



Sustainable Blue
Economy Partnership

WHO IS WHO BROCHURE

**Thematic Portfolio 1:
Innovations and
digitalisation for low-
impact sustainable
small-scale fisheries
management in EU sea-
basins**



Co-funded by
the European Union

EUROPEAN PARTNERSHIP

What is the Thematic Portfolio?

The Thematic Portfolio of projects is a two-year networking initiative (2026-2028) part of the Sustainable Blue Economy Partnership. Designed to bring together ongoing R&I projects from across Europe, the primary goal of this initiative is to boost collaboration, knowledge sharing, and the development of common outputs. The Thematic Portfolio projects, either co-funded by the Partnership or other European funding streams, address a common general theme focusing on the Intervention Area “Blue Bioresources” outlined in the Partnership Strategic Research and Innovation Agenda (SRIA):



Innovations and digitalisation for low-impact sustainable small-scale fisheries management in EU sea-basins

The initiative includes a diverse community of R&I projects, selected through an open call for expressions of interest in 2025. The Thematic Portfolio was officially launched with a kick-off event on February 12th, 2026, in Bucharest, during the Partnership halfway meeting.

Discover the Thematic Portfolio projects

This brochure introduces the projects involved in the Thematic Portfolio, and:

- ▶ **Who they are:** The experts and organisations
- ▶ **What they do:** Their contributions to the blue economy
- ▶ **Why they joined the Thematic Portfolio:** Their motivations and visions



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Thematic Portfolios - Sustainable Blue Economy Partnership

Thematic Portfolio Members

Acronym	Project Title	Main Contact	Organisation	Website / Email
<u>OPTIFISH</u>	Optimisation of digital catch monitoring and reporting in European fisheries	Jade Maes	ILVO	https://optifish.eu/
<u>CAFF</u>	Carbon Free Pathways to Low-Impact Carbon-Neutral Fisheries	François Bastardie	DTU Aqua	fba@aquu.dtu.dk
<u>DORIS</u>	Development of Modular and Mobile By-Product and Wastes Bio-refinery Valorisation Systems and Supporting	Ehiaze Ehimen	Atlantic Technological University	https://dorisproject.com/
<u>NETTAG+</u>	Preventing, avoiding and mitigating environmental impacts of fishing gear and associated marine litter	Sandra Ramos	CIIMAR	https://www.nettagplus.eu



► Thematic Portfolio Rotating Chair

OPTIFISH

Optimisation of digital catch monitoring and reporting in European fisheries

Keywords:

Decision support tools, stakeholder engagement, EM technology, climate

Lead organisation:

Flanders Research Institute for Agriculture, Fisheries, and Food (ILVO)

Project duration:

1/2/2024-31/1/2028

Funding source:

FARM2FORK

Sea-basins:

North Sea, Baltic Sea,
Mediterranean Sea, Atlantic
Ocean



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<https://optifish.eu/>



[OptiFish](#)

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PROJECT SUMMARY

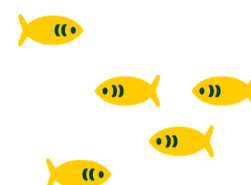
The OptiFish project aims to deliver technological solutions that improve the sustainability of fishing operations, enhance fisheries control processes, and strengthen society's trust in seafood products. European fisheries face increasing demands for transparency, accurate reporting, and sustainable management, while fishers operate in a complex regulatory and economic environment. OptiFish addresses these challenges by exploring how emerging digital technologies can support both the fishing sector and fisheries management authorities.

The project develops, tests, and recommends a set of innovative technologies and tools supported by artificial intelligence (AI). These technologies aim to provide fisheries managers, the fishing sector, and scientists with improved data on catch volumes, catch composition, and the fishing environment. By enhancing the quality, availability, and timeliness of fisheries data, OptiFish seeks to support evidence-based decision-making and improve monitoring, control, and enforcement systems across European fisheries.

A central objective of the project is to unlock the potential of technologies such as electronic monitoring and genetic monitoring for automated species recognition. Using AI and computer vision, these systems can automatically detect and identify fish species during the catch handling process on board fishing vessels. Such innovations have the potential to significantly improve data collection while reducing the administrative burden on fishers. Ultimately, these technologies could help reduce discards, limit unreported landings, and detect unreported fishing activities, contributing to a fisheries control and enforcement system fit for the digital age.

However, technological innovation alone is not sufficient. A key aspect of the OptiFish approach is the integration of multiple technologies and data streams into a coherent monitoring framework. The project therefore considers not only individual tools but also how different technologies can be combined effectively. This includes integrating computer vision models with a range of data sources and formats, such as electronic monitoring systems, sensor data, and genetic information. Ensuring interoperability between these systems is essential for creating reliable and scalable digital monitoring solutions.

Equally important is the consideration of stakeholder needs and acceptance. The successful implementation of new monitoring technologies depends on the trust and cooperation of the fishing sector, fisheries authorities, and other stakeholders. OptiFish therefore engages with stakeholders throughout the project to ensure that the developed solutions are practical, effective, and aligned with operational realities.



Recognizing that the transition towards fully digital fisheries monitoring cannot be achieved by a single project alone, OptiFish aims to lay a solid foundation for further technological development. The project will generate knowledge, methodologies, and practical experience that can support future initiatives and collaborations in this field.

To ensure relevance for fisheries management, OptiFish focuses on species recognition in different fisheries with varying catch handling practices and operational conditions across European sea basins. The project involves the Norwegian Directorate of Fisheries and has received written support from the European Fisheries Control Agency (EFCA) as well as the fisheries authorities of the Basque Country, Denmark, and Belgium.

BIOGRAPHY

Jade Maes is a Scientific Researcher at the Flanders Research Institute for Agriculture, Fisheries, and Food (ILVO), where she has been working since 2023. She holds a Master's in Ecology, Evolution, and Conservation from KU Leuven, and an International Master's in Marine Biological Resources. Her passion for marine biology led her to pursue these studies and ultimately embark on a career focused on the sustainability of marine ecosystems. At ILVO, Jade is an integral member of the Fisheries Biology team, contributing to research projects that support sustainable fisheries management. Currently, she is working as the Project Manager of the OptiFish project (EU-Horizon funded project), which focuses on optimizing digital catch monitoring and reporting in European fisheries. The project develops and tests innovative technologies to enable automated species recognition and improved onboard monitoring of catch volumes and fish health, generating more accurate real-time data to support sustainable fishing practices and improve transparency in fisheries management.

MOTIVATION TO JOIN THE THEMATIC PORTFOLIO

The OptiFish project strongly aligns with the objectives of the Sustainable Blue Economy partnership's thematic portfolio on innovations and digitalization for low-impact sustainable fisheries. By developing and testing AI-supported technologies for automated species recognition, electronic monitoring and improved fisheries data collection, OptiFish contributes directly to advancing digital solutions that support sustainable fisheries management and transparent control systems.

Participation in the portfolio would allow OptiFish to exchange knowledge with complementary projects working on fisheries monitoring, digitalization and sustainable fishing practices across European sea basins. Through this collaboration, the project aims to strengthen synergies, contribute to shared solutions for fisheries monitoring and management, and maximize the impact of digital technologies supporting the transition towards sustainable European fisheries.

► Thematic Portfolio Member Project

CAFF

Carbon Free Pathways to Low-Impact Carbon-Neutral Fisheries

Keywords:

Fisheries management; Energy transition; Socioeconomics; Common Fisheries Policy

Lead organisation:

DTU Aqua

Project duration:

1/5/2024-1/6/2027

Funding source:

EMFAF

Sea-basins:

North Sea, Baltic Sea



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FRANCOIS BASTARDIE

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Areas of expertise: Transitioning towards low-impact carbon-neutral fisheries

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PROJECT SUMMARY

ProjectCAFF (Carbon Free Pathways to Low-Impact Carbon-Neutral Fisheries, 2025-2027) is a Danish initiative funded by the EU EMFAF to chart a realistic path for Denmark's fishing sector to become carbon-neutral by 2050. It tackles climate impact, fuel-price volatility and the EU CSRD reporting mandate.

Using logbooks linked to vessel GPS data, the team calculates Fuel-Use Intensity (litres of fossil fuel per kilogram of catch) and builds a fleet-wide consumption database. The work is split into three packages:

- ▶ baseline creation and scenario modelling for electric, hybrid and alternative-fuel vessels;
- ▶ ecological assessment of gear and habitat shifts and carbon-footprint estimation;
- ▶ technical, economic and social feasibility studies, including pay-back analysis and barrier mitigation.

Key tasks involve selecting representative vessels, running fuel-use models, mapping feasible gear changes, and evaluating financing options such as subsidies and leasing. Existing tools like precision-fishing sensors and electronic monitoring are leveraged to improve efficiency and traceability.

Results will be fed into the DISPLACE agent-based model (DTU Aqua) to produce a baseline dataset, a scenario library, an interactive decision-support tool and CSRD reporting guidelines by 2027. Anticipated benefits include lower operating costs, transparent carbon labels, evidence-based policy inputs, and healthier marine ecosystems.

Challenges include high upfront investment, data gaps, and social resistance, are addressed through innovative financing, onboard sensors, standardized reporting, co-design workshops and targeted training. The project seeks industry pilots, policy integration and research collaborations.



BIOGRAPHY

François Bastardie is a Senior Scientist at [DTU Aqua](#), the National Institute of Aquatic Resources at the Technical University of Denmark. He is a leading expert in fisheries science, ecosystem-based management, and marine spatial planning. His key roles and expertise include developing methods for fisheries for 20 years. He is the primary developer of [DISPLACE](#), a specialized individual-based model used to simulate fishing activities and assess the bio-economic impacts of spatial management on both fish stocks and the fishing industry. He is also a policy advisor serving as a member of the European Commission's [Scientific, Technical and Economic Committee for Fisheries \(STECF\)](#), providing expert advice on EU long-term fisheries management plans. His research currently centers on the decarbonisation of the fishing sector (he is leading the CAFF project), climate change adaptation, while also probing how Marine Protected Areas and other management measures affect both ecosystems and livelihoods.

MOTIVATION TO JOIN THE THEMATIC PORTFOLIO

Fisheries issues should not be considered separately from other uses of the sea. Fisheries are just one aspect of a broader system that includes many different activities. While we often expect the fishing sector to operate sustainably, it faces challenges from outside factors, like marine pollution, antifouling from ships, and urban development, that are not caused by the sector and do not directly affect those responsible. At the same time, fishing can have an immediate impact on the marine resources it relies on, leading to direct negative feedback that other sectors do not experience.

I am inspired to join this networking activity because I believe collaboration is key to making a real difference. By learning from others, we can ensure fisheries are not left in isolation, even when facing challenges from other sectors. Together, we can find new ways to encourage active engagement, raise the visibility of our outcomes, and put the “theory of change” into practice, from research all the way to meaningful impact on decision-making.

I am also inclined to share my take on fisheries issue. For example, don't mistake fisheries for a 'production' industry; it's fundamentally extraction. Fish aren't manufactured; they're harvested from wild populations. Unlike crops that can be replanted, over-exploited fish stocks can't simply be rebuilt by adding more effort. Calling it 'fish production' obscures the reality that we're pulling a finite natural resource from the sea.

► Thematic Portfolio Member Project

DORIS

Development of Modular and Mobile By-Product and Wastes Bio-refinery Valorisation Systems and Supporting Structures for Fisheries and Aquaculture SME Industries

Keywords:

Biorefinery, valorisation, fisheries and aquaculture wastes, circular economy, blue economy, small and medium enterprises, blue resources, biomass conversion, mobile, modular

Lead organisation:

Atlantic Technological University



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Areas of expertise: Development of Modular and Mobile By-Product and Wastes Bio-refinery Valorisation Systems and Supporting Structures for Fisheries and Aquaculture SME Industries

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Project duration:

15/7/2025-15/7/2028

Funding source:

SBEP Call 2

Sea-basins:

Mediterranean Sea, North Sea, Baltic Sea, Black Sea, Atlantic Ocean

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[DORIS](#)



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PROJECT SUMMARY

The DORIS project aims to develop biorefinery technologies for the production of value-added products using 3 main waste resources (crustaceans, fin-fish and molluscs) from seafood processing SMEs in EU Basins. The project will advance the development of low-cost modular mobile biorefinery systems tailored to the needs of SMEs in EU Blue processing sectors to ensure the on-site processing of biomass feedstocks at or near the point of generation, improving the circularity of their processes via waste valorisation, while minimising their environmental impact.

DORIS will pursue intensive involvement of the relevant actors and stakeholders in the Blue Economy (with a focus on EU Basin actors) and inclusion of multidisciplinary research covering acceptability and socio-economics considerations relating to circular economy approaches and successful adoption. Generation of data and insights (and proposition of a white paper) to inform policymakers, industry stakeholders, and investors about the potential of biorefinery solutions for mitigating waste and promoting sustainable practices in the fisheries and aquaculture industries.

Finally the project will aim for the empowerment of blue SMEs to adopt innovative waste management strategies, and identification of green collaboration potentials to use the solutions developed during the course of the project.

BIOGRAPHY

Dr. Ehiaze Ehimen is a Senior Research Fellow in Renewable Energy Systems at Atlantic Technological University, Sligo. He completed a PhD in Physics (Energy Systems) from the University of Otago, Dunedin, New Zealand in 2010, prior to which he had a European MSc in Environmental Technology and Management from De Montfort University, Leicester, UK. Dr Ehimen has worked extensively on a range of biomass valorisation, renewable energy, environmental technology, waste utilisation and bio-processing optimisation projects in a variety of research projects, roles and institutions in different European countries. He is currently the Coordinator of the EU SPEB DORIS project focused on seafood wastes valorisation.

MOTIVATION TO JOIN THE THEMATIC PORTFOLIO

Joining the Topic 1 (Innovations and digitalisation for low-impact sustainable small-scale fisheries management in EU sea-basins) thematic portfolio would allow the DORIS project to have access to the cutting edge findings and initiatives from related projects. Direct exposure to and learnings of relevant digital and innovative solutions applicable to seafood and fisheries SMEs is intended to be incorporated in the DORIS project outputs to further enhance the operational and economic efficiencies of SMEs. It is hoped that the project involvement will see the potential consideration of its findings in the wider seafood and aquaculture production sectors. Participation would further allow the project share successful valorisation strategies to participating countries outside the project consortium, thus ensuring that effective, environmentally sound practices are adopted across different sea-basins.

DORIS sees the portfolio as a potential catalyst for modernising small scale fisheries operations, making them more competitive and resilient. Shared innovations from the participating projects could lead to significantly lower operational costs and improvement of the efficiency of fisheries SME operations, and although DORIS focuses on the processing aspects, the improvement achievable from the fisheries will improve the overall circular economy of the entire value chain.

Participation would further afford a structured mechanism to pool resources, share initiatives and strengthen applications for future EU funding. Being part of a formal EU Thematic Portfolio elevates the voice and impact of the DORIS project to targeted stakeholders. The portfolio would serve as an official testing ground and consultation platform for future national and EU policy dimensions which the DORIS project will be putting forward.

It will allow a unique opportunity to build strong partnerships with technology developers, researchers, policymakers, environmental NGOs, and other relevant groups across different EU sea-basins, fostering innovation transfer and mutual learning. It is hoped that successful innovations not just from the DORIS project, as well as other projects, are validated by a diverse set of stakeholders and are immediately positioned for large-scale adoption across the EU, ensuring an enhancement in adoption rates and a greater collective impact.

► Thematic Portfolio Member Project

NETTAG+

Preventing, avoiding and mitigating environmental impacts of fishing gear and associated marine litter

Keywords:

Harmful impacts of fishing gear; Acoustic tags and transponders; Fisher's based knowledge; Synergies between fisheries sector and scientists; Marine Litter; Technology implementation

Lead organisation:

CIIMAR

Project duration:

1/5/2023-30/4/2026

Funding source:

Mission Ocean and Waters

Sea-basins:

Atlantic Ocean, Mediterranean Sea, North Sea



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[NETTAG+](#)

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PROJECT SUMMARY

Marine litter derived from fisheries, particularly Abandoned, Lost or otherwise Discarded Fishing Gear (ALDFG) is recognised as one of the most harmful and persistent forms of marine litter. Predominantly composed of plastic, ALDFG can remain in the marine environment for long periods, causing ecological damage, threatening marine wildlife and generating economic losses for fisheries and coastal communities.

The NETTAG+ project addressed this challenge by developing and implementing three complementary solutions to PREVENT, AVOID and MITIGATE the impacts of fishing gear and associated marine litter, focused in the following main areas of action:

- ▶ PREVENT marine litter from fisheries activities by empowering professional fishers as 'Guardians and Cleaners of the Ocean'. Through awareness actions and demonstration events, the project promotes the adoption of best practices for litter management and supports behavioural changes within fishing communities. These actions are reinforced by co-designed reward programs that recognise fishers for their voluntary efforts in retrieving litter passively collected by their gear during their normal fishing operations, alongside with policy recommendations to improve waste management systems in European fishing ports.
- ▶ AVOID the loss of fishing gear through the development and testing of innovative, low-cost technologies that enable fishers to rapidly locate and recover gear before it becomes ALDFG. In this context, the MyGearTag acoustic gear location system (TRL9) has been developed for routine fishing operations without requiring specialised expertise. The system can be complemented by a robotic system (IRIS) capable of remotely detect fishing gear marked with the acoustic tags and provide relevant information about the gear and surrounding conditions, even in low-visibility conditions.
- ▶ MITIGATE the impact of ALDFG already present in the Ocean through high-resolution sonar image systems associated with artificial intelligence processing algorithms capable of detecting, mapping and tracking ALDFG across marine areas. These innovative image systems are designed for deployment on autonomous robotic systems capable of mapping large marine areas. In parallel, the project investigates the environmental harmfulness of ALDFG as a new contaminant, with particular attention to microplastic release and the adsorption of chemical and biological hazardous agents, reinforcing the need for preventing ALDFG.

The NETTAG+ project adopts a multi-stakeholder and co-design approach bringing together the fishing industry, technology developers, research centres, NGOs, port authorities, fisheries managers and policymakers to ensure that its solutions are culturally relevant, technically viable and policy-ready. The three NETTAG+ solutions are being co-designed, tested, validated and demonstrated in real conditions in Portugal, Spain, Italy, Croatia, Malta and the United Kingdom.

BIOGRAPHY

Sandra Ramos is the NETTAG+ project coordinator, senior researcher at CIIMAR and group leader of the Fish Ecology and Sustainability at CIIMAR-UP (<https://www.ciimar.up.pt/teams/fish-ecology-and-sustainability/>). Sandra Ramos has extensive expertise in marine litter, namely microplastics pollution and litter derived from fisheries, as ALDFG, with a particular focus on microplastics contamination and potential effects on aquatic organisms, habitats and ecological functions, to improve the scientific understanding of the impacts of these emergent contaminants. Sandra Ramos has established a strong and prolific network with professional fishers, including their local knowledge in scientific studies and in the co-creation of innovative solutions to address marine litter derived from fisheries, initially in Portugal and Spain within the NetTag project (Sandra Ramos was co-coordinator), and now expanding to other Mediterranean countries such as Italy, Croatia, and Malta through the NETTAG+ project.

MOTIVATION TO JOIN THE THEMATIC PORTFOLIO

The motivation for the NETTAG+ project to join the Thematic Portfolio derives from the strong alignment between the project's objectives and the portfolio's focus on reducing environmental pressures from fisheries through technological innovation and improved management practices.

Participation in the thematic portfolio enables the project to exchange knowledge with complementary initiatives, foster synergies and support the scaling and replication of its solutions across different EU sea-basins, strengthening the long-term legacy and impact of NETTAG+.



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