



Gathering more Knowledge for a Sustainable Use of the Ocean through a Multiplatform-Network approach based on cutting-edge Observing Technologies

WP3 – Network Integration and Improvement

Task 3.7

Autonomous Surface Vehicles (ASV) Network

1st Workshop (online)

October 5th – 6th, 2021

Europe with its long coastlines, many peninsulas, marginal seas, gulfs and bays is closely interlocked with the ocean. In times of sea-level rise and global warming, it is key to know exactly what processes take place around coastal and open-ocean areas. However, there are still major gaps in ocean-observing. An international consortium of 55 partners organized through the EuroSea project is set to improve this. EU funding of 12.6 M€ will enable this major collaboration effort. The project, coordinated by GEOMAR - Helmholtz Centre for Ocean Research Kiel, kicked-off in November 2019 for 50 months duration.

The EuroSea consortium partners are scientific institutions and non-public entities from 13 European countries, Brazil and Canada. In addition, intergovernmental organizations, and networks, such as the World Meteorological Organization (WMO), the Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO), the European Marine Board (EMB) and the European part of the Global Ocean Observing System (EuroGOOS) are supporting the project. Furthermore, partners from industry, involved in the development of ocean observing technologies and services beyond the project have been also engaged and are contributing.

Besides improving direct (or in-situ) ocean measurements, EuroSea focuses on the quality and usability of collective data, and on systems using the data for operational forecast services. To this end, the project is working closely with existing marine databases and data infrastructures to improve capabilities in these areas and facilitate efficient data exchange, in compliance with the FAIR standard (findable, accessible, interoperable, reusable).

The project builds on its predecessor AtlantOS which aims to establish an integrated Atlantic Ocean observing system to improve ocean observations for the entire Atlantic region. EuroSea will continue this project's work by focusing on the European seas, including the Mediterranean Sea, and its neighbours.

EuroSea wants to pave the way for a sustained ocean observing system that not only provides researchers, but also users such as fisheries, aquaculture, coastal protection, offshore energy generation and ultimately the public with the information they need and demand. In doing so, EuroSea contributes to the United Nations' Sustainable Development Goals, the UN Decade for Ocean Science for Sustainable Development, and the G7 Initiative Future of the Seas and Oceans.

Workshop Scope & Goals.

EuroSea is aiming to better use existing capacities in the European marine in-situ observing system, to fill existing gaps and to make the resulting data and information available to end-users, in support to EOOS (European Ocean Observing System) strategy led by EuroGOOS. In particular, the goal of its *WP3 (Network Integration and Improvement)* relies on gathering more knowledge for a sustainable use of the ocean through a multiplatform-network approach based on cutting-edge observing technologies like moorings, floats, gliders, HF-Radar, tide-gauges, ferrybox, etc.

Autonomous Surface Vehicles (ASVs) are unmanned platforms whose development and role in ocean monitoring applications has increased considerably in recent years. ASV technology is able to conduct a wide range of ocean-observing applications, that already engages an important community-members of developers, manufacturers, operators and end-users, although not yet recognized at European (EuroGOOS) or global level under the term "Network".

EuroSea would like to establish an international and multidisciplinary ASV-Network for a better coordination on innovation development, services and Best Practices (BP). This will improve ASV technologies at operational, data management and policy level, and will enhance the use of ASV data improving ocean observing products, their implementation and dissemination through existing EU data infrastructures.

Specific actions towards these general objectives are:

- 1) **ASV-Network definition and roadmap** addressed to cover current and future needs from users, including access to infrastructures, community roadmap monitoring, enhancement and partnership worldwide with the establishment of an **ASV User-Group**.
- 2) Improvements on **Standard Operating Procedures (SOP)** for derived BP implementation on operational protocols, data management, knowledge transfer, risk assessment, legislation, etc. in order to properly improve the ASV technology, contributing to the [EOOS implementation plan](#).

Organizers: Christoph Waldmann (MARUM, DE), Joao Sousa (LSTS-FEUP, PT), James Burris (NOC, UK), Carlos Barrera (PLOCAN, SP)

Draft Agenda

Oct 5th , 2021 (CET)

Morning Session

09:00 - Welcome
09:15 - EuroSea project overview
09:30 - 11:00 Filling an observational gap - perspective from industry and academia
11:00 - Break
11:15 - 13:00 ASVs mission scenarios, applications & synergies with other ocean-observing platforms

Afternoon Session

14:15 - 16:00 Industry Perspective on fleet management and safe operations
16:00 - Break
16:15 - 17:30 Expectations and requirements on ASV missions (Minimum sensor suite, etc.)

Oct 6st , 2021 (CET)

Morning Session

09:00 - 09:30 European Ocean Observing System (EOOS)
09:30 - 11:00 Digital Ocean & Autonomous Navigation
11:00 - Break
11:15 - 12:00 Best Practices and experience from previous ASV missions
12:00 - 13:00 Legal framework for ASV operations

Afternoon Session

14:15 - 16:00 ASV Data, Information & Services
16:00 - Break
16:15 - 17:00 ASV User Group / Network and Next Steps
17:00 - 17:15 Wrap up / Closing