ATLANTIC FISHERIES ECOSYSTEM INNOVATION ROADMAP

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Interreg Atlantic Area FISHINN

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What four Atlantic fishing ecosystems are inventing — and where the sector is heading

4 PILOT TERRITORIES IE 4 LOCAL FISHERIES ECOSYSTEM INNOVATION LAB

4 LOCAL INNOVATION FORUMS : WITH MORE THAN 50 ORGANISATIONS MOBILISED

1 SHARED METHOD

12 SOLUTION PROTOTYPES DESIGNED

Foreword

Fisheries are central to the economic, social and cultural life of Atlantic coastal communities. Yet the sector is facing growing challenges: climate change, regulatory uncertainty, labour shortages, rising costs, changing markets and increasing pressure on marine resources. At the same time, the global demand for seafood continues to grow.

FISHINN was launhed to support Atlantic fisheries ecosystems respond to these challenges by strengthening innovation, collaboration and knowledge exchange. Across four pilot territories in Ireland, France, Spain and Portugal, local stakeholders worked together to identify new opportunities, and explore more resilient, sustainable and value-creating futures for their fishing communities.

Atlantic Area

Between 2023 and 2026, four Atlantic fishing ecosystems — Kerry (Ireland), Cornouaille in Brittany (France), Lea-Artibai (Basque Country Spain) and Southwest Alentejo (Portugal) — each ran their own Fisheries Ecosystem Innovation Lab: a nine-month journey, led by local actors, to turn on-the-ground challenges into prototyped solutions. Put together, these twelve prototypes tell a bigger story than the sum of their parts. This brochure is that story: the trends that recur up and down the Atlantic coastline, the weak signals worth watching — and the method that brought them to light.



The FISHINN lab method : One way of innovating, all along the Atlantic coast

Four territories, four very different contexts represeting the diversity of local fishing ecosystem on Atlantic area— but a single, shared 6-step journey, adapted locally by each partner.



Why prototype rather than plan?

Innovation does not begin with a finished solution. It begins with exploration, testing, and learning. Prototyping changes the nature of risk: instead of investing significant resources in a project based on assumptions, organisations can test ideas early, at low cost and with limited risk. A prototype is not the final development of a project. It is a practical experiment designed to explore opportunities, challenge assumptions, and generate evidence before committing to larger investments.
Within the FishInn Innovation Roadmaps, prototyping is used as a tool for collective learning. Rather than seeking a perfect plan from the outset, the process helps stakeholders identify what works, what does not, and what needs to be adapted to local realities. The objective is not to deliver a turnkey product immediately, but to validate specific aspects of a solution, understand real-world constraints, and build confidence for future development.

The added value of the Design and Living Lab approach

Our approach to developing local fisheries innovation roadmaps is built around four key principles that strengthen the resilience and adaptability of coastal communities.

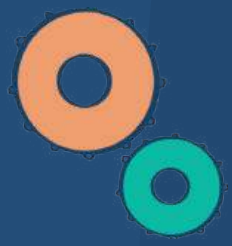
1. A Strong Territorial Foundation



Innovation is rooted in place. Our methodology is fundamentally collaborative and mobilises local stakeholders, whose knowledge, perceptions and experiences are essential. The local context matters: by involving fishermen, businesses, public authorities, researchers and community actors, proposed solutions remain grounded in the realities of the territory and are more likely to be adopted and sustained.

2. The Advantage of Scale and Proximity

Many coastal stakeholders experience a sense of distance from decision-making processes and large-scale initiatives. Working at a local scale creates opportunities for flexibility, responsiveness and trust. Proximity enables direct dialogue, rapid feedback and collective problem-solving. Rather than seeing small scale as a limitation, our approach considers it a strategic asset for experimentation and innovation.



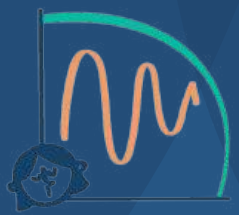
3. A Pragmatic Vision of Innovation



Innovation takes many forms and is not always about disruptive technologies. The most valuable innovations are often those that create meaningful value in a specific context. Our objective is not to reinvent the wheel, but to connect existing knowledge, technologies and practices in new ways that respond to the needs of a particular port or community. Innovation is therefore understood as a practical solution to a real challenge.

4. The European Perspective

The European dimension of FishInn encourages stakeholders to step outside their usual frame of reference. Challenges that may appear difficult or even unsolvable locally can be re-examined through the experiences of other Atlantic regions. Learning from initiatives in Ireland, Portugal, Spain and other European ecosystems helps participants gain new perspectives, identify transferable practices and imagine alternative futures for their own territories.



That is exactly the bet behind the Fishinn Lab: instead of a fixed master plan, twelve prototypes designed, adjusted, sometimes dropped — so that only what has already proven itself at small scale gets rolled out tomorrow.

First signal from this roadmap

Atlantic fishing communities are navigating a rapidly changing environment shaped by climate pressures, evolving regulations, market uncertainty, skills shortages, rising operating costs, and a growing sense of distance from decision-making. These interconnected challenges create uncertainty across the entire fisheries value chain and call for new ways of working together.

The first signal emerging from this roadmap is therefore not a single solution, but a new capacity to respond to change. Through the Fishinn Lab, local stakeholders have set themselves in motion, learned from the approach, and built collective ownership of innovation. A shared culture of prototyping, collaboration and adaptation is beginning to take shape across Atlantic territories.

This culture is a valuable outcome in itself. By moving from planning alone to learning through action, coastal communities strengthen their ability to identify opportunities, manage uncertainty and build resilience. It is becoming a transferable Atlantic practice, regardless of the specific solutions developed in each territory.



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4 territories, 12 prototypes, one shared ambition

Up and down the Atlantic coastline, four labs each explored, in their own way, how to reconnect fishing, value and territory.



Lea-Artibai / Port of Ondarroa — Basque Country, Spain
Lead: Leartibai Fundazioa

- Revitalisation of the Port of Ondarroa and its fish market
- Activation of the Lea-Artibai aquaculture industrial estate
- Blue economy hub at the Port of Ondarroa



Southwest Alentejo — Portugal
Lead: Sines Tecnopolo

- Centre for fish valorisation & blue bioeconomy
- Short supply chain model for seafood
- Co-management & diversification through fishing tourism



Cornouaille — Brittany, France
Lead: Technopole Quimper-Cornouaille

- Fish Churros — street food made from underused local fish
- Fishers' entrepreneurship toolkit
- PESK — the Saint-Guénolé port market



Kerry / Southwest Coast — Ireland
Lead: Munster Technological University

- National Blue Cluster
- Innovate Blue programme : skills and talent for the blue economy
- Seafood value chain development — valorisation of spider crab, sardine and anchovy...

Ports & Infrastructure Reinvention

Ports are no longer just landing points — they're becoming innovation platforms.

Several ecosystems are no longer treating their port as fixed infrastructure. They see it as a strategic asset to reactivate, brand and diversify.
This shift reaches well beyond the Basque Country. The European AspBAN (Atlantic Smart Ports Blue Acceleration Network) programme is already supporting more than 40 Atlantic ports in their transition towards blue innovation hubs, helping them attract new businesses, talent and investment. At the same time, projects funded by the Interreg Atlantic Area Programme, such as ATLIC (Atlantic InnoBlue Communities), are fostering collaborative blue innovation ecosystems that connect local authorities, businesses and coastal communities, while DigiATLA is strengthening innovation and digitalisation capacities across the Atlantic aquaculture sector. Ondarroa is not inventing the trend: it is applying the same logic at the scale of a family-run fishing port.



Revitalisation of the Port of Ondarroa and its fish market — Basque Country

A new association bringing together OPPAO, Kofradia, Ondarroa19 and Onare is set to launch in 2026 to run the fish market. The goal: attract new vessels, open the market to new species, and make the fish market self-sufficient in its management — a governance model before it is an infrastructure model.



Activation of the Lea-Artibai aquaculture estate — Basque Country

Bringing the estate back to life would give the region a clear, shared long-term use for currently under-exploited infrastructure, while diversifying the local fishing economy, creating qualified jobs, and positioning Lea-Artibai as a European reference in sustainable aquaculture.



Blue economy hub at the Port of Ondarroa — Basque Country

A full Business Model Canvas — value proposition, governance, land and technical requirements — to turn the Port of Ondarroa into a landing platform for start-ups, SMEs and blue economy talent, modelled on PortXL or Hub Azul.

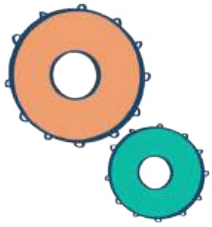


WHAT THE THREE PROTOTYPES HAVE IN COMMON



One port, three angles of attack: Ondarroa concentrates the fish market (governance of the first sale), the industrial estate (aquaculture strategy) and the hub (attracting start-ups and talent). Three distinct prototypes, one site — a layered strategy rather than three isolated bets.

In all three transfer analyses, the infrastructure already exists. What's missing isn't concrete but governance: who decides, who organises, who holds shipowners, fish markets, businesses and authorities together.



THE RISKS THAT RECUR ACROSS THE TRANSFER ANALYSES



Governance complexity at start-up, as new structures take time to earn legitimacy with every actor on the port.

Heavy coordination across multiple stakeholders with sometimes diverging interests — fish markets, shipowners, businesses, port authorities.

Difficulty attracting and retaining skilled labour, and renewing generations in trades that have historically had low visibility.

Competition from other ports or regions to attract vessels and businesses — the AspBAN dynamic also means other Atlantic ports are playing the same card at the same time.

Proof it already works despite these risks: in July 2025, the Ondarroa fleet sold albacore tuna on the Irish market for the first time — a concrete commercial result born from the cross-territory connections Fishinn has built.



Blue Bioeconomy: the Hidden Value

The next source of value lies in what we discard, undersell or overlook today.

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This is the most widely shared trend across the entire roadmap, emerging in all four territories through different pathways: underutilised species, processing by-products, aquaculture side streams, marine biomass and new bio-based products.
But this trend is no longer just an economic opportunity: it is becoming a climate necessity.
Warming waters in the Northeast Atlantic are already reshaping the distribution of species. Anchovy is extending its range further north into the North Sea, while cod and other species (pulpo...) are progressively moving towards colder waters. As marine ecosystems continue to evolve, the list of «underused» species will not remain fixed. It will change faster than processing chains, markets and consumer habits traditionally adapt.
In this context, the ability to rapidly create value from emerging species, by-catches and marine co-products becomes a strategic adaptation capacity. Territories that learn how to bring a new resource to market are not simply generating additional revenue streams: they are building resilience for the fisheries sector as a whole.
This transition is increasingly reflected in Atlantic cooperation projects. The Interreg Atlantic Area Programme-funded AQUAFISH0.0 project is developing innovative seafood products from by-catches and processing by-products under a zero-waste approach, while promoting circular business models and consumer acceptance of fully valorised marine resources.
At the same time, BEAP-MAR (Blue Bioeconomy in the Atlantic Area: New Products from Marine Organisms) is exploring the potential of underexploited marine organisms such as algae, marine fungi and sponges to develop new high-value compounds and products, demonstrating how previously overlooked marine resources can support new industrial value chains across the Atlantic economy.
Together, these initiatives illustrate a broader shift from a fisheries economy focused solely on landed volumes towards a circular blue bioeconomy where every species, every by-product and every marine resource can contribute to economic value, environmental sustainability and climate adaptation.



Centre for fish valorisation & blue bioeconomy — Southwest Alentejo

A multi-stakeholder platform bringing together fishers, processors, researchers and markets to turn low-value fish and marine by-products into higher value-added products — from food to nutraceuticals and bio-based materials, drawing notably on seaweed value chains.



Fish Churros — Saint-Guénolé, Brittany

Hake, pollock and other underused local species turned into crispy street-food sticks, sold in paper cones at ports, open-air bars and markets. A format designed to reconnect younger generations with fish, riding the wave of snacking and food-on-the-go.



Spider crab valorisation programme — Kerry

A species that today is almost entirely underused in Ireland, with valuable biomass and meat left on the table. The programme draws on the Iceland Ocean Cluster's «100% Fish» model to build a fully-fledged product chain.



Sardine and anchovy valorisation — Kerry

Two species widely eaten elsewhere in Europe, but currently relegated to fishmeal in the Irish value chain — the lowest position possible. The ambition: open up real food markets for them.

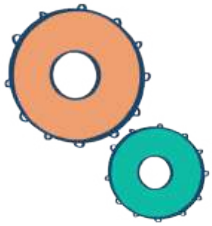


THE REAL SUCCESS FACTOR: DEMAND, NOT ONLY RESOURCE



All four territories share the same starting point — an available, underused resource. But their transfer analyses converge on the same risk: technical processing capacity and market acceptance, not biological availability.

Cross-cutting reading: in this cluster, blue bioeconomy isn't primarily a resource problem — it's a downstream problem. Building demand, before the processing tool, is the most cited condition across all four roadmaps.
Strengthening business-research ties is important for a deployment



THE RISKS THAT RECUR ACROSS THE TRANSFER ANALYSES



Insufficient technical capacity and skills for advanced processing — flagged first in Portugal as a feasibility condition for the Valorisation Centre.

Fragmented value chain and weak coordination between fishers, processors and markets, which slows access to the volumes needed.

High upfront investment for processing equipment, with lasting uncertainty over long-term profitability.

Market acceptance still uncertain for products consumers know little about — a risk affecting Irish spider crab as much as new sardine uses.



Variability and seasonality of available volumes — a risk set to intensify if climate-driven species shifts accelerate faster than value chains can adapt.

The necessary project leadership

Short Chains, Co-management & Reconnecting Communities

Putting fishers, markets and residents back in the same room.

Three prototypes, two territories, one shared conviction: value also lies in proximity and rebuilding trust between the port and its territory.
This choice is far from anecdotal. A European Parliament study finds that short supply chains strengthen local roots, create local jobs and reduce the environmental footprint of transport and storage. More recently, a report from the European Market Observatory for Fisheries and Aquaculture Products (EUMOFA, 2026) shows that direct sales and short chains acted precisely as a shock absorber during the sector's recent crises — the pandemic, Brexit, the energy price spike — with the most resilient businesses being those that had diversified their distribution channels. Far from a niche option, the short chain is becoming a resilience tool in its own right.



Short supply chain model for seafood — Southwest Alentejo

New direct-sale channels between fishers and local markets, to restore margin at first sale and shorten the distance between catch and plate.



Co-management & diversification through fishing tourism — Southwest Alentejo

A structured dialogue platform between fishers, local authorities and development associations, paired with new fishing-tourism activities — boat trips, educational activities, heritage promotion — to diversify income without waiting for governance to be perfect.



PESK — the port market — Saint-Guénolé, Brittany

A recurring, convivial food market, directly inspired by a food-market : restaurant owners and food trucks cook on site, at a single price, built around local fish. A way to restore the port's role as a place of life, and give fishers a potential direct-sale outlet.

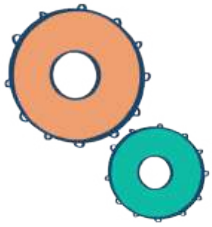


THE HUMAN FACTOR, MORE THAN THE TECHNIQUE



Across the three prototypes, no transfer analysis names technology or infrastructure as the top success factor. It's consistently human coordination: a dedicated coordinator for PESK, trust between stakeholders for co-management, logistics coordination among fishers for the short chain.

These three prototypes swim against a deep sector-wide trend towards consolidation and export: this is a deliberate territorial bet, not an obvious response to market signals.



THE RISKS THAT RECUR ACROSS THE TRANSFER ANALYSES



Irregular supply linked to catch variability, a friction point that small volumes can no longer absorb, unlike traditional sales.

Costly logistics coordination at small scale: collection, storage and delivery require an organisation that few artisanal structures already have.

Regulatory constraints on direct sales, traceability and food safety, flagged in all three analyses as a hurdle to plan for early.

Dependence on a small pool of project leaders and dedicated coordinators — the model's durability often rests on one or two key people.

Seasonality of demand, particularly for the fishing-tourism component, which weakens the economic balance outside peak periods.



Skills, Talent & Cluster Governance

The bottleneck isn't always the idea — it's the people and the coordination.

Three prototypes asking the same question: how do you structure an ecosystem and its talent, before even choosing the next product to launch?
This diagnosis is no longer purely local. The European Commission (Directorate-General for Maritime Affairs and Fisheries) launched a dedicated «blue skills» study in 2024, finding an ageing workforce and a shortage of workers across several blue economy sectors — including emerging fields such as marine renewable energy and blue biotechnology.



National Blue Cluster - Kerry

A governance structure to unite an ecosystem currently fragmented across counties and institutions. Stated ambition: around 25 founding members within the first year, and cooperation agreements with Leartibai Fundazioa and the Iceland Ocean Cluster.



Innovate Blue Programme : skills and talent for the blue economy - Kerry

A continuing-education programme as a pathway from opportunity discovery to innovation, intellectual property and high potential start-up creation, transforming marine bioresources through advanced industrial biotechnology, bioprocessing and clean technologies.



Fishers' entrepreneurship toolkit — Brittany

Turning hours-long information webinars, currently long and hard to consult, into short videos and podcasts (5 to 6 minutes) covering licences, quotas or financial management — a light, accessible link in the installation & entrepreneurship pathway and by CRPMEM Bretagne (Regional Committee For Marine Fisheries And Marine Aquaculture in Brittany).

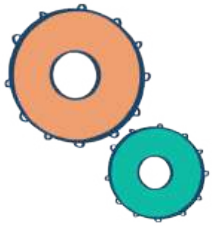


ONE SHARED BET, TWO WAYS OF PLAYING IT



National Blue Cluster and Innovate Blue programme rest on the same institutional anchor (MTU Kerry) and the same early partnerships (BIM, ...).

Cross-cutting reading: two territories, two answers to the same problem. Ireland is building a new institution (cluster + training platform), while Brittany is lightening access to what already exists (short formats rather than a new structure) — two transferable strategies depending on how mature the starting ecosystem is.



THE RISKS THAT RECUR ACROSS THE TRANSFER ANALYSES



Time needed to build durable, credible governance

Risk of slow buy-in from traditional maritime-sector actors, less used to cluster or continuing-education approaches.

Coordination complexity across several counties, institutions and cross-border partnerships for the Irish Blue Cluster.

The sector's weak appeal to younger generations — a factor that goes beyond training alone and feeds coastal demographic decline.

Difficulty measuring employment outcomes over the long run, within action timelines that rarely exceed three to five years.



What the four trends, together, tell us

Creating more value, not catching more fish

Across the four territories, innovation focuses less on increasing catches and more on generating greater value from existing resources: underused species, by-products, local know-how, infrastructure and territorial identity. The shared ambition is to retain more value within coastal communities.



Governance matters as much as innovation

The most recurring success factors are not technological but organisational: stakeholder coordination, leadership, trust and collaboration. Across the roadmaps, the main challenge is often not the lack of solutions, but the ability to mobilise actors around a shared vision



Reconnecting fisheries with communities

Many prototypes aim to strengthen links between fisheries, consumers and coastal territories. Through short supply chains, tourism, events and new seafood products, ports are becoming places of connection, learning and local engagement, not only production sites.



Building the capacity to adapt

Despite their diversity, all prototypes respond to the same challenge: supporting fisheries ecosystems navigate uncertainty. Skills development, diversification, market innovation and new governance models all contribute to strengthening resilience and the ability to adapt to future change.



THE THROUGH-LINE



More than a collection of individual projects, the twelve Fishinn prototypes reveal a broader transition underway across Atlantic fisheries.

The future resilience of coastal communities will depend not only on marine resources, but on their capacity to create value locally, collaborate effectively, reconnect with society and continuously adapt to change.



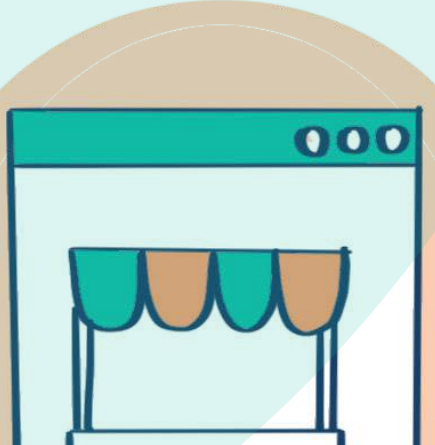


What's next

These twelve prototypes are not closed cases. They are open paths — ready to be adapted and transferred from one Atlantic territory to another. Each local roadmap explores the conditions for transfer, the partners to mobilise and the next steps. Want to go further, replicate a prototype in your own territory, or join the Fishinn network ?

→ fishinnproject.eu





External sources cited

The analysis in this brochure draws first on Fishinn project deliverables (Local Innovation Roadmaps and Transfer Plans, WP3, 2025-2026). The following contextual material comes from external sources:

Method & prototyping

Nesta, «Prototyping: the key to public service innovation» and «Public and social innovation labs», nesta.org.uk
OECD, Observatory of Public Sector Innovation — OECD Working Papers on Public Governance, «The Public Sector Innovation lifecycle», oecd.org
Fishinn Deliverables D3.1 ; D3.2 ; D3.3

Blue bioeconomy

OSPAR Commission, Quality Status Report 2023 — «Climate Change effects on marine fish», oap.ospar.org
Baudron A. et al. (2020); ICES (2016), cited in OSPAR QSR 2023, on the redistribution of commercial stocks in Europe
Marine Stewardship Council, «Climate change and fishing», msc.org

Skills & governance

European Commission, Directorate-General for Maritime Affairs and Fisheries (DG MARE), «Blue Skills study» — study on skills in the blue economy, 2024-2025, ec.europa.eu / blue-economy-observatory.ec.europa.eu

Ports & infrastructure

European Commission, «AspBAN – Transforming the EU Atlantic ports into blue economy hubs», oceans-and-fisheries.ec.europa.eu, 2023

Short chains & co-management

European Parliament (EPRS), «Short food supply chains and local food systems in the EU», europarl.europa.eu, 2016
European Commission / EUMOFA, «Report shows Europe's fish and seafood sector shaped by crisis», blue-economy-observatory.ec.europa.eu, 2026

Glossary

• **Fishermen's Guild - Kofradia :** Oversees the weighing and sale of landed fish, ensures fishermen are paid, submits first-sale data to authorities, and acts as an intermediary between fishermen and administration. It also manages aid applications, handles vessel owners' social security, and supports regulatory compliance

• **Offshore Fishing Producers' Organisation [OPPAO] :** A producer organisation based in Ondarroa, Bizkaia, representing the owners of deep-sea fishing vessels. Its mission is to support sustainable fishing practices, improve the marketing and sale of its members' catches, ensure compliance with the Common Fisheries Policy, and add social and economic value to the local fishing sector. OPPAO also promotes innovation, such as digital fish auctions and educational and promotional activities to strengthen the visibility and sustainability of the industry [https://oppao.es/].

• **Ondarroa19 :** Seafood wholesale company in Ondarroa that handles the landing, weighing, and sorting of fish, conducts live auctions and exports, ensures payment, and provides logistical and operational support to fishing vessels [https://ondarroa19.com/].

• **Ondarroa Port Fish Merchants Association [ONARE] :** Represents fish retailers and wholesalers. It defends the sector's interests, promotes fish sales, provides training and advice, supports sustainable practices, participates in fairs and events, collaborates with other associations, and contributes to fishing and marketing regulations.

• **PortXL :** Maritime accelerator connecting start-ups with corporates in ports, logistics, and offshore (Rotterdam).

This list is not a substitute for a full academic bibliography; it aims to situate Fishinn's on-the-ground findings within the European policy and literature context available at the time of writing.