SEA2SEE

INNOVATIVE BLOCKCHAIN TRACEABILITY TECHNOLOGY AND STAKEHOLDERS' ENGAGEMENT STRATEGY FOR BOOSTING SUSTAINABLE SEAFOOD VISIBILITY, SOCIAL ACCEPTANCE AND CONSUMPTION IN EUROPE

DELIVERABLE 4.1 – FINAL CONSUMER APP

Lead Partner Organization	Tilkal
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Document information

Settings	Value
Deliverable Title	FINAL CONSUMER APP
Work Package Number & Title	WP3 - Traceability technologies development
Deliverable number	D4.1
Description	Conception and development of a mobile consumer application that presents part of the collected supply chain data. This application will link specific products with their dynamic data. This application will be configurable and will work on all mobile devices (Apple, Android, etc.)
Lead Beneficiary	Tilkal
Lead Authors	Adeline CAFFIN, Sébastien Gaide
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Submitted by	Carlos Mazorra

Review History

Version	Date	Reviewer	Short Description of Changes
1	25-Jun-24	Calos Mazorra	Minor changes

Document Approval

Name	Role	Action	Date
Carlos Mazorra	Project Coordinator	*Approved*	25-Jun-24

Nature of the deliverable

R	Document, report (excluding the periodic and final reports)	☐
DEM	Demonstrator, pilot, prototype, plan designs	☐
DEC	Websites, patents filing, press & media actions, videos, etc.	☐
DATA	Data sets, microdata, etc.	☐
DMP	Data management plan	☐
Ethics	Deliverables related to ethics issues.	☐
SECURITY	Deliverables related to security issues	☐
Other	Software, technical diagram, algorithms, models, etc.	☒

Dissemination level

PU	Public — fully open (automatically posted online on the Project Results platforms)	☒
SEN	Sensitive — limited under the conditions of the Grant Agreement	☐

ACKNOWLEDGEMENT

Current seafood traceability tools and services have the potential to take advantage of novel blockchain technologies to obtain a wide range of data making sustainable seafood practices more visible to consumers. Sea2See project will fill in existing seafood traceability gaps through development and demonstration of an innovative end-to-end blockchain traceability model throughout the seafood value chain and professional and consumer applications to increase trust and social acceptance of sustainably fished and farmed seafood.

The project will provide technological solutions to answer the need of a valuable source of data collected throughout the whole seafood value chain, verified, and covering inputs from diverse stakeholders. For that purpose, a specific focus will be put on active commitment of stakeholders and real empowerment of consumers through the implementation of societal and sectoral strategies for co-creation, communication and awareness raising.

The project runs from July 2022 to June 2026. It involves 14 partners from 6 EU countries, and is coordinated by SMARTWATER PLANET SL, Spain.

More information about the project can be found at: http://www.sea2see.eu/

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EXECUTIVE SUMMARY

This comprehensive document serves to provide an in-depth understanding of the Sea2See Transparency Web App, outlining its purpose, features, technical details, and benefits for both consumers and businesses. The annexes offer additional visual and technical insights, enhancing the overall understanding of the application's functionality and value proposition.

ACRONYMS AND ABBREVIATIONS

ACRONYM	DEFINITION
LCA	Life Cycle Analysis

PROJECT PARTNERS

#	Partners full name	Short	Country	Website
1	SMARTWATER PLANET SL	SmartWater	ES	www.smartwaterplanet.com
2	TILKAL	Tilkal	FR	www.tilkal.com
3	PAGE UP	PAGE UP	FR	www.pageup.fr
4	SUBMON	SUBMON	ES	www.submon.org
5	CENTRO DE CIENCIAS DO MAR DO ALGARVE	CCMAR	PT	www.ccmar.ualg.pt
6	ASOCIACION NACIONAL DE FABRICANTES DE CONSERVAS DE PESCADOS Y MARISCOS-CENTRO TECNICO NACIONAL DE CONSERVACION	ANFACO	ES	www.anfaco.es

	DE PRODUCTOS DE LA PESCA			
7	IOANNA N.ARGYROU SIMBOULOI EPICHEIR ISIAKIS ANAPTYXIS ETAIREIA PERIORISMENIS EYTHYNIS	NAYS	EL	www.nays.gr
8	SEAENTIA-FOOD, LDA	SEAentia	PT	www.seaentia.com
9	LANDLNG AQUACULTURE BV	LA	NL	www.landingaquaculture.com
10	UNIVERSIDADE DE AVEIRO	UAVR	PT	www.ua.pt
11	VITAGORA POLE	VITAGORA	FR	www.vitagora.com
12	ETHIC OCEAN	Ethic Ocean	FR	www.ethic-ocean.org
13	EVROPROJECT OOD	EP	BG	www.europroject.bg
14	ANP - ASSOCIACAO NATUREZA PORTUGAL	ANP	PT	www.natureza-portugal.org

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INTRODUCTION

In today's market, transparency and traceability are becoming critical for consumer trust, particularly in the seafood industry. The Sea2See Transparency Web App addresses these needs by offering an innovative, easy-to-use solution that allows consumers to access detailed information about their seafood products through a simple QR code scan. This document outlines the key aspects, functionalities, and benefits of the Sea2See web application, which is designed to enhance consumer trust and engagement while complying with current and future regulations.

GENERAL DESCRIPTION OF THE WEB APP

CONCEPT

The **Sea2See Transparency Web App** offers an innovative solution for consumers seeking detailed traceability information about their seafood products. Distinct from conventional mobile applications, Sea2See eliminates the need for downloads or installations. Instead, consumers can effortlessly access the app by scanning a QR code located on the product packaging. This QR code directs them to a dynamic and interactive web interface, delivering an experience akin to that of a native mobile app.

Designed to function seamlessly across all major platforms, the Sea2See web app is compatible with **Apple, Android**, and various other operating systems. Its **responsive web interface** ensures a consistent and user-friendly experience on desktops, smartphones, and tablets alike, providing a uniform look and feel across all devices.

Once the QR code is scanned, users are presented with a detailed view of the product's journey through the supply chain—from capture to processing and distribution. The app showcases a visually appealing and intuitive interface that effectively communicates key information about the product's origin, processing methods, and sustainability practices.

The responsive design is a standout feature, ensuring that users can access traceability data conveniently on their preferred devices. This adaptability enhances accessibility and usability, making it easier for consumers to engage with the traceability information wherever they are.

In summary, the Sea2See Transparency Web App transforms how consumers interact with and understand the traceability of their seafood products. By leveraging QR codes and a responsive design, compatible with a wide range of devices including Apple and Android, it provides a simple yet powerful tool for accessing detailed and verifiable information. This approach not only supports informed purchasing decisions but also fosters greater trust and transparency between consumers and brands, setting a new standard for product traceability in the seafood industry.

WEB APP FEATURES

The Sea2See Transparency Web App is designed as a ready-to-use solution, equipped with standard components and functionalities that facilitate rapid deployment. Brands can quickly integrate the app into their product packaging through a simple QR code. Additionally, the look and feel of the web app are highly configurable, allowing brands to tailor the user interface to align with their branding and user experience preferences.
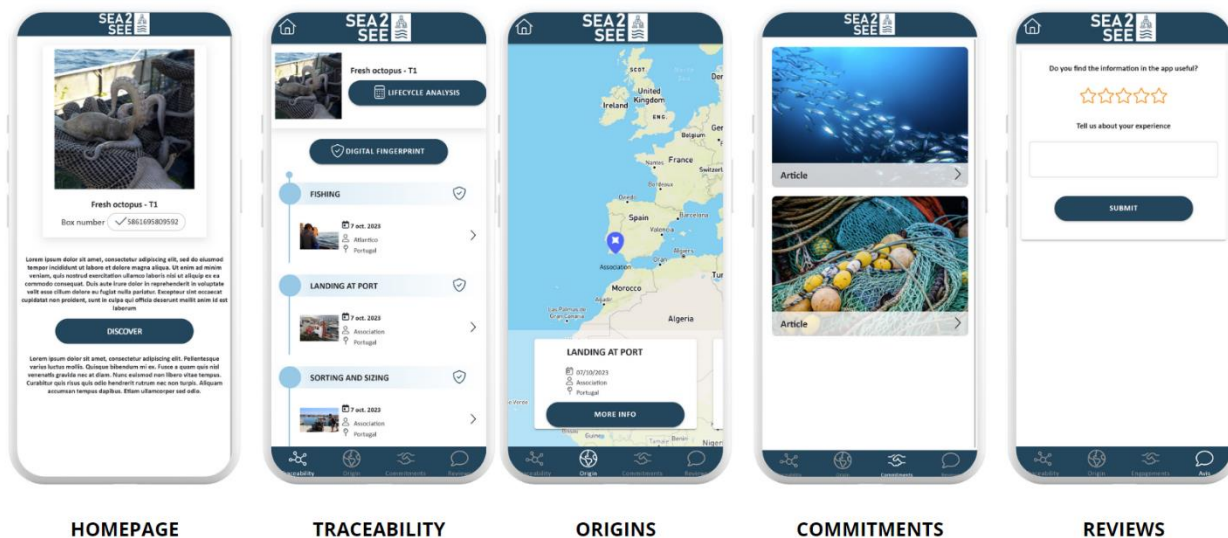

Figure 1 : the different tabs of the Sea2See transparency web app

HOMEPAGE

The homepage acts as the entry point for users to access general information about their seafood product. Key features include:

- **General Product Information:** Overview of the product's characteristics.
- **Batch Number Entry:** Allows users to input the batch number provided on the product packaging to access specific details related to that batch.

TRACEABILITY TAB

The Traceability tab offers a comprehensive summary of the product's lifecycle, presenting detailed information about each stage from capture to distribution. It includes:

- **Lifecycle Summary:** Detailed account of the product's journey through the supply chain.
- **Life Cycle Analysis (LCA):** Insights into the environmental impact of the product, including fishing methods, sustainability of the fishing area, and overall environmental footprint.

ORIGIN TAB

This tab provides a visual representation of the product's origin and processing sites on an interactive map. Features include:

- **Mapping of Provenance:** Visualization of capture, processing, and distribution sites.
- **Interactive Map:** Users can explore different geographical locations to learn more about the origin and journey of the seafood product.

COMMITMENTS TAB

The Commitments tab highlights the brand's Corporate Social Responsibility (CSR) initiatives and sustainable practices. It provides:

- **CSR Information:** Details on the brand's sustainability commitments and quality assurance processes.
- **Sustainability Initiatives:** Information on specific actions taken to promote environmental and social responsibility.
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REVIEW TAB

The Review tab serves as a direct communication channel between users and the brand. It includes:

- **User Comments and Ratings:** Allows users to share their experiences and rate the application.
- **Feedback Collection:** Helps the brand gather valuable insights to improve the user experience and application features.

TECHNICAL ARCHITECTURE

The Sea2See Transparency Web App functions as the front-end interface that presents consolidated and specific traceability information to consumers. It acts as a presentation layer that retrieves detailed data from the upstream traceability platform where all product information is collected and consolidated. This approach enables the app to provide precise batch-specific information, transitioning from traditional marketing claims to a marketing approach based on verifiable proof.

USER INTERFACE

The Sea2See web app offers an intuitive and responsive design that adapts to various devices, providing:

- **Interactive Design:** Engages users with a fluid and interactive interface that mimics the experience of a native mobile app.
- **Ease of Access:** Users can easily access the app via a QR code or a link, making it convenient and straightforward to use without needing to download or install anything.
- **Configurable Look and Feel:** Brands can customize the appearance of the web app to match their branding, ensuring consistency with their overall customer experience.

CONTENT MANAGEMENT SYSTEM (CMS)

The CMS manages the data flow and presentation, allowing real-time updates of product information. Key features include:

- **Flexible Content Management:** The CMS facilitates the dynamic updating of product details and traceability data based on the information pulled from the upstream platform.
- **Real-Time Data Retrieval:** Specific batch information is retrieved through queries to the traceability platform, ensuring that consumers receive accurate and up-to-date details about the product they have scanned.

INTEGRATION WITH THE TRACEABILITY PLATFORM

- **Data Collection and Consolidation:** The traceability platform gathers and consolidates all relevant supply chain data from various points of the product lifecycle. This comprehensive dataset includes details from fishing or harvesting to processing and distribution.

- **Batch-Specific Information Retrieval:** When a consumer scans a QR code, the web app sends queries to the traceability platform. This process retrieves detailed information specific to the scanned batch, allowing consumers to view precise data relevant to their product.

- **Marketing of Proof:** This integration shifts the focus from generic marketing claims to a robust proof-based approach. Consumers receive verifiable and transparent information about the product's origin and journey, enhancing trust and credibility.

By functioning as a sophisticated interface that presents detailed and reliable traceability data, the Sea2See Transparency Web App provides consumers with a clear and trustworthy view of their seafood products. This system not only improves transparency but also supports brands in demonstrating their commitment to authenticity and sustainability.

BENEFITS FOR CONSUMERS AND BUSINESSES

FOR CONSUMERS

ACCESS TO RELIABLE INFORMATION

- **Verifiable Data:** Consumers can access accurate and batch-specific traceability data directly from the traceability platform. This transparency allows them to make informed decisions based on factual and immutable records of the product's journey.

- **Detailed Product Insights:** The app provides comprehensive information about each stage of the product lifecycle, including origin, processing methods, and environmental impact, empowering consumers with knowledge about the products they purchase.

ENHANCED TRUST AND CONFIDENCE

- **Transparency in Supply Chain:** By revealing the complete supply chain journey from capture to distribution, the app fosters greater consumer confidence in the brand and product.

- **Evidence-Based Assurance:** The shift to proof-based marketing enhances credibility, offering consumers concrete evidence of sustainability practices and product quality, rather than mere marketing claims.

EMPOWERMENT THROUGH KNOWLEDGE

- **Informed Choices:** Consumers are equipped with detailed information on the sustainability and ethical considerations of their seafood products, enabling them to choose products that align with their values.
- **Interactive Engagement:** The user-friendly and interactive design of the app enhances engagement, making it easy and intuitive for consumers to explore traceability information.

FOR BUSINESSES

STRENGTHENING CONSUMER TRUST AND LOYALTY

- **Transparency as a Value Proposition:** By providing detailed and verifiable traceability information, businesses can build stronger relationships with consumers who value transparency and honesty.
- **Enhanced Brand Reputation:** Demonstrating a commitment to transparency and sustainability can differentiate the brand in a competitive market, attracting consumers who prioritize ethical and sustainable practices.

MARKET DIFFERENTIATION AND COMPETITIVE ADVANTAGE

- **Proof-Based Marketing:** Moving beyond traditional marketing claims, the app enables businesses to offer concrete proof of their product's origin and sustainability practices. This evidence-based approach can enhance brand positioning and market appeal.
- **Innovation in Consumer Experience:** The seamless integration of interactive traceability information through a QR code enhances the consumer experience, setting the brand apart as an innovator in product transparency.

REGULATORY COMPLIANCE AND PREPAREDNESS

- **Meeting Regulatory Standards:** The app helps businesses comply with existing and forthcoming regulations regarding product traceability and transparency.
- **Adaptability to Future Regulations:** The flexibility of the traceability platform and the app ensures that businesses can quickly adapt to new regulatory demands, maintaining compliance and avoiding potential penalties.

OPERATIONAL EFFICIENCY AND INSIGHT

- **Streamlined Data Management:** By integrating with the upstream traceability platform, businesses can manage and present traceability data efficiently, reducing the complexity of data handling and reporting.

- **Valuable Consumer Feedback:** The Feedback tab provides direct insights from consumers, allowing businesses to continuously improve their product offerings and user experience based on real-time feedback.

CONCLUSION

The Sea2See Transparency Web App represents a significant advancement in the realm of product traceability and consumer engagement, particularly within the seafood industry. By leveraging cutting-edge blockchain technology, this web application offers a seamless, interactive, and reliable platform for consumers to access detailed traceability information about their seafood products. The app's ability to provide batch-specific data through a simple QR code scan marks a notable shift from traditional marketing claims to a robust, evidence-based approach.

Empowering Consumers

Sea2See empowers consumers with transparent, verifiable information about the journey of their seafood products from capture to their dinner table. This not only enhances consumer confidence and trust but also enables them to make informed purchasing decisions that align with their values. The detailed insights into sustainability practices, environmental impact, and origin of products provide consumers with a deeper understanding and connection to the products they consume.

Enhancing Business Value

For businesses, the Sea2See web app offers a powerful tool for differentiating their products in a competitive market. By providing verifiable proof of their supply chain practices, brands can build stronger relationships with their customers, enhancing loyalty and trust. The app's integration with the upstream traceability platform ensures compliance with current and future regulations, while also offering operational efficiencies through streamlined data management.

The ability to configure the app's look and feel to align with brand aesthetics further enhances its value, allowing businesses to maintain a consistent brand experience while offering transparency. Moreover, the real-time feedback mechanism embedded in the app provides businesses with actionable insights into consumer preferences and experiences, driving continuous improvement.

In conclusion, the Sea2See Transparency Web App (see Annex for demonstration) is a transformative solution that enhances consumer trust and business value through transparent, reliable, and verifiable product traceability. It bridges the gap between consumers' need for trustworthy information and businesses' desire to demonstrate their commitment to sustainability and ethical practices. By fostering greater transparency and trust, Sea2See not only

improves consumer satisfaction but also strengthens the overall integrity of the seafood supply chain. As the app continues to evolve and expand, it promises to play a pivotal role in shaping the future of consumer engagement and product transparency.

ANNEXES

Scan the QR code

**DISCOVER THE
TRACEABILTY OF YOUR
PRODUCT !**