

EUROPROJECT

Department [Project Management](#)



## D10.7 - Report on established synergies

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NAUTILOS - New Approach to Underwater Technologies for Innovative, Low-cost Ocean observation is an H2020 project funded under the Future of Seas and Oceans Flagship Initiative, coordinated by the National Research Council of Italy (CNR, Consiglio Nazionale delle Ricerche). It brings together a group of 21 entities from 11 European countries with multidisciplinary expertise ranging from ocean instrumentation development and integration, ocean sensing and sampling instrumentation, data processing, modelling and control, operational oceanography and biology and ecosystems and biogeochemistry such, water and climate change science, technological marine applications and research infrastructures.

NAUTILOS will fill-in marine observation and modelling gaps for chemical, biological and deep ocean physics variables through the development of a new generation of cost-effective sensors and samplers, the integration of the aforementioned technologies within observing platforms and their deployment in large-scale demonstrations in European seas. The fundamental aim of the project will be to complement and expand current European observation tools and services, to obtain a collection of data at a much higher spatial resolution, temporal regularity, and length than currently available at the European scale, and to further enable and democratize the monitoring of the marine environment to both traditional and non-traditional data users.

NAUTILOS is one of two projects included in the EU's efforts to support the European Strategy for Plastics in a Circular Economy by supporting the demonstration of new and innovative technologies to measure the Essential Ocean Variables (EOV).

More information on the project can be found at: <http://www.NAUTILOS-h2020.eu>.

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## EXECUTIVE SUMMARY

This deliverable outlines the extensive efforts undertaken by the NAUTILOS consortium in establishing strategic synergies with European and international projects, initiatives, and networks in the domain of marine environmental observation and policy. Covering the period from the project start in M1 to its end in M57, this report consolidates activities led primarily under Task 10.5 Synergies Building with Relevant Initiatives, Projects, and Programmes, focusing on expanding the project's reach, avoiding duplication of effort, and maximizing mutual benefits through joint dissemination, shared platforms, technical cooperation, and policy alignment.

The main aim of this task is to identify, explore, and capitalize on synergies with other marine observation research and innovation (R&I) projects. Particular emphasis has been placed on avoiding duplication of efforts and maximizing the impact of collaborations, particularly with the twin project funded under H2020 BG-07-2019-2020—TechOceanS. This deliverable outlines the established collaborations, joint activities, and potential future engagements that contribute to enhancing the impact of NAUTILOS on the European marine observation landscape.

Special focus is placed on synergies with marine citizen science initiatives, research infrastructures, and data-sharing platforms, including projects such as Observadores del Mar and European networks like, ECSA (European Citizen Science Association), and Copernicus. These synergies facilitate knowledge exchange, cross-dissemination, joint participation in events, and collaborative demonstrations of technologies developed in the other Work Packages.

Key highlights include the organization of cross-project roundtables, policy brief development, co-hosted summer schools, joint topic tables, and endorsement by international frameworks. These activities demonstrate NAUTILOS' integrated approach to open science, ocean literacy, and stakeholder engagement. This report will be followed by the final update on synergies activities in the closing months of the project.

The deliverable also presents the structured framework categorizing synergies based on their nature (static vs. dynamic), relevance to NAUTILOS, and their potential for generating long-term impact. The final section outlines conclusions and next steps for ensuring continuous collaboration and sustainability of the established synergies.

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## LIST OF ACRONYMS AND ABBREVIATIONS

Abbreviation	Definition
<b>AMAP Litter and Microplastics Expert Group</b>	Arctic Monitoring and Assessment Programme: Marine litter focus group
<b>BASEMAN</b>	Baseline monitoring marine project
<b>CA</b>	Consortium Agreement
<b>CD</b>	Communication and Dissemination
<b>CMEMS</b>	Copernicus Marine Environment Monitoring Service
<b>CoastPredict</b>	Coastal ocean forecast project
<b>EC</b>	European Commission
<b>EMODnet</b>	European Marine Observation and Data Network
<b>EMODnet/EDITO</b>	EMODnet editorial/data platform
<b>EU</b>	European Union
<b>EUROqCHARM</b>	European project on marine habitat mapping
<b>GA</b>	Grant Agreement
<b>JERICO</b>	Joint European Research Infrastructure for Coastal Observatories
<b>KPI</b>	Key Performance Indicator
<b>OCEANIDS</b>	Marine data infrastructure initiative
<b>OceanPrediction DCC</b>	Ocean Prediction Data Coordination Center
<b>PlaMoWa Network</b>	Plastic Monitoring and Water Network
<b>REA</b>	Research Executive Agency
<b>RESPONSE</b>	Marine ecosystem response project
<b>RTD</b>	Research and Technology Development
<b>SCOOPP</b>	Marine ocean observing and predictive systems project
<b>SCOR Working Group FLOTSAM</b>	Scientific Committee on Oceanic Research: Floating Marine Debris group
<b>TIM</b>	Technical and Innovation Manager
<b>UN</b>	United Nations

## 1. Introduction

The NAUTILOS project aims to enhance European marine observation capabilities through the development and integration of cost-effective, scalable, and open-source ocean monitoring technologies. Given the interdisciplinary nature of marine research and the need for coordinated efforts at the European level, fostering synergies with other initiatives is critical for achieving broader impact, avoiding duplication of efforts, and ensuring sustainability of project results beyond the funding period.

Task 10.5 is dedicated to actively identifying and developing collaborations with other H2020, Horizon Europe, and regional initiatives to enhance knowledge-sharing, optimize resources, and expand the reach of NAUTILOS results. This was supported by structured tracking across several projects and rounds of outreach to build meaningful collaborations.

The synergies built through this task aim to:

- Improve coordination with complementary research efforts in marine observation.
- Facilitate knowledge transfer between projects, research institutions, and citizen science initiatives.
- Enhance dissemination and exploitation of NAUTILOS outcomes through joint activities.
- Support EU policy objectives by integrating NAUTILOS technologies into established marine monitoring frameworks (EMODnet, CMEMS, JERICO).

The following sections describe the concept of synergies, the methodology used to establish collaborations, and the strategy for integrating synergies into broader project activities.

## 2. Approach to Synergies Building

Building effective synergies is a cornerstone of the NAUTILOS project's strategy to enhance marine observation and data sharing across European and international initiatives. By enriching the coordinated collaboration among diverse projects and organizations, NAUTILOS aims to maximize the impact of research efforts, avoid duplication, and promote the exchange of knowledge and best practices. The following section outlines the methodology adopted by NAUTILOS to systematically identify, initiate, and sustain these synergistic partnerships.

### *2.1 Methodology for Identifying and Establishing Synergies*

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The synergies building process in NAUTILOS follows a structured approach:

- **Mapping relevant projects and initiatives:** Conducting analysis of active and past marine observation projects to identify potential areas for collaboration.
- **Establishing contact with the projects' and initiative' teams:** Initiating communication to explore partnership opportunities.
- **Developing collaboration mechanisms:** Implementing joint activities such as cross-dissemination, co-organization of events, joint participation in conferences, and shared demonstrations.
- **Continuous engagement and monitoring:** Maintaining ongoing interactions to ensure effective collaboration and knowledge sharing.

## 2.2 Key Synergistic Areas

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Synergies have been pursued in the following areas:

- **Joint technical developments:** Integrating instrumentation, sensors, and samplers across different platforms.
- **Observation systems and data exchange:** Enhancing interoperability and data integration for improved ocean monitoring.
- **Citizen science initiatives:** Engaging non-traditional users in marine data collection and interpretation, apps and campaigns.
- **Policy engagement and advocacy:** Contributing to discussions and policy briefs that support ocean observation – policy briefs, roundtables, UN Ocean Decade alignment.

## 2.3 The Synergies Concept

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Synergies in NAUTILOS refer to collaborations that enhance project outcomes, prevent duplication of efforts, and improve coordination across marine research projects. This involves:

- Identifying potential synergies through project scanning.
- Evaluating synergies based on relevance, feasibility, and impact.
- Engaging with partners through meetings, knowledge exchange, and joint activities.
- Monitoring and sustaining collaborations through structured follow-up mechanisms.

# 3. Established Synergies

## 3.1 Twin Project: **TechOceanS**

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As the designated twin project under the same funding scheme, **TechOceanS** has been a priority collaboration partner from the outset of the NAUTILOS project. Two dedicated roundtable discussions were organized in 2021 to align efforts in areas including:

- Development and deployment of samplers for eDNA, microbiology, and microplastics.
- Biological and habitat measurements, including imaging and acoustics.
- Testing, deployments, and demonstration activities across shared marine platforms.
- Joint communication and stakeholder engagement activities.

Additional collaboration was documented through structured meetings between NAUTILOS and TechOceanS. Key technical topics included samplers for eDNA, microbiology, and microplastics. Participating organizations included SubCTech (T4.3 Leader), CSEM (T4.4 Leader), NKE (WP4 Leader), and NIVA (T3.5 Lead), alongside NAUTILOS partners. These exchanges enabled in-depth technical discussions on deployment methods, instrumentation design, and standardization practices across platforms.

As part of the continued collaboration with TechOceanS, NAUTILOS representatives from CEiiA and EdgeLab participated in the **TechOceanS Summer School** held from 18–21 March 2024. The training sessions facilitated cross-project exchanges on sensor technologies, deployment strategies, and communication tools. Similarly, a representative from TechOceanS participated as an invited speaker in the 2nd NAUTILOS Summer School in Crete and provided a brief overview of the technologies developed within TechOceanS and their early testing results.

Here it is also worth mentioning the following two events: 1) the endorsement of the Nautilus Summers Schools by the Ocean Decade and 2) the participation of HCMR, CNR-ISMAR, ETT and EUROCEAN in the EMSEA's (European Marine Science Educators Association) annual conference in the theme Blue Education in Palma de Mallorca, Spain during 25th-28th of September 2022. An oral communication and a poster were presented describing the Citizen Science and educational approaches of NAUTILOS.

NAUTILOS participated in the **TechOceanS-led Policy Event on 10 September 2024**, which served to align policy messaging and showcase outcomes from shared work packages relevant to marine monitoring and EU policy alignment. Together, these activities illustrate a structured collaboration model with formal knowledge-sharing and coordinated policy engagement.



## POLICY IMPACTS AND OPPORTUNITIES WITH ENVIRONMENTAL TECHNOLOGIES

Join us for an afternoon of talks and discussions on:

- TechOceanS project results
- Policy impacts of environmental technologies
- The future of marine monitoring
- And much more!

**WHERE** Online

**WHEN** 10 September 2024

**TIME** 15:00 - 17:00 CET

Figure 1 – Promo banner for the Policy event of TechOceanS

As part of the closing outreach activities, **NAUTILOS** hosted a high-level panel session during its **Final Conference** in the Azores on 19 May 2025. The session featured key representatives from aligned EU marine initiatives, including **Patricia Lopez of TechOceanS**, who joined remotely as a panelist. The discussion highlighted synergies on ocean prediction, sensor interoperability, and policy roadmaps across H2020 and Horizon Europe projects. The panel included experts from EMODnet/EDITO, OceanPrediction DCC, CoastPredict, OCEANIDS, SCOOPP, and the NAUTILOS Ethics Advisory Board, reinforcing NAUTILOS's role as a convener of multi-initiative collaboration.

# NAUTILOS FINAL CONFERENCE: ADVANCING THE DEMOCRATISATION OF OCEAN SCIENCE



Figure 2 – Promo banner for the Final NAUTILOS Conference in May 2025, Horta, Azores

## 3.2 Collaborations with Other Blue Projects

Building on the foundation of synergy development and structured partnerships, NAUTILOS has actively expanded its network by engaging with a variety of initiatives within the Blue Growth sector. These collaborations have enhanced the project’s capacity to contribute to sustainable marine and maritime development across Europe. The following section highlights key partnerships NAUTILOS has established with other Blue Growth projects.

- **EuroSea:** Since early in the project (Month 6), NAUTILOS contributed to roundtables and aligned on ocean observing, forecasting systems, aquaculture sensors, and policy engagement. The roundtable discussions included the following topics:

- ✓ Technical work in instrumental development and application – i.e. tests within FerryBox, also moving NAUTILOS instruments to EuroSea platforms.
- ✓ Forecasting.
- ✓ Sensors and instruments for aquaculture facilities.
- ✓ Observation System Design.
- ✓ Joint communication and stakeholder engagement activities.

EuroSea featured at NAUTILOS’s CM3 and IRBIM Day (Months 12–18), while ongoing discussions continued into Months 24–36.

Additional synergies with EuroSea were strengthened through focused technical meetings involving EdgeLab, CEIIA, HCMR, and NIVA. The sessions explored coordinated development and deployment of marine instrumentation, particularly through work carried out under NAUTILOS

Work Packages 5 and 6. These interactions laid the groundwork for shared validation activities, joint meeting scheduling, and cross-project technical knowledge exchange.

- **EUROFLEETS+:** Starting in Month 9 (June 2021), NAUTILOS and EUROFLEETS+ shared research fleet platforms and insights for technology testing.
- **Blue-Cloud:** Engagement began in Month 10 (July 2021), focusing on cloud-based services for ocean data sharing. Blue-Cloud participated in NAUTILOS's sister projects session and ongoing interoperability efforts.
- **All-Atlantic Ocean Research & Innovation Alliance and EU4Ocean:** Involved in public engagement campaigns and dissemination alignment from Month 12 (September 2021) onwards. NAUTILOS participated in EU4Ocean forums and marine literacy initiatives.

NAUTILOS partners (CNR, HCMR and ETT), together with Surfrider Foundation Europe and the non-profit company Outdoor Portofino, participated in the EU4Ocean workshop "Democratisation of science: Citizens Empowerment through Ocean knowledge co-production" for the Ocean Literacy Summit in Ravenna on the 19-21st of May 2022.

NAUTILOS engaged with the All-Atlantic Ocean Research Alliance during the Barcelona conference on 11–12 April 2024. Representatives contributed to the joint All-Atlantic booth, strengthening dissemination synergies and outreach to Atlantic marine science communities.

- NAUTILOS was an active participant in the **All-Atlantic Ocean Research Cluster**, which brought together project managers from multiple H2020 flagship initiatives—including [AtlantECO](#), [Mission Atlantic](#), [EuroSea](#), [iAtlantic](#), and others. From **December 2020 until 2024**, NAUTILOS joined **monthly coordination meetings** aimed at finding activities for collaboration, identifying synergies and aligning communication and policy strategies across the Atlantic basin. This long-term clustering exercise, supported under the All-Atlantic Cooperation Agreement, strengthened NAUTILOS's engagement in transatlantic marine research and enhanced its visibility in global observation and blue economy dialogues.

- NAUTILOS developed a meaningful synergy with the **AtlantECO project**, part of the **All-Atlantic Ocean Research Alliance**, through cross-dissemination and stakeholder engagement. The projects shared a platform during the NAUTILOS Sister Project Session and initiated thematic discussion tables on Atlantic observation priorities. In addition, NAUTILOS was featured in **Episode 41** (April 2023) of the **AtlantECO podcast**, a science communication initiative targeting the general public. NAUTILOS' representatives Jorge Fontes, Christophe Guinet and Gabriele Pieri participated in the episode, discussing project goals, citizen science, and collaboration across the EU marine research landscape.

🔗 Listen to the episode: [AtlantECO Podcast – Episode 41](#)

- Further [collaboration](#) was established with the Horizon Europe **project MARBEFES** (Marine Biodiversity and Ecosystem Functioning for Societal Benefits) in July 2023, focusing on joint dissemination and alignment of ecosystem services knowledge. The synergy supported cross-promotional actions, policy dialogue, and knowledge exchange through joint appearances in stakeholder forums.

- In support of the Mission “Restore Our Ocean and Waters by 2030”, NAUTILOS featured a project poster at the 2nd Annual Mission Forum (5 March 2024). This participation increased visibility among EU-funded marine initiatives and affirmed NAUTILOS’s contribution to the mission’s goals.
- Since September 2024, the [LAQV-REQUIMTE High-Pressure Team from the University of Aveiro](#) has collaborated on testing NAUTILOS prototype devices under high-pressure conditions. This technical partnership supports validation of instrument robustness for deep-sea deployment.
- NAUTILOS partners participated in the 43rd CIESM Congress (Palermo, Oct 2024), presenting results on microplastics and ocean biodiversity. This engagement enhanced project visibility among Mediterranean marine science networks and fostered new technical and policy linkages.
- NAUTILOS is also officially listed as part of the BlueMissionMED [Network of Projects](#) ([bluemissionmed.eu](#)). This connection emerged from an interview conducted by the BlueMissionMED team with NAUTILOS representatives to explore areas of potential support and cooperation. The collaboration aims to align efforts in the Mediterranean on ocean observation, demonstration sharing, and policy-relevant engagement, contributing to the BlueMissionMED objectives under the EU Mission: Restore our Ocean and Waters.
- NAUTILOS initiated a promising synergy with the Horizon Europe project **LandSeaLot**, focused on shared interests in sensor technology development and deployment (Late 2024 - early 2025). Through discussions facilitated by partners from CNR, CEiiA, and SMHI, both projects explored aligning sensor specifications, testing protocols, and market pathways. NAUTILOS offered its experience with sensor validation and commercialization, while LandSeaLot expressed interest in adopting protocols established by NAUTILOS and the FVON project. A virtual meeting was planned between key technical staff to deepen this exchange and explore coordinated field testing.
- NAUTILOS developed initial synergies with the Horizon Europe project OCEANIDS, which focuses on intelligent technologies for marine biodiversity monitoring. The projects exchanged presentations and identified complementary areas during joint engagement, notably at the NAUTILOS Final Conference in the Azores on 19 May 2025, where the OCEANIDS coordinator participated in person. The collaboration opens pathways for interoperability in ocean data infrastructures, joint dissemination, and alignment in AI-driven sensing technologies.

### *3.3 Engagement with Marine Observation Networks*

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To enhance ocean monitoring capabilities, NAUTILOS has engaged with key networks such as:

- EMODnet Physics through “EMODnet Ingestion System”: Integration began in Month 15 (December 2021) through ETT’s data delivery pipeline, with sustained contributions into Month 36 and beyond.

EMODnet Chemistry: The plastic litter data collected during the Citizen Science campaigns that were implemented in Crete, Greece ([12 campaigns](#) during the period May 2022 – May 2023 and [8 campaigns](#) for May 2023 – May 2024) were submitted to EMODnet Chemistry database according to the Thematic Lot n°4 categories (J code List).

- Copernicus Marine Service (CMEMS): Discussions on data assimilation and processing initiated in Month 20 (May 2022) and reinforced through shared participation in workshops and training events.
- JERICO-S3: Synergies in physical/biogeochemical observation systems explored from Month 25 (October 2022) onward, including joint discussions on sensor validation.
- Within the EU FP7 NEXOS and the NAUTILOS projects, [CNR AdriFOOS staff also supported the development and testing](#) of new oxygen and fluorescence sensors designed for use on fishing gear ([Martinelli et al. 2023](#); [2024](#)).

### *3.4 Synergies with Plastic Pollution and Littering Initiatives*

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As detailed in Deliverable 12.1 - ESPCE report on collaborations and synergies, NAUTILOS actively fostered synergies with initiatives focused on plastic pollution and marine littering, contributing to the harmonization of monitoring protocols and supporting efforts toward standardization through the following collaborations:

- SCOR Working Group FLOTSAM (CNR): Starting Month 10 (August 2021), collaboration on microplastic sampling protocols.
- AMAP Litter and Microplastics Expert Group (CNR): Engagement since Month 16 (January 2022) on Arctic marine litter methodologies.
- PlaMoWa Network (DFKI): Ongoing since Month 20 (May 2022), focused on harmonizing marine litter assessment standards.
- EUROqCHARM (CNR & NIVA), CLAIM (HCMR), and JPI-Oceans projects BASEMAN, EPHEMARE, RESPONSE (UALG): Active exchanges between Months 19–36 to validate NAUTILOS's samplers and protocols with these initiatives.
- Norman Network QUASIMEME and GESAMP (NIVA, DFKI): From Month 24 (September 2022), NAUTILOS experts contributed to joint harmonization frameworks and marine litter indicator discussions.

### *3.5 Engagement with Citizen Science Networks*

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Recognizing the value of citizen science, NAUTILOS launched and partnered with numerous initiatives between September 2021 and June 2025. These collaborations are comprehensively documented in **Deliverable D12.1 – ESPCE Report on Collaborations and Synergies**, which highlights a diverse range of actions involving schools, local authorities, NGOs, research networks, and citizen-led campaigns.

From structured educational programmes like **CONNECT** to grassroots sampling expeditions with **Sail & Explore**, and school-based trials of NAUTILOS tools within the **Plastic Pirates – Go Europe!**

campaign, these synergies collectively demonstrate the project's wide-reaching impact under the ESPCE (European Strategy for Plastics in a Circular Economy) framework. Below, we present a selection of major examples with a focus on citizen science.

- NAUTILOS worked with the “Plastic Pirates – Go Europe!” initiative, a pan-European citizen science campaign engaging young people in the collection and analysis of plastic litter data. This collaboration helped expand outreach to younger demographics, harmonize sampling approaches, and increase awareness on marine litter among school communities across Europe. NAUTILOS` partner NIVA has also contributed to strengthening this synergy through the involvement of Dr. Bert van Bavel, who serves on the Expert Advisory Board of the Plastic Pirates – Go Europe!.

During the NAUTILOS hybrid Consortium Meeting in Crete (April 2024), a comprehensive **Citizen Science Session** was held, showcasing the project's integrative approach to participatory science under the UN Ocean Decade. The session brought together key European actors in marine engagement, including **EuroGOOS**, **Plastic Pirates – Go Europe**, the **SUBMARINER Network**, **OutBe**, and **Surfrider Foundation Europe**. Topics addressed included ocean literacy, plastic pollution monitoring, advocacy, and the role of outdoor activities in ocean observation. Notable speakers included **Louise Valestrand** (NAUTILOS), **Dina Eparkhina** (EuroGOOS), **Roula Andriopoulou** (Greek Plastic Pirates), **Mariana Mata Lara** (SUBMARINER Network), **Arianna Liconti** (OutBe), and **Haizea Jimenez** (Surfrider Europe), reflecting NAUTILOS's strong commitment to citizen engagement and stakeholder collaboration across Europe.

## NAUTILOS HYBRID EVENT ON COLLABORATIVE EFFORTS FOR ADDRESSING CITIZEN SCIENCE CHALLENGES IN THE MARINE ENVIRONMENT



Figure 3 – Photo from the CS Session in Crete, April 2024 (Andrew King (NIVA) moderating the event)

\*Watch the recording [here](#).

\*\*More detailed information on this collaboration is presented in Deliverable D12.1, which includes a dedicated subchapter on synergies for the ESPCE with a focus on plastic pollution.

- NAUTILOS contributed content to **CONNECT's** science education programme, using real-life scenarios from plastic pollution research. Students explored ocean health and participated in virtual and in-person sessions that supported critical thinking around marine litter and sustainability.
- In partnership with **Sail & Explore**, NAUTILOS joined a sailing expedition across the Cyclades to sample marine litter. The campaign involved volunteer citizen scientists and applied NAUTILOS methodologies to gather data while raising public awareness through direct engagement at sea.

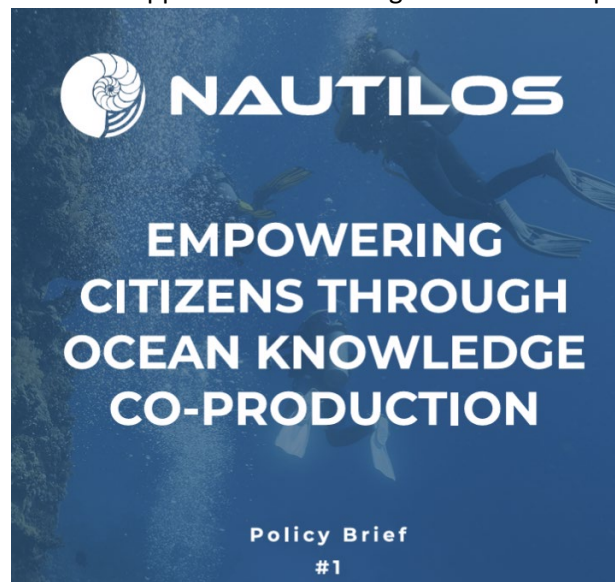
### *3.6 Policy Engagement and Contributions to Ocean Governance*

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NAUTILOS has actively contributed to the European and international ocean governance landscape through targeted policy engagement. These efforts supported alignment with the UN Ocean Decade, the [EU Mission "Restore our Ocean and Waters,"](#) and the Sustainable Blue Economy Agenda.

[Three policy briefs](#) were developed in cooperation with project partners and international initiatives:

- **Policy Brief #1: Empowering Citizens Through Ocean Knowledge Co-Production:** Advocates for greater integration of citizen science into formal marine observation systems. Recommends policy actions to support inclusive data generation and open platforms.



- **Policy Brief #2: Supporting Ocean Observations to Address Climate Change:** Focuses on the need for sustainable funding and coordination of European observation infrastructure to inform climate policy. Promotes sensor innovation and long-term strategies.



- **Policy Brief #3: Beyond Climate Change: Sustained Observation in Support of the Blue Economy:** Highlights how sustained ocean monitoring underpins economic resilience and innovation. Recommends stronger links between science, technology, and policy to support the blue economy.



These briefs were shared with relevant stakeholders and presented at high-level events such as the Ocean Race Policy Roundtable (Genoa, June 2023) and the UN Ocean Decade Satellite Event (Barcelona, April 2024) – both described below. These activities positioned NAUTILOS as a key contributor to evidence-based marine policy development. The NAUTILOS policy brief launched at The Ocean Race Roundtable received strong engagement from **DG MARE, with remarks from Director Kestutis Sadauskas** affirming the role of projects like NAUTILOS in "*bridging observation science with actionable policy.*" This recognition illustrates the project's contribution to EU-level ocean governance discussions.

More details and access to the briefs are available at: [nautilus-h2020.eu/policy-engagement](https://nautilus-h2020.eu/policy-engagement)

- In addition to the formal series of policy briefs, NAUTILOS contributed to a **joint Policy Brief** titled “**Nourishing Blue Economy and Sharing Ocean Knowledge: Ocean Information for Sustainable Management**”, co-authored by ten EU-funded projects including EuroSea (EuroSea; AtlantECO; Blue-Cloud; EU-Atlas; Eurofleets+; iAtlantic; JericoS3; Mission Atlantic; ODYSSEA), and **supported by the Horizon Results Booster**. This collaborative effort was aimed at strengthening the **Value Chain of Ocean Information**, from data collection to policy impact, to support sustainable ocean governance and the growth of the Blue Economy. The brief, presented to the European Commission in October 2021, highlights the fragmentation of marine data and calls for interoperable, user-focused, and sustained observation systems that align with the EU Green Deal, the Paris Agreement, and the UN Ocean Decade.
- NAUTILOS co-organized a high-level [Policy Roundtable during The Ocean Race Grand Finale](#) in Genoa (June 2023), titled “Supporting Ocean Observations to Address Climate Change.” This event, endorsed under the UN Ocean Decade, gathered key stakeholders from science, policy, and civil society and contributed to raising awareness and fostering alignment of marine observation priorities at the European and international levels.



Figure 4 – Promo banner for the Policy Round Table Event

- **European Ocean Days Matchmaking Event** - CEiiA represented NAUTILOS at the European Ocean Days Matchmaking event (4 March 2024, Brussels), focused on investment alignment under the EU Mission for Ocean and Waters. While no direct collaboration emerged, participation ensured project visibility among potential stakeholders.
- [Satellite event within UN Ocean Decade Conference](#) - Barcelona, Spain - the engaging event was conducted on April 9th 2024, hosted by NAUTILOS in collaboration with experts from

**EurOcean, ISTI-CNR, EMODnet, EuroGOOS, ETT SpA, and CSIC** and aimed to explore the critical significance of continuous ocean observation across three key themes:

- **Data-Driven Decision-Making:** Uncover how ocean data empowers sustainable resource management and drives the blue economy. Gain insights into effective data integration strategies.
- **Public-Private Synergy:** Explore collaborative efforts between sectors for ongoing ocean observation and the promotion of blue growth.
- **Global Collaboration:** Share best practices and technological advancements fostering international cooperation in ocean observation.

These principles closely align with the core message of the 3<sup>rd</sup> Nautilus Policy Brief launched during the event (more in section 3.6 of the present Deliverable).

Watch the recording [here](#) or read the [summary report](#).



Figure 5 – Promo banner for the UN Ocean Decade Conference, satellite event

- **EU-CONEXUS Seminar** – NAUTILOS was invited to contribute to the EU-CONEXUS seminar on 28 June 2024, led by students from the European University for Smart Urban Coastal Sustainability. This engagement opened opportunities to link with academic EU networks working on integrated coastal observation and innovation.
- NAUTILOS actively contributed to the **TechOceanS policy workshop** held online on 10 September 2024, which convened stakeholders from science, industry, and policy sectors to discuss the integration of advanced marine monitoring technologies into regulatory frameworks. The event featured NAUTILOS` coordinator Gabriele Pieri, who presented on innovations including machine learning, microsensors and microsampling platforms. The session concluded with the draft TechOceanS Policy Roadmap—enriched by NAUTILOS feedback across seven priority areas—helping align innovation trajectories and policy guidelines for marine ecosystem monitoring.

## 4. Outcomes

The synergy-building activities in NAUTILOS have yielded significant and multifaceted outcomes, reinforcing the project's scientific, policy, technical, and societal contributions:

- **Strategic Collaboration Frameworks:** NAUTILOS successfully established structured collaboration mechanisms with TechOceanS, EuroSea, and a range of Horizon 2020 and Horizon Europe projects. These collaborations were not limited to one-off exchanges but developed into sustained partnerships through roundtables, joint trainings and co-organized events, described above.
- **Enhanced Technical Capabilities:** Instruments developed under NAUTILOS were tested and demonstrated on platforms provided by sister projects like EuroSea and EUROFLEETS+, significantly improving the validation process and enabling real-world performance assessments.
- **Strengthened Data Integration:** Through engagement with [EMODnet](#) Chemistry and CMEMS, NAUTILOS contributed directly to the harmonization and ingestion of observational data into European marine monitoring frameworks. This ensures that project outputs remain accessible, interoperable, and useful beyond the project's lifetime.
- **Policy Influence and Advocacy:** NAUTILOS contributed to the development of three policy briefs and a Policy Strategic Agenda, endorsed under the UN Ocean Decade framework. The project co-organised a high-profile Policy Roundtable during The Ocean Race Grand Finale, contributing to global discussions on marine observation policy.
- **Citizen Science and Public Engagement:** The deployment of tools like the AlgaWarning App, the use of Zooniverse platform mobilized a wide community of non-specialists. These efforts were targeted at results towards democratization of the ocean science and increasing the ocean literacy.
- **Dissemination and Communication:** NAUTILOS achieved cross-project promotion through podcast features (e.g. AtlantECO), shared presence at key events (e.g. EMD, SeaTechWeek), and joint training modules with CLAIM and TechOceanS during the 2nd NAUTILOS Capacity Building Learning Lab in Crete. Sister project sessions increased awareness and amplified dissemination impact across audiences.
- **Innovation through Synergies:** By partnering with projects focused on marine litter, NAUTILOS helped advance harmonized methodologies and validation of innovative sensors. These collaborative efforts contribute to the standardization of marine litter assessments across Europe.
- **Institutional and Network Integration:** Through regular exchanges and data contributions (EMODnet Chemistry – plastic litter CS data), NAUTILOS embedded its results

within established European infrastructures such as JERICO-S3 and EMODnet, increasing the project's visibility and long-term value.

These outcomes showcase the strategic value of synergistic collaboration and position NAUTILOS as a key contributor to the European Research Area in the marine domain.

## 5. Conclusion

The synergies established through NAUTILOS have been instrumental in amplifying the project's scientific, technical, and societal impact across the European and global marine research landscape. By proactively aligning with complementary initiatives—ranging from EU-funded projects to UN-endorsed programs—NAUTILOS positioned itself as a central actor in the co-creation of knowledge, tools, and policy recommendations for ocean observation.

These collaborative efforts not only fostered innovation through joint technology development, data sharing, and multi-platform testing, but also facilitated meaningful stakeholder and citizen engagement. Through citizen science campaigns, training events, policy dialogues, and data integration with leading marine infrastructures (e.g., EMODnet, CMEMS, NAUTILOS ensured its outputs were relevant, accessible, and scalable. Also several NAUTILOS citizen science tools and sensors are expected to have post-project impact through adoption by partners and platforms. Notably, the smartphone NIR scanner is being considered for integration in school-based microplastic monitoring in Norway, and results from NAUTILOS are contributing to EMODnet's data curation workflows.

The project's contributions have already influenced policy agendas, harmonized observation methodologies, and empowered non-traditional actors to participate in ocean science. By embedding NAUTILOS results within long-standing scientific and monitoring frameworks, these synergies have laid a solid foundation for the long-term sustainability and legacy of the project.

In conclusion, NAUTILOS has not only delivered on its technical objectives but has also shaped a collaborative ecosystem that supports the future of integrated, inclusive, and impactful ocean observation in Europe and beyond.

While this report captures the most visible and documented synergies, NAUTILOS also benefited from numerous informal exchanges, short-term collaborations and exploratory meetings that although not all recorded in detail—contributed meaningfully to the project's network, visibility, and impact across the European ocean observation landscape. Also a future note on behalf of our project is that having a dedicated budget for joint demonstrations and shared outreach activities with sister projects could have significantly amplified our synergies and accelerated the mutual uptake of project results.

## APPENDIX 1: REFERENCES AND RELATED DOCUMENTS

Deliverable 10.7 has been developed following the provision outlined within the subsequent related documents:

ID	Reference or Related Document	Source or Link/Location
1	NAUTILOS Grant Agreement	NAUTILOS Team GDrive, SyGMA platform
2	D10.1 Outreach, Communication and Dissemination Strategy	NAUTILOS Team GDrive, SyGMA platform
3	D10.3 Policy Briefs	NAUTILOS Team GDrive, SyGMA platform
4	D10.4 Dissemination impact reports - 1	NAUTILOS Team GDrive, SyGMA platform
5	D10.6 Report on communication activities at key events	NAUTILOS Team GDrive, SyGMA platform
6	D10.8 Outreach, Communication and Dissemination Strategy 2	NAUTILOS Team GDrive, SyGMA platform
7	D10.9 Report on Citizen Science Campaigns (WP10)	NAUTILOS Team GDrive, SyGMA platform
8	D12.1 ESPCE report on collaborations and synergies	NAUTILOS Team GDrive, SyGMA platform
9	NAUTILOS website	<a href="https://nautilus-h2020.eu/news/">https://nautilus-h2020.eu/news/</a>