
- Administrative and compliance costs linked to regulatory requirements and quality standards.

REVENUES

- Income from consultancy services provided to industry and government clients.
- Funding from national and international research grants and projects.

THREE LENSES OF INNOVATION



Potential of desirability
Who will benefit from the idea?

Potential of feasibility
What can it make happen? What resources are needed? What skillsets are required?

Potential of viability
What value and/or impact will/could this idea bring to the organisation and to the territory?

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