Summary Report
Fish-X High-level event at the EU Parliament

Digital transition in EU Fisheries, how to better implement
the Common Fisheries Policy?

Thursday, 29th June 2023, 11:00-12:30 CEST

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From left to right: Dr. Igor Gladkov (EUTECH), MEP Francisco Guerreiro, MEP Pierre Karleskind, Dr. Antonia Leroy (WWF EPO), Marcel Louwers (North.io), Sarah Gebauer (North.io)

From left to right: Dr. Jose A. Fernandes (AZTI), Ramón de la Figuera Morales (Spanish permanent Representation to the EU), Francesca Arena (EU Commission, DG Mare), Rachel Tiller (Sintef, Every Fish)

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- Background information

The high-level event was initiated by the Fish-X project and organised by WWF European Policy Office (EPO). MEP Guerreiro (Portugal, Greens/AFE) and MEP Pierre Karleskind (France, Renew), Members of the European Parliament, kindly co-hosted the event.

Following up on the Common Fisheries Policy (CFP) review report[1] and moving forward on better implementing the CFP, the high-level event aimed to further engage in the discussion at EU level on existing small-scale fisheries (SSF) digital tools and opportunities to overcome the remaining challenges. The event gathered presentations on IT development towards sustainable and traceable seafood, and fully documented fisheries across fleet segments to support the effective

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[1] https://oceans-and-fisheries.ec.europa.eu/publications/common-fisheries-policy-today-and-tomorrow-fisheries-and-oceans-pact-towards-sustainable-science_en

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implementation of the CFP. The presentations were followed by a panel discussion with four panellists and a Q&A.

This event forms part of a series of Fish-X events to mobilise and engage with stakeholders involved in the digitalization of the SSF sector. More information about Fish-X can be found on social media (Twitter, LinkedIn), its website or by subscribing to the newsletter.

- Acknowledgement

The Fish-X consortium would like to thank the two Members of the European Parliament who co-hosted the event, Francisco Guerreiro and Pierre Karleskind, as well as the four speakers: Francesca Arena, Jose A. Fernandes, Rachel Tiller, and Ramón de la Figuera Morales. The Fish-X consortium is also thankful to Antonia Leroy for moderating the event. The summary report was drafted by Laure Guillevic (WWF EPO) and reviewed by Fish-X partners.

The speakers included (in the order of appearance):

> **Pierre Karleskind**, Member of the European Parliament, Chair of the Committee on Fisheries at the European Parliament, Renew, France
>
> **Dr. Antonia Leroy**, Head of Ocean Policy, WWF European Policy Office
>
> **Marcel Louwers**, Back-end developer, North.io
>
> **Francesca Arena,** Head of Unit D4 (Fisheries Control and Inspections) at DG MARE, EU Commission
>
> **Dr. Jose A. Fernandes**, Senior Scientist in Big Data for Marine Research and Innovation, Basque Research and Technology Alliance (AZTI)
>
> **Dr. Rachel Tiller,** Chief Scientist, SINTEF Ocean for the Department of Fisheries and New Biomarine Industry
>
> **Ramón de la Figuera Morales,** Fisheries Counsellor to the Spanish Permanent Representation to the EU
>
> **Francisco Guerreiro**, Member of the European Parliament, Member of the Committee on Fisheries, Greens/European Free Alliance, Portugal

- Keynote speakers

Pierre Karleskind, Member of the EU Parliament, introduced the event. He noted that, on the 27 of June 2023, the agreement on the revised control regulation was just adopted by the parliamentary committee on fisheries[2]. The negotiation of the control regulation required five years of work and six hundred hours of inter-institutional negotiation. It is now a matter of implementation for the sake of fishers, consumers and of the environment.

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[2] https://www.europarl.europa.eu/news/en/press-room/20230626IPR00821/pech-committee-approves-deal-on-new-eu-fishing-control-rules

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Five years were spent to integrate the digital aspects for control and traceability. In the next five years, even more new digital tools will be out there. Along with digital evolution, the control regulation will have to adapt. As an example, the vessel monitoring system (VMS) was not adapted for small vessels before, but now this is easily accessible, even from a smartphone. These are key solutions for a better monitoring of fisheries.

Regarding traceability, thanks to all these tools, the catch area and the fish stock status can be known while fighting illegal, unregulated and reported (IUU) fishing.

The European Maritime, Fisheries and Aquaculture Fund (EMFAF) has been negotiated with an objective to support the digital transitions, and so we have to take advantage of it.

Dr. Antonia Leroy, Head of Ocean Policy at WWF European Policy Office (EPO), presented the Fish-X project.

The Fish-X project was initiated following a call from the EU Commission on the digital transition for sustainable fisheries to achieve the objectives of the Farm to Fork Strategy, of the Sustainable Blue Economy Strategy and of the Common Fisheries Policy (CFP). The Fish-X name derived from Gaia-X, which is the leading EU framework for data sharing.

It is a consortium of 7 partners: TransMarTech (coordinator of the project), EU Tech, CLS, North.io, OURZ, Sciaena and WWF (EPO, Adria, ANP/Portugal and Mediterranean Marine Initiative – MMI). The project team is composed of non-governmental organisations (NGOs) who create the link with small-scale fishers and technical partners working on vessel localisation, block chain and dataspace so as to take better informed decisions. The project started in June 2022 and will be running for three years, with a budget of 6 million euros. Three use cases will take place in three sea basins: Mediterranean, Baltic, and Atlantic.

It was considered important by the consortium to focus on players that are less represented such as the small-scale fishers (SSF) who are crucial for the future of the EU fishery sector.

The goals of the project are to tackle IUU fishing, promote sustainable use of natural resources, support honest fishers with fair economic returns and foster synergies between maritime authorities and fishers. This would ultimately advance the digital transition for SSF and recreational ones and contribute to healthy and traceable food. All of these are aligned with the newly voted revision of the control regulation.

As a concrete step, the Fish-X project will deploy NEMO transmitters, a simple VMS device made for small boats, in the three above-mentioned sea basins. Based on the generated data, three products of the Fish-X project will be developed: a Fish-X dataspace, an Insight platform and a Traceability platform. Policy recommendations will also be designed towards the end of the project.

Marcel Louwers from north.io, working on the Fish-X dataspace's development, provided the audience with an analogy of the dataspace.

A shipping container would be needed in the physical world to transfer goods from one place to another, adequate for all types of goods and recognised worldwide. Shipping containers work all over the world with the same standards. This is the same principle applied with the dataspace that enables all types of data to be exchanged in a qualitative way according to technical and policy frameworks. It ensures fishery-related data to be consumed by authorities in a secure manner while the fishers keep the ownership of their own data.

Antonia Leroy concluded her presentation of the Fish-X project.

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By the end of the project, a roadmap for leading the way on the digitalization of SSF by 2030 will be published and participants will be welcome to contribute with their initiatives. This will be aligned with the EU Control regulation and the new requirements for SSF to have VMS on board by 2030. A digital traceability system will be mandatory as well for them. The Fish-X project is providing concrete application of these new legislative requirements.

Finally, the project is in compliance with the CFP objectives to incentivize fishers using low impact fishing techniques, testing low-tech devices to ultimately end overfishing and help restore fish stocks.

- **Panel discussion**

As part of the panel discussion, four panellists were invited to present their views and experience on the digitalization of small-scale fisheries.

Francesca Arena, Head of Unit D4 (Fisheries Control and Inspections) at DG MARE, EU Commission kicked off the panel discussion to detail the position of DG Mare on the topic.

Francesca Arena expressed her satisfaction by the positive outcome of the vote on the control regulation. She also highlighted the new and young faces in the room which are promising for the future.

She questioned whether fisheries and digitalization are really two separate worlds. Everything depends on the scale and on the purpose of exploiting new technologies. Large scale vessels are already well-equipped with the best available technology, that allows them to optimise fishing operations, notably by maximising the quantities caught in a fishing trip. Technology and digitalization are also essential when it comes to control activities, to make sure that fishing activities are carried out according to the EU laws, without illegal fishing. With that in mind, digitalization was a "leitmotif" of the revision of the EU fisheries control system, with the objective to improve the quantity and quality of data, which will in turn have positive effects not only on fisheries monitoring and control, but also on the quality and robustness of scientific stock assessments, resulting in better fisheries management decisions.

It is essential to ensure easier data access and interoperability. Hopefully, one of the Fish-X deliverables will go in that direction. More data is necessary to improve control and monitoring. In addition, more data will help better traceability.

When it comes to SSF, the future is with geo-localisation of every vessel and electronic reporting of catches. To complete the geo-localisation process, six years of transition

will be necessary to ensure that the entirety of the EU fleet is tracked by 2030. User-friendly tools such as apps on mobile devices should be used to remove burden for fishers and the Commission will develop a tool to support the Member States. The same goes for recreational fisheries, for which electronic catch reporting will gradually become compulsory for certain species. Further to an EU project promoted by the EU Parliament, the EU Commission already developed a web-based platform on catch reporting for recreational fisheries that will be further upgraded in the coming years.

Another key improvement lies in the revised traceability rules. For the first time, full digital traceability will be mandatory along the supply chain. This will be a breakthrough for the authorities as well, enabling them to cross-check data and to tackle illegal fishing. After two years, this provision will apply to fresh and frozen products, while for prepared and preserved products, as well as algae, the transition period will be of five years.

The mandatory use of new control technologies, such as remote electronic monitoring, including CCTVs, is also another important feature of the revised EU control system, with the objective to fully align it with the requirements of the Common Fisheries Policy.

Finally, everything becomes electronic (all catch registration documents, such as landing declarations, sales notes, transport documents) around control, as well as inspection reports.

The European Commission has secured funding for research on digitalization under Horizon Europe. In the 2023 Work Programme of Horizon Europe, other topics are also covered such as automatic catch identification and AI. Hopefully, the Fish-X project will go in the right direction and be delivered so that its results can feed in the implementation process of the new rules.

Dr. Jose A. Fernandes, **Senior Scientist in Big Data for Marine Research and Innovation, Basque Research and Technology Alliance (AZTI), explained the possible use of artificial intelligence for the EU fishery sector.**

Jose Fernandes co-authored a study on the use of artificial intelligence (AI) for the fishery sector, delivered to the PECH Committee in May 2022[3].

AI definition in EU new legislation is very broad, since it is changing very fast and needs to be robust for future developments. AI can have numerous applications such as mapping fisheries, assessing plankton and phytoplankton stock, support spatial planning to resolve conflicts between fishery and aquaculture, route optimization to save fuel and emissions, electronic monitoring, or also quota management.

AI has an impact on jobs. However, our experience is that it does not reduce them, but rather creates more highly skilled jobs (e.g. development, maintenance, engineering).

He underlined the need to build trust and to show the win-win situation that AI can bring to the industry and the environment. Initial cost is high, and AI projects have to be run on a long-term basis (5 to 10 years) to make the technology fully effective and trustable.

As an example, the SusTunTech project worked with tuna fisheries using electronic monitoring and route optimization[4]. AI was tested to automatically count and measure fisheries beyond statistical validation using 10 years data. It provided a comparison between manual sampling at ports and automatic validation of samples. Modern electronic monitoring was going on for years with cost-effective onboarded cameras. The generated data can be useful, not only for control purposes, but also for climate

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[3]https://www.europarl.europa.eu/RegData/etudes/STUD/2022/699643/IPOL_STU(2022)699643_EN.pdf

[4] https://www.sustuntech.eu/the-project/

change adaptation to advise fishers on where to fish and mitigation (route optimization).

SusTunTech project has proved that AI can be applied to analyse climate change's effects (decreased species' size, reduced economic return). Models are developed to study the distribution of tuna catches, to monitor quota's consumption, and avoid areas with higher risks of by-catches.

Dr. Rachel Tiller, Chief Scientist at SINTEF Ocean for the Department of Fisheries and New Biomarine Industry, coordinates the EVERYFISH project.

EVERYFISH is a sister project of Fish-X and focuses on automatic catch identification systems using AI and machine learning for monitoring and control. Catch registration is a challenging job for fishers today, with the manual logbook recording. As for the workspace of the fishers, however, it is not always easy to digitalise and there is some reluctance to change to this digital work environment. The monitoring and control argument is also not very popular for fishers.

EVERYFISH aims to count every fish as it comes onboard the vessel though, automatically. As we are in the middle of a biodiversity crisis with changing distribution patterns and stock shifting of fish, there is a need to increase the knowledge of the marine ecosystems to enable the possibility of increased harvest more from the ocean.

AZTI is a member of this transdisciplinary consortium as well. EVERYFISH will develop sensors that create 3D models and digital twins of the fish. As the fish comes out on a sorting table or on the conveyor belt, the AI will be trained to recognize the size, weight and species of the fish. By doing this, fishers, consumers and managers can therefore gain knowledge of what fish was caught and where. It also locks in data and

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transfers this, so that when landing the fish, the data is fully transparent and the reporting burden for fishers has also been lifted, and trust can increase. Consumers can also in the future scan a QR code to get more data about seafood products.

Ten different technologies will be developed for several fisheries (tuna, pelagic, demersal, recreational and SSF). For SSF, smartphones will be the primary tool to estimate the weight and species' recognition.

Ramón de la Figuera Morales, Fisheries Counsellor to the Spanish Permanent Representation to the EU, detailed ongoing Spanish initiatives to digitalise fisheries[5].

On the revised control regulation, Spain welcomed the agreement. Spain works closely with the EU Fisheries Control Agency (EFCA) that is located in Vigo, Spain.

The Spanish government tries to be in advance of the control regulation with the iPESCA project for small vessels using the phone for geolocalisation and catch data. There is a test with operators to gather data on control for the sake of science and for fishers operating near the coast.

Thanks to the resilience and recovery fund of the EU[6], the Spanish government released a call for grants for the digitalization of the Spanish fisheries. Fifteen projects

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[5] Sidenote by the author of the summary report: the Spanish Presidency of the EU Council started on 1st of July 2023 and will go on until the end of December 2023. Its priorities are listed in the [Programme](#), stating the following for fisheries (p49): "*As regards fisheries, the Spanish Presidency will promote the decarbonization of the fishing industry, fostering the search for sustainable alternatives that are economically and functionally viable, through investment in sustainability, innovation and digitalization.*"

[6] https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility_en

received funding already, such as the Smart Fish aiming to give more information to consumers by the national fishmonger's association. Another project called MarineView, co-developed by AZTI and marine instruments, intends to install an oceanographic analysis system. The system comprises different types of information, including temperature, chlorophyll concentration current, depth of thermocline, and buoy information. It brings a better knowledge of the fishing area, optimises routes to save gas use and reduce bycatch. It can also help to comply with the margin of tolerance for bycatches.

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- Questions and answers

After the presentation of each panellist, there was a 'questions and answers' session moderated by Antonia Leroy

- *How do we ensure that fishers adhere to this digital transition? What incentives do they need?*

Rachel Tiller: Fishers have to see the benefit by emphasising the economic benefits (saving time and avoiding fines). It is important to bring them along in the process from the beginning to make it work.

Francesca Arena: Consumers ask for more and more information (who, what fish, where) which can be fulfilled through good reporting. By ensuring reporting is made easy, operators may increase the value of seafood products. The other factor is that it is hard to convince everyone if not all are on board across the EU continent. The ones who do not comply have to be sanctioned.

Jose Fernandes: We need to recognize the hard work and difficult working conditions at sea for fishers. The key support for the SusTunTech project came from a fishing company. There was strong communication, and some time was taken at the beginning to sit down and discuss with a wide range of actors. It is important that all involved parties are around the table and willing to cooperate. Also, there is the perception that fishers are being asked for things that are not requested for others regarding sustainability and control, whereas there are imports not complying with EU rules. This perception is persistent, even though biased, and needs to be tackled.

Ramón de la Figuera Morales: Artisanal vessels want to fish better by avoiding bycatch, reducing fuel consumption. Once the technology is settled, all of them will come on board.

Marta Cavallé, Low Impact fishers of Europe (LIFE): To add on to the same question, LIFE realised in the last years that the exemptions for SSF undermined the sector, with less access to quotas for example. LIFE is welcoming this revised control regulation. The digitalization faces some challenges with regards to the ageing of the sector but this can also be a driver for the new generation. The technology should be used to fish better and have a better life, reducing the administrative burden. The collected data can help differentiate SSF products from large-scale vessels to sell better. Another important issue is that this data collected by technology shall still belong to the fishers to enable them to use it for co-management and ecological knowledge development.

- *For the Fish-X dataspace, how do you intend to combine data availability and ensure data quality?*

Marcel Louwers: The dataspace works by sharing information about data you want to share in a very explanatory way. One aspect to ensure quality is how much the data is described, the better it is, the better the quality will be. The second option is to have an AI pipeline to scan the data. For Fish-X, each data file will be checked up.

- Conclusion

Finally, the high-level event concluded with Francisco Guerreiro's speech, Member of the EU Parliament.

As a result of the conversation, the first key word is cooperation within several layers of society (EU institutions, NGOs, IT, fishers). Science is being undermined, with the latest example of the Nature Restoration Law (NRL). The second key word is trust, fishers should be actively participating in all these pilots as there are the first recipients and their exemplary practices should be showcased.

Everyone is a politician, everyone votes, politics means being active in society. Being a scientist for instance is a political job. That is a very important project geopolitically speaking as the fishing industry in the single market deals with other stakeholders

that do not apply the same methods, such as social standards. The EU needs to invest in this transition, and to bring everyone on board. The Fish-X project can lead by example and propose solutions for the future.

- Annex 1 – Lists of registered participants and of the Fish-X partners

Registered participants

- Alexander Ford - Fisheries Consultant, Fish Eye consulting
- Bruno Nicostrae - Senior Fisheries Officer, Seas at risk
- Cannelle Beauchesne - Policy officer, DG Mare
- Catherine Chabaud - Member of the European Parliament
- Lathuy Cedric - Project Manager, Fisheries Data Management DG Mare
- Cyrielle Goldberg - Marine policy officer, Birdlife
- Eckehard Reussner – DG Mare
- Francesca Arena – Head of control unit, DG Mare D4 (Fisheries Control and Inspections)
- Francisco Millán Mon – Member of the European Parliament
- Frangiscos Nikolian - Head "Economic analysis, Markets and impact assessment DG Mare
- Gabriel Mato - Member of the European Parliament
- Grace Howe - Fisheries policy associate, The Nature Conservancy
- Iria Soto - Fisheries councillor for Spain
- Jennifer Reeves - Senior Outreach and policy manager, Marine Stewardship Council
- Jens Dehaene - Policy advisor EU presidency for Government of Flanders

- Jose Antonio Fernandes Salvador - AZTI
- Lola Gernigon - Parliamentary Assistant Trainee of MEP Chabaud
- Luc Vergez-Pascal - Parliamentary Assistant of MEP Karleskind
- Maria Luisa Sevilla Andrada - Parliamentary Assistant of MEP Aguilera
- Maria Moset – DG Mare
- Mathies Meike Strauss - Executive Secretary, North Western Waters Advisory Council
- Marta Cavallé - Executive Secretary, Low Impact Fishers of Europe
- Martin Mortensen - Fisheries Councillor for Denmark
- Nadiya Isikova - Sustainability Manager La pizza e bella
- Nicolas Lilienthal – DG Mare
- Nils Courcy – Lawyer, Client Earth
- Nikos Zampoukas - Policy Officer, B4 – Healthy Seas and Oceans, DG RTD
- Pablo Iraeta - Fisheries Councillor for Spain
- Paul Thomas - Policy Officer, EU Association of Producers Organisation
- Pedro Emanuel dos Reis Santos - Executive Secretary, Market Advisory Council
- Pierre Leclercq – DG Mare
- Rachel Tiller - Coordinator, Scientist, Sintef, Every Fish
- Ramon de la Figuera - Fisheries councillor for Spain
- Rogerio Ribeiro Ferraz - Political advisor, Socialist & Democrats
- Savvas Michaelides - Fisheries councillor for Cyprus
- Tamara Talevska - Executive Secretary, North Sea Advisory Council
- Teresa dos Santos - Fisheries Trainee for Netherlands
- Victoria Brohus - Fisheries councillor for Denmark
- Yiannos Kyriacou - Fisheries advisor for Cyprus
- Xavier Leduc – Director, Euronor
- Zoi Konstantinou - Policy Officer, B4 – Healthy Seas and Oceans, DG RTD

Fish-X Partners

- Ankith Kumar Kariyanakatte Vinayakumar - TMT

- Antonia Leroy - WWF EPO
- Fabian Reith - TMT
- Florian Martinez-Buathier - WWF EPO
- Igor Gladkov - EUTECH
- Immanuel Sebastian Virdi - Ourz
- Jean-Pierre Cauzac - CLS
- Laure Guillevic - WWF EPO
- Louis Lambrechts - WWF EPO
- Marcel Louwers - North.io
- Marcus Wiemann - EUTECH
- Marius Hölter - TMT
- Nicolas Blanc - Sciaena
- Raquel Pereira - Sciaena
- Sarah Gebauer - North.io
- Sylvie Giraud ep Saint-Albin - CLS