SEA2SEE

NEWSLETTER

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Innovative blockchain traceability technology and stakeholders' engagement strategy for **boosting sustainable seafood visibility**, *social acceptance* and consumption in Europe.

Current seafood traceability tools and services can take advantage of novel blockchain technologies to obtain a wide range of data making sustainable seafood practices more visible to consumers. SEA2SEE project fills in existing seafood traceability gaps through development and demonstration of an innovative end-to-end blockchain-based traceability platform throughout the seafood value chain as well as professional and consumer applications to increase trust and social acceptance of sustainably fished and farmed seafood.

Read more about SEA2SEE activities and objectives

Blockchain
technology for a
transparent,
competitive and
sustainable
seafood sector

A ZOOM IN on our technological progress - closing the first 18 months of SEA2SEE

It's been 18 months since Sea2See project's launch and together with all the partners we have been working hard to shape the innovative blockchain-based traceability platform that will serve to improve trust and transparency in a sustainable seafood sector.

We are delighted to see significant progress in the development of the technical aspects that form the cornerstone of the platform:

•   Co-design workshops were conducted, with the goal of collaboratively determining the design and development of a suite of tools intended for implementation and operation of blockchain nodes across all data capture locations.

•   A precise specification has been formulated regarding how companies should interface and comprehensive documentation has been developed on the blockchain blocks and data structures within the data storage protocol. This document outlines the format of data objects, the process of converting real-life data into Tilkal Object Models (TOMs), and the methods for interacting with the platform—covering both data transmission and reception. With this document, Sea2See project partners will now have the necessary information to construct and exchange data effectively, as already started by SmartWater.

•   The initial set of data collection tools has been created, primarily intended for the Fuzeta fishery - pilot use case in Portugal. These tools are designed for collecting information about boats, boxes, auctions, etc., through a mobile

application that is under development by PageUp. Subsequently, the collected data is directly transmitted to the Sea2See platform for visualisation and analysis.

Following this impressive progress, in November 2023, during the 3rd management meeting held in Dijon, France, all partners were delighted to witness the first live demonstration of the complete traceability process, from data collection to real-time feedback through our consumer web application. The purpose of the demo was to tangibly showcase the outcomes of our advancements and the process by which upstream-collected information is communicated to the end consumer.

The demo was conducted through an end-to-end scenario focused on octopus fishing inspired by the Fuzeta pilot, utilizing a fictitious, yet highly realistic dataset, developed in collaboration with CCMAR and PageUp.

A new year comes with new objectives and experimentation! We are now focused on building new scenarios around new pilot sites and new products, such as tuna and meagre, and on continuing the technological developments. For this and many other interesting news and insights from our project, visit our website www.sea2see.eu and follow us on social networks.

Adeline CAFFIN, Project Manager at Tilkal, Supply Chain Traceability & Transparency Platform

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WHAT WE HAVE BEEN UP TO

SEA2SEE first video released on YOUTUBE

Promise kept - SEA2SEE official video was launched in early July 2023! An enjoyable hybrid of animation and video footage, explaining in an accessible and easily understandable language the objectives of the project and the pathway to their accomplishment. Besides informing about the revolutionizing potential of the project to propose a safe and secure, end-to-end digital traceability solution for the seafood supply chain, with its friendly tone it also hopes to empower consumers to get involved in the process though strategies for co-creation, eventually bringing change in purchasing trends towards preference for sustainably farmed or caught fish.

To watch the video, click on the image.

Participatory workshops

After Greece, Spain and Portugal, it was France that hosted a [participatory workshop](#) to identify the obstacles to a more sustainable consumption of seafood and find solutions to remedy them. On this occasion, professionals from the fisheries and aquaculture sector, as well as BTS students gathered in FERRANDI Paris, for a day led by partners Ethic Ocean and Vitagora.

[Continue reading](#)

Watch the first video of the series on SEA2SEE's [YouTube channel](#) and subscribe to never miss footage of our upcoming activities.

SEA2SEE #Hackathon Challenge showcasing the importance of a transdisciplinary approach to tackling complex challenges
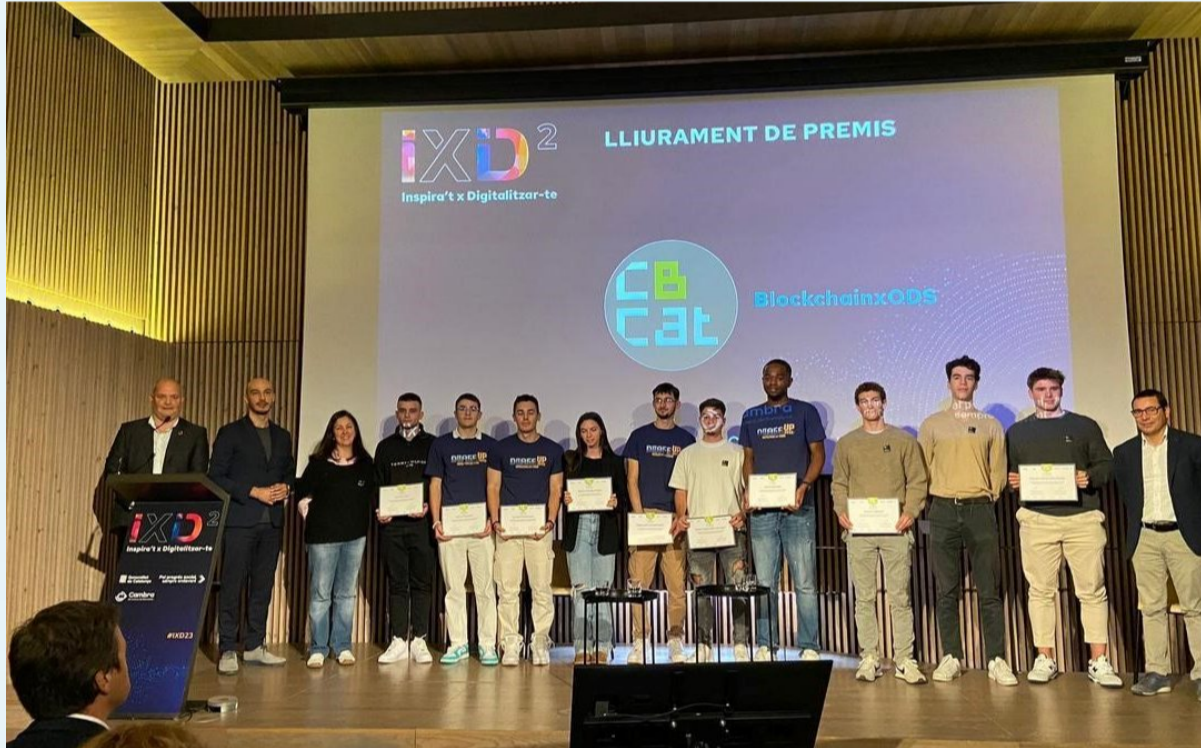
Beginning of September, we gathered 5 incredible teams from across Europe, uniting diverse talents and perspectives who embarked on an exciting journey to transform the way we make seafood choices! Their mission was to develop a cutting-edge blockchain-based tool that empowers YOU to make informed and responsible seafood purchases.

After a two-month period of intensive work, on November 15th we finally met the winners of SEA2SEE's Hackathon. Four groups have been working hard to propose a complementary tool based on blockchain technology designed to assist consumers in making informed and responsible decisions when purchasing seafood, focusing on the Sustainable Development Goal (SDG) 14 – Life Below Water.

The awarding ceremony was held as part of the "Inspira't X Digitalitzar-te" event, a gathering aimed at inspiring professionals and keeping them updated on the latest trends in digital transformation, connecting them with innovation, marketing and creativity experts.

Selecting a winner was a challenging decision since each group presented a unique and complementary perspective. **BlueChain**, led by the students Katia Ortega Haro from Pompeu Fabra University and Laura Martín Ortega from the University of Girona. The tool they presented is **SEATRACE** – a visually appealing traceability platform to promote sustainability awareness, engage stakeholders and enhance decision-making by ensuring data accuracy and trust. The tool also looks to measure the impact on consumer behaviour and is designed with scalability in mind so that it can be expanded beyond a specific region or market,

to contribute to global sustainability development goals related to food security and responsible consumption.

Continue reading

Technology should empower people to make informed decisions and enhance transparency in the seafood value chain

SEA2SEE project's Hackathon was organised in partnership with CBCat's BlockchainxODS

KNOWLEDGE HUB

SEA2SEE is committed to providing insightful content, with added value for the project's audience. For this reason, we spend time writing educational blog posts

dedicated to the essence of blockchain technilogy and how it relates to seafood traceability, why traceability matters for the industry, ciscular economy and the Ocean, increased seafood literacy and empowering concumers to make responsible choices toward a sustainable seafood consumption, and so much more. In this section we highlight some of these article.

To read all of them visit SEA2SEE website.

Does Seafood Supply Chain Taceability Require Blockchain Technology?

Image: @macrovector, Freepik

In today's globalized world, every industry faces increasing scrutiny, for the quality of its products but also for the transparency and traceability of its supply chain.

Seafood industry does not make an exception, especially with regard to seafood fraud being a widespread problem across the world. Oceana and the World Economic Forum reported in 2019 that in the US alone, 21% of sold fish are being mislabeled, which means that certain species are replaced with other, cheaper ones when sold and 30% of restaurants and shops are affected by such distribution issues.

The seafood supply chain is a complex web that extends from oceans, rivers and aquaculture farms to our dining tables. With seafood products being transported over vast distances and changing hands multiple times, ensuring the authenticity,

quality, and sustainability of these products has become an intricate challenge. In this context, traceability is the beacon that guides us through these murky waters.

Continue reading about what is modern traceability all about and how it relates to blockchain infrastructure [here](#).

A Look into the Barriers of Responsible Seafood Consumption

In order to fully understand the difficulties that the European consumers face when it comes to consuming seafood, SEA2SEE partners SUBMON conducted a co-creation process to prioritise existing barriers and align with the reality in the project countries. This process followed the Collective Intelligence (CI) methods and involved a questionnaire and [four multi-stakeholder workshops](#) across France, Greece, Portugal, and Spain, where most of the pilot sites are located. The results from the co-creation process fed the development of the [SEA2SEE strategy on consumer engagement](#), which is one of work package 2 deliverables.

The process unveiled nine critical barriers or areas of concern which seem to hamper responsible seafood consumption and product acceptance, and were common in the different countries. These range from lack of seafood literacy and rooted consumption patterns to affordability of products, ethics and lack of traceability along the value chain. The barriers reflect the complicated environment the project seeks to navigate and offer priceless insights into the complexities of sustainable seafood practices.

Sustainability – the SEA2SEE perspective

The concept of sustainability was first employed by the United Nations Brundtland commission in 1987. It is most often defined as "meeting the needs of the present without compromising the ability of future generations to meet their own needs"[1] – an objective that should be achieved in the environmental, social and economic aspects of our life in accordance with the concept.

Regardless of whether we talk about fishing or aquaculture, only sustainable seafood products can provide the future generations with various, high-quality seafood while preserving the natural habitats and the environment. Therefore, knowledge about seafood sustainability and easy access to traceable seafood are indispensable for the achievement of these goals.

Take a closer look at SEA2SEE perspective on sustainability in fishing and aquaculture in the article.

[1] *Report of the World Commission on Environment and Development: Our Common Future , United Nations 1987*

Debunking Myths about Seafood

Although seafood is a staple of our diet, it remains somewhat mysterious to many. The lack of seafood knowledge among European consumers is quite common, bringing into existence myths and misconceptions that affect the way we consume seafood. In fact, these myths quite often extend beyond the individual consumer, becoming prevalent barriers to responsible seafood consumption.

To tackle this issue and transform Europeans' approach to seafood, SEA2SEE is fostering a shift towards informed choices when it comes to food consumption. As a crucial initial step towards this ambitious goal, let's first examine and debunk some of the most common myths surrounding seafood.

Myth No1: Seafood is not safe to eat or seafood is not healthy

Myth No2: Fresh seafood is better than frozen

Myth No3: Farmed fish quality is lower

Myth No4: Aquaculture is not sustainable

Increase your literacy and read [the full article](#)

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THIRD MANAGEMENT MEETING IN DIJON, FRANCE

The powerhouse of [SEA2SEE Project](#) - a brilliant mix of passion for innovation, drive for change and lots of hard work.

The third management meeting of the project took place in the friendly city of Dijon in France in October 2023. An amazing three days of fruitful discussions, workshops, progress checks and constructive planning for what's next! A complex innovation technology action, such as SEA2SEE, achieves cohesion of its interlaced work activities with good coordination and communication among partners. During our interactive afternoon workshops, we managed to enjoy sincere conversations about the challenges that the design of the traceability use cases sets along the way and brainstormed over possibilities for overcoming them.

The artistic and relaxed setting of Caractère Confidentiel greatly contributed to an atmosphere of open sharing and ideas exchange.

Thank you to our great hosts - Page Up - Groupe Ubi Solutions - for handling the bits and pieces of the organization of a very successful meeting, for showing us around town and for the delicious food experience as well. We left confident and ready to start preparing for the project's first review meeting in March.

You can watch the video of the meeting on our YouTube channel.

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NETWORKING FOR CAPACITY BUILDING

Joining Forces for Aquaculture - AQUACULTURE EUROPE 2023

Last fall, in September, four EU projects - EUMOFA, FishEUTrust, SAFE and SEA2SEE - dealing with various aspects of aquaculture, made a joint appearance with a shared stand at Aquaculture Europe 2023 in Vienna, Austria, from 18 to 21 September. Last year's edition of the trade show counted on big presence of EU-funded projects. SEA2SEE was proudly presented by our partners from SEAentia, landing Aquaculture and NAYS. Along with the colleagues from the other three projects, they welcomed participants and shared their various approaches to accelerating growth and sustainability in the EU aquaculture.

The stand offered great opportunities for valuable networking, keeping the team busy with diligently addressing topics related to the importance of increasing stakeholders' trust, transparency and traceability across the supply chain in seafood industry, in general, and aquaculture specifically.

What is more, sister projects SEA2SEE and FishEUTrust had the honor to participate in the Conference with a joint oral presentation named "New technologies and approaches for sustainable #seafood suplychain".

[Continue reading and more photos](#)

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DISSEMINATION

## SEA2SEE results presented at the 51st WEFTA Conference, Denmark
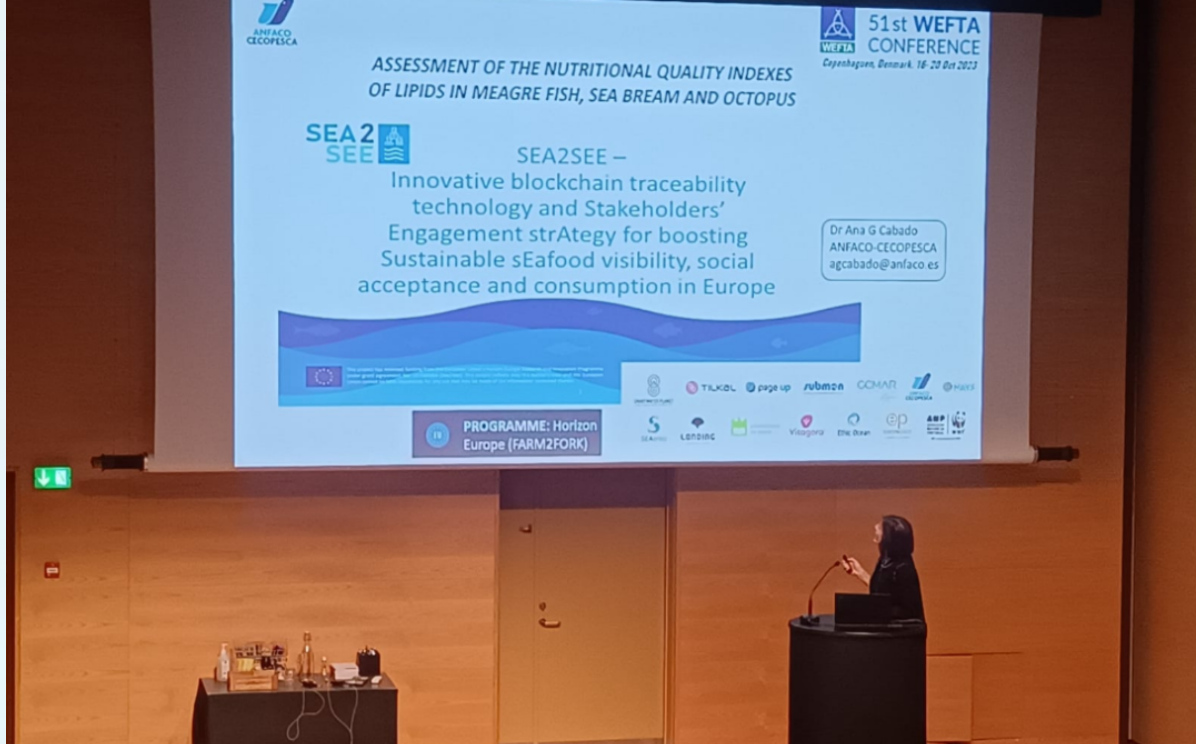
SEA2SEE partner Ana García Cabado from ANFACO CECOPESCA, Spain took part in the 51st WEFTA Conference on October 17, in Copenhagen, Denmark. Her presentation, entitled "Assessment of the nutritional quality indexes of lipids in meagre fish, sea bream and octopus" included some preliminary results derived from the work activities conducted within work package 6 dedicated on life cycle analyses, impact and market uptake. The objectives of this work package are to guarantee the quality and safety of the evaluated seafood products. Specifically, meagre fish and sea bream, produced through sustainable aquaculture, and octopus, which is captured by artisanal fishermen. Results show that these sea products are not only safe but also have a high nutritional quality and are recommended for maintaining consumers´ good health.

Nearly 150 participants attended the conference, including international organizations, technologists, competent authorities, university scientists, and others from institutes or research centers.

Continue reading

Octopus fishery use case and demo site presented at the 3rd Expo Fish Portugal 2023
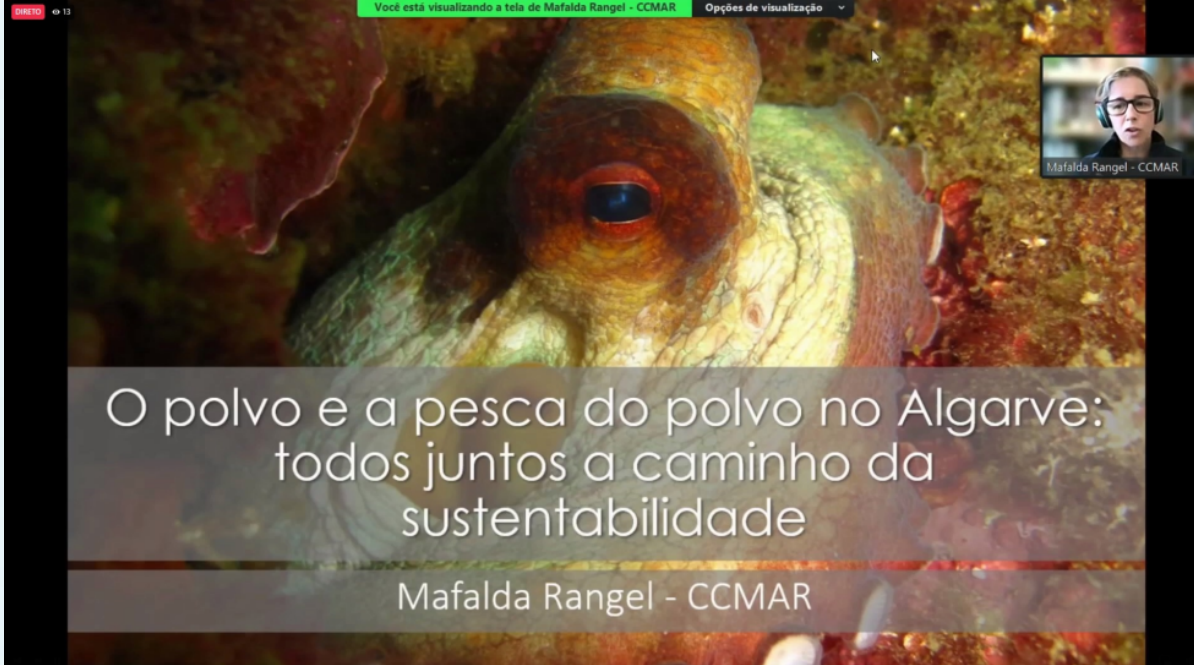
Mafalda Rangel, SEA2SEE partner and researcher from the Centre of Marine Sciences of the Algarve (CCMAR), Portugal participated in the 3rd edition of the Expo Fish Portugal 2023 Conference, that took place in Sesimbra, Portugal, on November 14 – 15.

Her presentation entitled "The octopus and the octopus' fishery in the Algarve: together for sustainability" was part of Panel 1 "Portuguese fish, a formula for sustainability" and featured the work developed over the years with the octopus' fleet in the Algarve. It also included the ongoing related activities within the SEA2SEE project, as an innovative way to trace the value chain of the octopus from Fuzeta, showcasing findings of the SEA2SEE project case study related to the Portuguese fisheries.

Continue reading and more photos

SEA2SEE endorses Horizon Europe Mission to Restore Our Ocean and Waters

SEA2SEE proudly announces its endorsement of the European Mission Restore our Ocean and Waters. The mission, which is an integral part of Horizon Europe, aims to unite efforts across the continent to protect and restore marine and freshwater ecosystems and biodiversity, prevent and eliminate water pollution, and contribute to a circular and carbon-neutral blue economy.
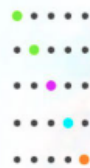
[Full announcement on website](#)

WHERE TO FIND US

European Ocean Days

Organized for the first time in 2024, **European Ocean Days** will feature a week of events related to European maritime topics. From March 4 to 8, 2024, the event will cover the EU Mission Ocean and Waters, future priorities for Europe's Seas, blue innovation and investment opportunities, and Ocean Literacy activities.

SEA2SEE partner SUBMON will participate in the "Ocean Literacy Action" event on Friday, March 8 with a poster **"From Sea to Plate: SEA2SEE's Strategy for Responsible Seafood Consumption in Europe"** presenting results of the WP2 Collective Intelligence (CI) process. The CI methodology was applied to identify barriers to responsible seafood consumption in Europe within the SEA2SEE context.

UN Ocean Decade Conference

Over three days from the 10 - 12 April, **the 2024 Ocean Decade Conference** will create a new foundation to strengthen the sustainable management of the ocean and drive science-based innovation, from global to local, leaving no one behind.

Find SEA2SEE project at the satellite events of the conference – a workshop co-organized by partner SUBMON, sister FishEUTrust project and the local stakeholder GastroBio. The side event named "From Sea-to-Plate Traceability: Empowering Informed Seafood Choices through Seafood Literacy and Technology". The workshop addresses UN Ocean Decade's Challenge n°3 "Sustainably feed the global population" and Challenge n°10 "Change humanity's relationship with the ocean". What is more, it will be included in the framework of the 5th edition of the Ocean Literacy Dialogues, organized jointly by the Intergovernmental Oceanographic Commission of UNESCO and the "Ocean Literacy for All" Program.

SUBMON will also present a poster with the highlights of the SEA2SEE Hackathon, featuring the challenges and successes of this co-creation process that led to the submission of four digital tool proposals to help consumers make informed decisions when purchasing seafood.

[More about the Conference.](#)

ON THE WEBSITE

RESULTS – PUBLISHED DELIVERABLES

SEA2SEE website is designed as the project's main public interface where we share work progress, findings and achievements. With the progress of the project, we are adding new deliverables under the relevant section so make sure you're visiting frequently if you're looking to stay updated with the results of our work.

D2.3 Sea2See strategy on consumer-related stakeholders' engagement and sustainable seafood consumer acceptance increase

RESOURCES

RESOURCES is an interesting place on the website located under Media, which shelters infographics, animations and other helpful materials we produce to better explain the underpinning concept of SEA2SEE - blockchain technology for

seafood traceability – and its importance for the wellbeing of our economies and society.

The latest infographic you will find comes from partner Tilkal: [What is Blockchain and How Does it Work?](#)
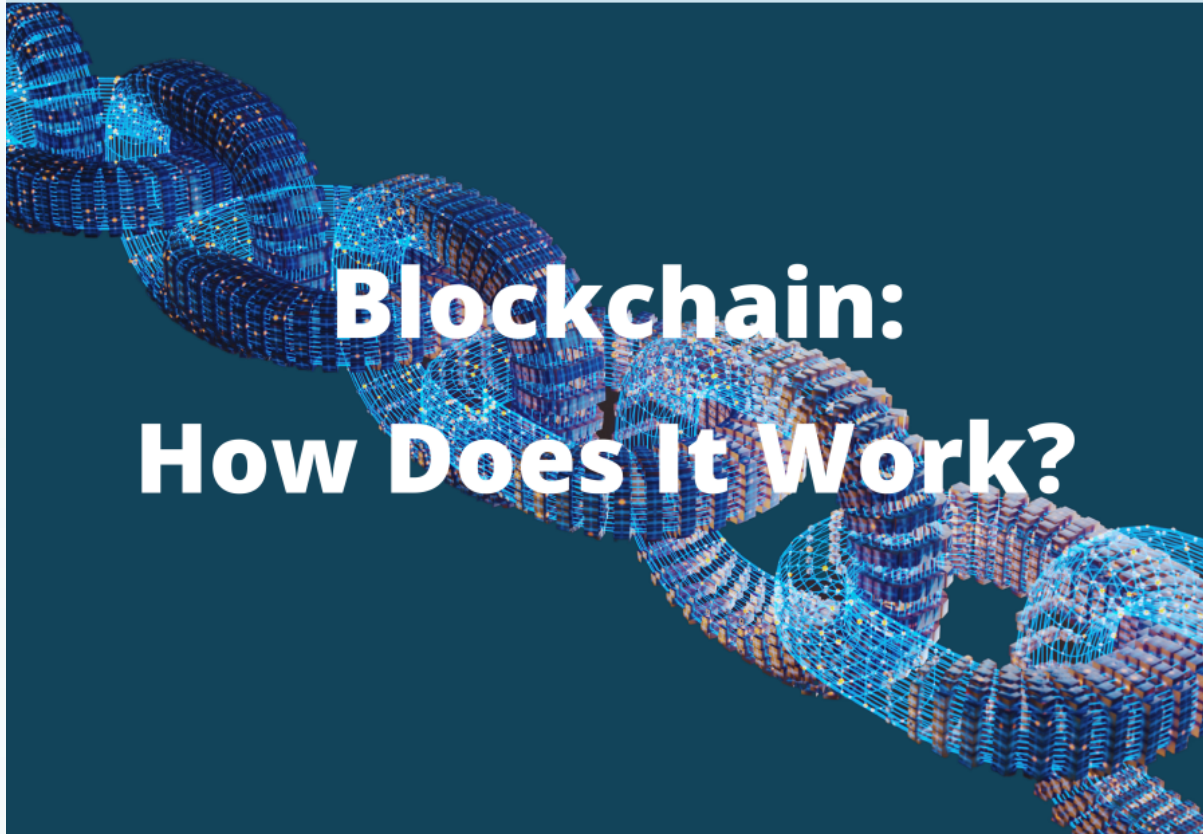
Do you share our passion for sustainable ocean conservation, seafood sector digital transformation and consumer empowerment through co-creating transparency across the seafood value chain?

Forward SEA2SEE Project's newsletter to friends and colleagues to get inspired for making sustainable seafood in Europe more visible.

Let's change the world together!

SEA2SEE is social. Let's stay in touch!