

# EuroGOOS Annual General Assembly Meeting

21-23 May 2024

	<b>Tuesday 21 May</b>	<b>Wednesday 22 May</b>
<b>Morning, AM</b>	EuroGOOS GA Special Session	EuroGOOS GA Open Session
<b>Afternoon, PM</b>	EuroGOOS GA Open Session	EuroGOOS GA Open Session

# Agenda – Day 1

EuroGOOS Annual General Assembly Meeting  
21 May 2024  
**Open session**

## Open session on EuroGOOS activities

**Tuesday 21 May 2024, 14:30-18:00**

- |                      |  |
|----------------------|--|
| <b>14:30 - 14:35</b> | <b>1. Welcome and adoption of agenda</b> Henning Wehde   |
| <b>14:35 - 15:30</b> | <b>2. Office report on activities + Q&amp;A</b> Inga Lips, Deniz Karaca, Joseph Nolan, Dina Eparkhina, Alicia Blanco |
| <b>15:30 - 16:00</b> | <b>3. Report from the Executive Board of Directors + Q&amp;A</b> Henning Wehde                                       |
| <b>16:00-16:30</b>   | Coffee break   |
| <b>16:30-17:00</b>   | <b>4. Status of EOOS Strategy Implementation + Q&amp;A</b> Inga Lips   |
| <b>17:00-18:00</b>   | <b>5. Cross-cutting mapping of EuroGOOS Activities</b> Joseph Nolan  |

End of Day 1



# EuroGOOS Office report

## Reporting period from GA2023

EuroGOOS General Assembly  
21-23 May 2024

# Overview of activities from GA2023

Inga Lips



# Strategy

# 1

**STIMULATE**  
communities of practice.

Strengthen internal partnership  
Facilitate linkages  
Enhance cooperation  
Boost synergies  
Provide guidance

Prototype template for the EC for reporting ocean observing plans to enhance local, regional and pan-European collaboration in ocean observing.

EuroGOOS data policy to openly share core ocean data is signed by 31 Member Organisations.

Ocean Decade Implementing Partner to foster exchange and stimulate communities of practices along the value chain of marine knowledge.

# 2

**ADVOCATE**  
for coordinated and integrated  
European ocean observing and  
operational oceanography.

Strengthen science-policy dialogue  
Lead EOOS  
Guide system design  
Integrate observing and forecasting systems

CINEA tender to provide opportunities for better coordination in ocean observing.

EuroSea: a list of recommendations for networks, frameworks, Member States, and the EC to secure the sustainability of observations.

AMRIT: strengthen coordination of European marine RIs.



# 3

**STRENGTHEN**  
and expand partnerships.

Stimulate knowledge transfer  
Facilitate cooperation among  
broader community

Regular communication with different DGs of the European Commission (DG MARE, DG RTD, DG ENV).

Discussions with the World Ocean Council were initiated.

New partnerships through projects involved are to be created (BioEcoOcean, ObsSea4Clim).

Two new member applications were received – +ATLANTIC CoLAB and Met Éireann.

Introducing the idea of a Black Sea regional collaboration under EuroGOOS through the DOORS project.

Facilitation of the EOOS governance bodies (SG and OC).

Support the work of EuroGOOS Task Teams.

## **PROMOTE**

sustainability across the  
value chain of operational  
oceanography and ocean  
observing.

# 4

Establish links with national funders  
Support national coordination  
Demonstrate value of observations  
Advocate long-term commitment

## **MOBILISE**

the public on the  
importance of the ocean  
and oceanographic services.

# 5

Co-design promotion materials  
Organise events to engage with  
policy makers

10th EuroGOOS International Conference  
highlighting the whole value chain of operational  
oceanography and ocean observing.

Communication efforts – presentations, panels  
and exhibition stands at various events.

EuroSea Legacy Report addressing the full marine  
knowledge value chain.

Regular interactions with stakeholders and the  
European Commission via bilateral or broader  
meetings.

OL WG activities in UN OD project Scientists for  
Ocean Literacy.

Youth engagement and ocean literacy (DOORS).

Involvement in the EC's ocean literacy initiative  
EU4Ocean coalition – public exhibition for the  
World Ocean Day 2023 and a showcase at the  
European Ocean Days in Brussels.

# Internal integration

## EuroGOOS Activities – ROOS, TT, WG

The Office continues to facilitate integration of EuroGOOS activities in coordination with the Science Advisory WG and Board.

Work plans were collected from Task Teams and Working Groups in early 2024, with work ongoing to identify synergies and potential joint activities.

### INTEGRATION WORKSHOP 3-4 MAY 2022

#### MANY ACTIONS STILL NOT COMPLETED

- Webinars stopped – Office staff capacity in 2023 + low interest from community.
- Joint meetings between different Activities not held.





# Members

# EuroGOOS Members





# EU Projects

# EuroGOOS in EU projects



**EuroSea**  
2019-2023



**JERICO DS**  
SCIENCE - SERVICES - SUSTAINABILITY  
2020-2024



**JERICO S3**  
SCIENCE - SERVICES - SUSTAINABILITY  
2020-2024



**DOORS**  
BLACK SEA  
2021-2025



**eosc**




**Blue-Cloud2026**  
A federated European FAIR and Open Research Ecosystem  
for oceans, seas, coastal and inland waters  
2023-2026



**FOCCUS**  
2024-2026



**Bio Eco cean**  
2024-2028



**Obs Sea Clim**  
OCEAN OBSERVATIONS  
AND INDICATORS FOR  
CLIMATE AND ASSESSMENTS  
2024-2028



**AMRIT**  
2024-2028

CINEA/EMFAF/2021/5.4.9



**All Ocean Obs**  
Study for reporting obligations for Ocean Observation

2022-2023

**European Environment Agency**  
2020-2023  
2023-2024




**#EU4OCEAN**

2022-2025





# International Cooperation



**10<sup>th</sup> EuroGOOS International  
Conference**  
3-5 October 2023  
Galway, Ireland

# 10<sup>th</sup> EuroGOOS International Conference



- ✓ Over 160 participants
- ✓ 80 oral presentations and 20 posters
- ✓ High-level plenary sessions dedicated to the UN Ocean Decade, Digital Twin Ocean, European Ocean Observing System, and Future of Operational Oceanography



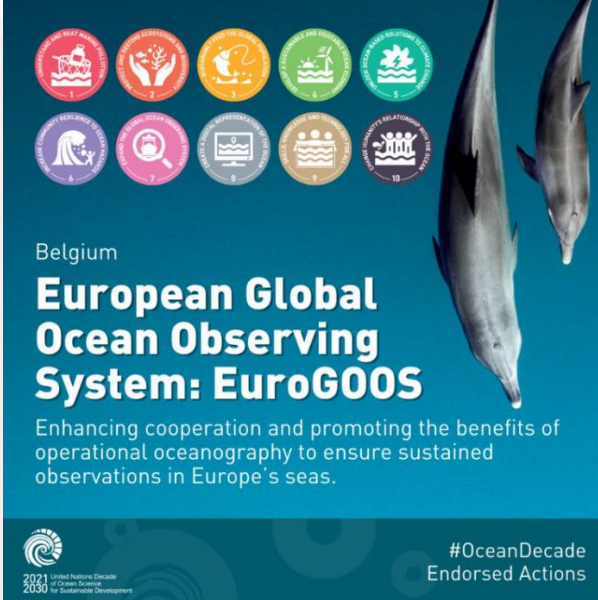
# UN Decade of Ocean Science



# The Decade Actions contributed/endorsed



## Decade Implementing Partner



Belgium

### European Global Ocean Observing System: EuroGOOS

Enhancing cooperation and promoting the benefits of operational oceanography to ensure sustained observations in Europe's seas.

#OceanDecade  
Endorsed Actions

## Supporting Ocean Prediction DCC



Connecting the world around ocean forecasting

Ocean Prediction

9 Regional Teams

building a community to develop, implement, and exploit advanced ocean forecasting systems worldwide

- West Pacific & Marginal Seas of South and East Asia
- North East Atlantic
- Indian Seas
- Arctic
- South and Central America
- African Seas
- Mediterranean & Black Sea
- North America
- Antarctica

## Organising the EOOS TF 2024



13 March 2024 Oceanology International London, UK

### EOOS Technology Forum 2024

CATCHING THE MOMENTUM IN OCEAN OBSERVING TECHNOLOGY: OPTIMISING VALUE AND DATA PROVISION

EuroGOOS CERICO Ifremer OGS SMHI DOOS

## Conference in 2023



Organised by: EuroGOOS Forás na Mara Marine Institute

### 10<sup>th</sup> EuroGOOS International Conference

3-5 Oct 23 Galway, Ireland

European Operational Oceanography for the Ocean we want – addressing the UN Ocean Decade Challenges

## Leading a Decade Project

**SCIENTISTS FOR OCEAN LITERACY (OCEANOGRAPHERS AND METEOROLOGISTS FOR OCEAN LITERACY)**

## White paper



### SciNMeet

Science We Need  
for the Mediterranean Sea  
We Want



# Facilitating collaboration in the Arctic

# Facilitating Collaboration in the Arctic



ONLINE WORKSHOP

## Ocean and sea ice forecasting in the Arctic

*Co-organised by EuroGOOS' Arctic ROOS and the Arctic  
Regional Team of the OceanPrediction DCC*

17-18 January 2024 • 13:00 - 17:00 CET



THE TASK TEAM IS CHOSEN BY SAON AND GLOS.  
Responsibility, User focus, Sustainability and Technology (Trust) principles.





# Representation of EuroGOOS



# Representing EuroGOOS in international and European initiatives and at events



EuroGOOS – IOC GOOS  
GRA Council and Forum  
Arctic GRA facilitation



Decade Implementing Partner  
CoastPredict  
SciNMeet  
OLWA  
Ocean Predictions DCC  
Ocean Observations DCO



Co-Organiser



EU OO Awareness Campaign  
G7 FSOI Coordination Centre



Collaborations with third countries in the Black Sea



WS: Coordination,  
and Sustained  
Funding for the  
Observing System



# Representing EuroGOOS at UN Ocean Decade Conference

## 2024 OCEAN DECADE CONFERENCE

DELIVERING THE SCIENCE WE NEED FOR THE OCEAN WE WANT 10-12 APRIL 2024 BARCELONA, SPAIN

As part of the Ocean Decade Week (8-12 April 2024)

## BEYOND CLIMATE CHANGE

### SUSTAINED OBSERVATION IN SUPPORT OF THE BLUE ECONOMY

9th of April, 11h30 CET, Auditorium of the Natural Sciences Museum of Barcelona



**Moderator**



**Sérgio Bryton**  
EuroOcean,  
Executive Director



**Gabriele Pieri**  
ISTI | CNR,  
Nautilus Coordinator



**Inga Lips**  
EuroGOOS,  
Secretary General



**Vicente Fernández**  
EMODnet,  
Senior Scientific Officer



**Antonio Novellino**  
ETT SpA,  
Research Manager



**Juanjo Dañobeitia**  
CSIC, Professor  
of Marine Geophysics

## 2024 OCEAN DECADE CONFERENCE

DELIVERING THE SCIENCE WE NEED FOR THE OCEAN WE WANT 10-12 APRIL 2024 BARCELONA, SPAIN

As part of the Ocean Decade Week (8-12 April 2024)

## Diving from local to global Ocean Literacy:

Exploring, sharing and developing successful practices to know, feel and join the living Ocean

Tuesday, April 9, 11:30-13:30  
Institut de Ciències del Mar (ICM) – Sala d'actes Ramon Margalef  
37 Passeig Marítim de la Barceloneta, Barcelona



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DELIVERING THE SCIENCE WE NEED FOR THE OCEAN WE WANT 10-12 APRIL 2024 BARCELONA, SPAIN

As part of the Ocean Decade Week (8-12 April 2024)

## TOWARDS THE ARCTIC OCEAN WE WANT

11 April, 13.15-14.45 On Site: Pacific Ocean



Towards the integrated Ocean Science we need for the Arctic Ocean we want

**Panel discussion with:** Adrian Lema, National Ocean Decade Committee of Denmark, Greenland, Faroe Island, Heidi Marie Kassens, IASC Marine Working Group, Joseph Nolan, EuroGOOS, Arctic ROOS, Larry Mayer, National Ocean Decade Committee of US, Enooyaq Sudlovenick, University of Prince Edward Island, Arild Sundfjord, National Ocean Decade Committee of Norway and moderator Siri Carson.

## PANEL: Ocean Literacy in Science

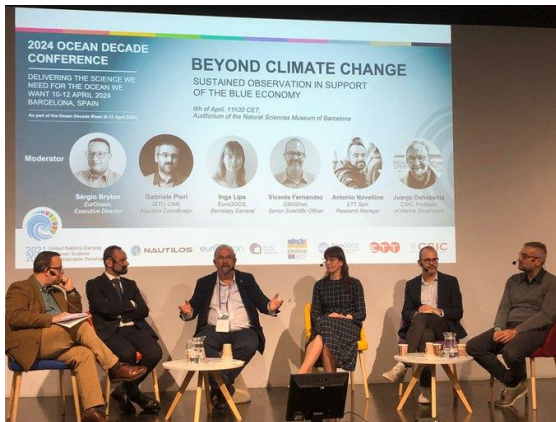


Moderated by  
**Jospe Lluís Pelegrí Llopert**  
ICM-CSIC

Ocean science is often viewed as a difficult topic that is accessible only to researchers that hold complex concepts and use specialized techniques, following the so-called scientific method. Is "Ocean science" really inaccessible to the general public? Or may we endorse the simple yet powerful idea that any creative approximation to Nature is "scientific"? In this session we will debate with four marine and social scientists that will explore these questions by sharing their experiences on how to integrate natural and traditional knowledge, and on how to promote ocean literacy not only for the general public but also among scientists, stakeholders and funding agencies.



**Dina Eparkhina** EuroGOOS  
**Carmen Garcia** IEO-CSIC  
**Donata Canu** OGS  
**Silvia Gomez** UAB



## EuroGOOS Office representation at Global Panels

Panel	Scale	EuroGOOS staff member	Role
GOOS Regional Alliances Council	Int'l	Inga Lips	Member
IOC Electoral Group 1	Int'l	Inga Lips	Observer
UN OD Programme CoastPredict Advisory Committee	Int'l	Inga Lips	Member
UN Ocean Decade Programme SciNMeet Ocean Literacy and Capacity Building Task Teams	Int'l	Dina Eparkhina	Member
GEO Blue Planet Ocean Communicators United	Int'l	Dina Eparkhina	Member
Ocean Observers Working Group	Int'l	Dina Eparkhina	Member
UN Ocean Decade Ocean Acidification Research for Sustainability" (OARS) programme WG on outreach & engagement	Int'l	Dina Eparkhina	Member
GOOS-SAON Task Team to Advance the Development of an Arctic GRA	Int'l	Joseph Nolan	Member



# Communication

Alicia Blanco

**Twitter**

**7,075 followers**

▲ 200

It is the largest social network

**LinkedIn**

**1,280 followers**

▲ More than 500

A campaign has been carried out to boost posts on this social network, and it has had good results, offering more information than on Twitter

**Website**

**44,000 users**

▲ Visits tripled

The importance of providing information about EuroGOOS and its members is clear, which is why work is underway to revamp the website, with considerable delays

**Newsletter**

**264 contacts**

▲ 6

It is the most time-consuming, especially for news compilation. I would like to encourage members to share your activities, thanks to your contributions and communication we can together reach more people and spread the information on a wider scale

### **Campaign #1: EuroGOOS Core & Ocean Literacy**

- Core activities
- Regions
- WGs
- Task Teams

### **Campaign #2: European projects & initiatives**

- AMRIT
- BioEcoOcean
- Blue-Cloud 2026
- Copernicus
- DOORS
- Etc.

### **Campaign #3: Members and stakeholders news**

- Activities
- Achievements
- White papers
- Events
- Good practices
- Etc.

• Website

• Newsletter

• Social media

• Mailing

• Events



# Office







# Office Work Plan 2024

# Office work plan 2024 - high-level

Action	Date	Comment
Membership expansion and engagement strategy Member benefits	2024	<b>To be developed with ROOS Chairs and Board</b>
Roadmap to expand the EuroGOOS scope towards operational observations and services for climate and ocean health	2024	<b>SAWG and ROOS input is needed</b>
Develop a plan to advocate and facilitate the development and use of operational oceanography technologies in climate and ecological services	2024	Was supposed to be developed with the help of TP WG and Integration WS 2022
EuroGOOS GA	21-23 May	
Develop EOOS	2024	According to the Implementation Plan and resources
Support EuroGOOS Activities	2024	ROOS, TT, WG – according to the plans/roadmaps/resources
Represent EuroGOOS community at events	2024	Deliver agreed messages
Engage and inform community on OD activities	2024	Ocean Decade Implementing Partner
Complete tasks/implement EG strategy via EU projects	2024	DOORS, BC2026, FOCCUS, BioEcoOcean, ObsSea4Clim, AMRIT



# EuroGOOS Activities and Projects

Deniz Karaca Halén

# Working Groups, Task Teams, ROOS

# Working Groups

## 1. Biological Observations : Deniz Karaca Halén

- Recommendations for the use of molecular tools (eDNA) and observing techniques and platforms
- Protocols on molecular and imaging tools

## 2. Coastal : Deniz Karaca Halén

- White paper “EuroGOOS roadmap for operational coastal downstream services” (July 2023)
- Acting as a focal point for the OceanPrediction DCC NE Atlantic Regional Team

## 3. DataMEQ : Dina Eparkhina

- New EuroGOOS data policy adopted
- Data policy published in OBPS & promoted at BlueCloud 2026 Webinar by Thierry Carval, EuroGOOS Int'l

## 4. Ocean Literacy : Dina Eparkhina

- Engagement at the Ocean Race grand finale, sessions at EuroGOOS Int'l, UN Ocean Decade Conference
- Abstracts submitted to EMSEA, OceanPredict, CommOCEAN

## 5. Science Advisory : Joseph Nolan

- Two online meetings since 2023 GA, the role of the SAWG and the best way to develop its activity
- Identifying opportunities for collaborative activities between other EuroGOOS WGs and TTs

## 6. Technology Plan : Joseph Nolan

- EOOS Technology Forum 2024, Oi London
- Catching the momentum in ocean observing technology: optimising value and data provision

# Task Teams

## 1. **Argo:** Joseph Nolan

- Continuing to define activity to support institutions that are not (yet) members of the Euro-Argo ERIC, with the ERIC office.

## 2. **FerryBox:** Deniz Karaca Halén

- Organising 12<sup>th</sup> FerryBox Workshop in Helsinki (1-2 October 2024), new Co-Chair-Anna Willstrand

## 3. **Fixed Platforms :** Joseph Nolan

- Online meeting in May 2024, working to develop new activity, change in core management

## 4. **High Frequency Radar :** Deniz Karaca Halén

- Online meeting in January 2024, organising specific technical workshops

## 5. **Glider :** Dina Eparkhina

- Co-organizing the International Underwater Glider Conference (10-14 June 2024)

## 6. **Tide Gauge :**

- The Copernicus Sea Level REProcessed product updated (Nov 2023) - paper published <https://egusphere.copernicus.org/preprints/2023/egusphere-2023-733/>

# ROOS



## ArcticROOS

EuroGOOS Arctic Regional  
Ocean Observing System

- GA–May 24, Bergen
- co-organiser of Arctic Observing Summit (ASSW)
- sessions at UN Ocean Decade
- towards a pan-Arctic ocean observing alliance



## BOOS

EuroGOOS Baltic Regional  
Operational Oceanographic System

- GA–May 24, Copenhagen
- 12 WG (AI CWG)
- stakeholder outreach and industrial
- Jerico S3, FOCCUS



## IBIROOS

EuroGOOS Ireland-Biscay-Iberia  
Regional Operational Oceanographic System

- GA-June 23 & GA–May 24, online
- updated MoU for the EuroGOOS Data Policy
- Luisa Lamas, new Co-Chair



## MonGOOS


- GA v OceanPrediction DCC– November 23, Tangier & October 2024, Malaga
- EGU 2024
- survey on in-situ dataset for the assimilation and validation by Copernicus Marine Service



## NOOS

EuroGOOS North West European Shelf  
Operational Oceanographic System

- GA –September 23, Bergen & GA–October 2024, Copenhagen
- 2 new members: NORCE & Met Eireaan
- advancing NOOS Strategy 2030



# EuroGOOS projects completed in 2023-2024 and ongoing



# Overview of projects June 2023 – May 2024

Completed	Team	Ongoing	Team
EEA COINS 2 <sup>nd</sup> service	<i>Vicente, Inga</i>	Jerico S3	<i>Inga, Vicente, Virginie, Joseph</i>
All Ocean Obs	<i>Joseph, Inga, Vicente, Dina, Alicia</i>	EEA COINS 3 <sup>rd</sup> service	<i>Virginie, Inga</i>
EuroSea	<i>Inga, Dina, Vicente, Deniz, Alicia, Joseph</i>	DOORS	<i>Dina</i>
Jerico DS	<i>Inga, Vicente</i>	EU4Ocean	<i>Dina, Alicia</i>
		BlueCloud 2026	<i>Deniz, Vicente, Alicia, Inga</i>
		FOCCUS ( <i>Lump sum</i> )	<i>Inga, Virginie</i>
		AMRIT ( <i>Lump sum</i> )	<i>Inga, Joseph, Alicia</i>
		ObsSeaClim	<i>Joseph, Inga</i>
		BioEcoOcean	<i>Deniz, Inga, Alicia</i>



# Completed projects



2<sup>nd</sup> Service Contract: May 2022 – July 2023

## EEA COINS (Copernicus Observations In Situ Networking and Sustainability)

**WP lead on Marine Regional and Coastal Services** and ocean thematic leader on the **Copernicus In Situ Component Information System (CIS<sup>2</sup>)**

**IFREMER** and **SMHI** were engaged to contribute to the comparison of the differences *in situ* platform data available in Copernicus Marine In Situ TAC and EMODnet and to put in place an automatic harvesting of CTD vessels observations in the Baltic Region, respectively.

EuroGOOS also co-organised with Mercator Ocean International an **online workshop to update the Copernicus Marine requirements for the *in situ* observing system (14-15 September 2023)** - TACs/MFCs representatives, EuroGOOS ROOSes/Task-Teams representatives, and ERICs attended and presented → Report with recommendations (in preparation)

# All Ocean Obs (CINEA tender) Study for reporting obligations for ocean observations

August 2022 - December 2023

**Consortium:** EuroGOOS, Partners: ICES, SSBE, SMHI, SHOM, ETT, GEOMAR

## Linked to EC initiative ‘Ocean observing – sharing responsibility’

Project developments are being closely followed by DG MARE and other DGs.

Outputs from the project may potentially be tools for the future implementation of the EC initiative.

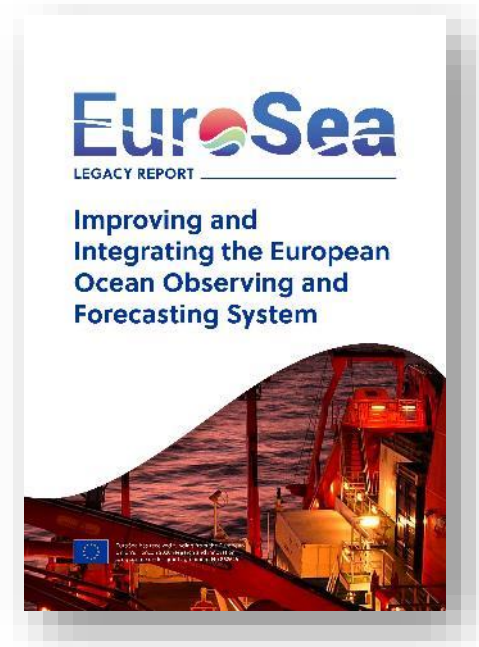
## EuroGOOS deliverables and contributions:

- **Prototype template for reporting of ocean observing campaign plans**, with instruction manual. Close coordination with developers (ETT) of online portal for template implementation and visualisation.
- Report on the scope of reporting template, and recommendations for scaling up of adoption.
- **Project dissemination**, including branding, communication plan, and EMD event. Dissemination activities were curtailed from the original plans following the direction of DG MARE.
- Extensive planning input and co-organisation of stakeholder mapping, engagement and consultation workshop (led by Seascape Belgium)

Final public report available: [https://cinea.ec.europa.eu/publications/study-reporting-obligations-ocean-observation\\_en](https://cinea.ec.europa.eu/publications/study-reporting-obligations-ocean-observation_en)

## WP Co-leads on: Governance and Coordination of ocean observing and forecasting systems & Communication – Engagement, Dissemination, Exploitation, Legacy

- Sustainability of European ocean observations - list of **recommendations**. A white paper in review.
- Gap analysis of the European ocean observing and forecasting system - scoring to evaluate system readiness level. Scientific paper submitted.
- Oversight of exploitation and knowledge transfer activities.
- Impact monitoring report including impact web pages and a comprehensive registry of impacts.
- EuroSea Legacy Report, circulated widely to policymakers and directors of the institutions - partners in EuroSea.



WP1 June 2023 – December 2023: **2.63 PM**

WP8 June 2023 – December 2023: **0.85 PM**

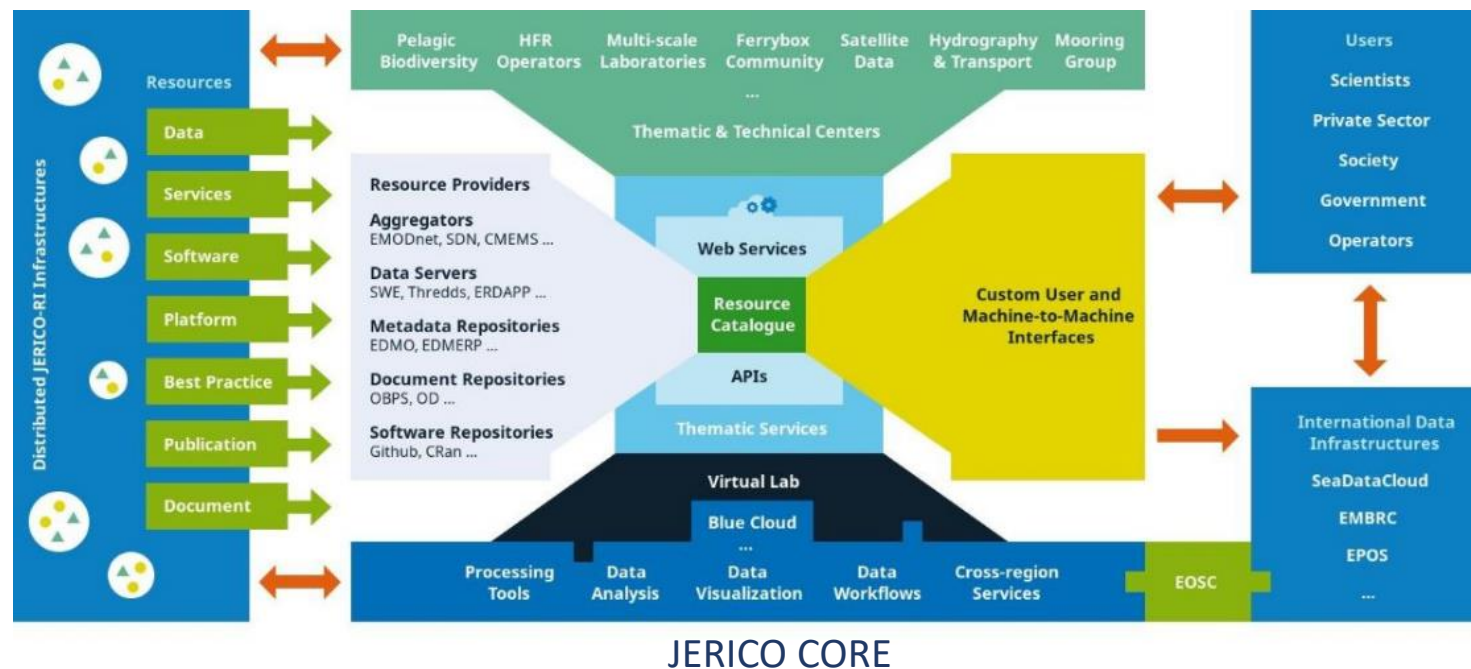
1 October 2020 - 31 January 2024

## WP4: Sustainability

Contributions to the Deliverables:

D9.2 User engagement strategy plan with metrics to assess user satisfaction/expectations

D9.3 JERICO Business Plan





# Ongoing projects

Finalising two deliverables:

**WP2: “Planned Joint International Activities”** focused on the **interactions with non-European OOS** and JERICO to demonstrate the synergies, needs and achievements for continued collaboration around common issues of technological and societal concern.

**WP9: “Common action plans with other RI initiatives and one with EOOS for the future”** focuses on fostering cooperation and coordination with existing European RIs to foster interoperability and synergies for contributing to a comprehensive European RI service provision and implementing the EOOS.







**3<sup>rd</sup> Service Contract: August 2023 – September 2024**

## **EEA COINS (Copernicus Observations In Situ Networking and Sustainability)**

### **3<sup>rd</sup> Service Contract**

The **Office has engaged all EuroGOOS ROOSs** to contribute to the **inventory of historical *in situ* datasets** information for CMEMS reanalysis. For this, a questionnaire of historical (1950-2010) metadata information suited for assimilation and product validation of the time-prolonged CMEMS reanalysis products was prepared and distributed to the ROOS members. **All ROOS gain financially by contributing to this task.** All the obtained information is compiled into a report.

Our Member FMI (Laura Tuomi) is engaged to contribute to a deliverable: An **updated version of the CIS2 database.**

Implementation Black Sea SRIA, framework for Blue Economy, key programmes - System of Systems, Blue Growth Accelerator, and Knowledge Transfer and Training

**WP8** -Stakeholder Engagement and Legacy

- Engagement with marine ERICs
- Coordination of DOORS Ocean Literacy Network
- Co-organisation of the DOORS Stakeholder Conference ‘Black Sea Futures: Science, Prosperity, and People’





# EU4Ocean -CINEA tender



December 2022 – November 2025

Flagship European Union initiative to improve citizen's awareness of the importance of the ocean and promote co-design of solutions

**WP4** - EU4Ocean coalition – thematic focus and results

**WP5** - Advocacy Campaigning and high visibility actions

**WP6** - Robust, professional and independent communication

- World Ocean Day at Talk CEC art space (June 2023, Brussels)
- Booth at the European Ocean Days in Action (March 2024, Brussels)



January 2023- June 2026

Evolution of its pilot ecosystem into a Federated European Ecosystem to deliver FAIR & Open data, analytical services, instrumental for deepening research of oceans, EU seas, coastal & inland waters.

eOSC for open web-based science, federated environmental RIs to improve & optimise services

**WP6: Training Academy:** Webinars on FAIR data principles:

FAIR Data Principles 1: Foundational components, best practices and standards – September 2023

Making Marine Data FAIR: FAIR Assessment of Marine Data & Information – April 2024

**Highlight:** Blue-Cloud Data Lakes and DTO development, 1<sup>st</sup> report

June 2023 – May 2024: **1.82 PM**





**FOCCUS (Forecasting and observing the open-to-coastal ocean for Copernicus users)**

January 2024 - December 2026 (lump sum project)

**FOCCUS aims to design and demonstrate the feasibility of a platform for the integration of Copernicus Marine Service products** with European coastal monitoring and forecasting systems developed at the national and local levels.

**EuroGOOS office (together with the Coastal WG) leading a task on performing an Inventory of Member States operational coastal forecasting systems.**



## AMRIT (Advance Marine Research Infrastructures Together)



March 2024 – February 2028 (lump sum project)

AMRIT gathers marine ERICS, ESFRI landmarks and projects together to consolidate and harmonise the complex landscape of marine research infrastructures in Europe.

AMRIT will develop various operational tools and services, sustained in an **EOOS Technical Support Center (EOOS TSC)**

### EuroGOOS role:

- **Stakeholder input to design of tools and services developed**, particularly through engagement of ROOSs.
- **Promoting uptake of AMRIT tools and services**, including through trainings developed with technical develops in the project.
- **Organisational design of the EOOS Technical Support Centre** to sustain the legacy of AMRIT, including with technical maintenance of tools and services, and a helpdesk for users.



## Ocean observations and indicators for climate and assessments

February 2024 - January 2028

### Aims

- Improve sustained and multipurpose observations vital to European and global climate requirements,
- Deliver an improved observation framework based on EOV/ECVs and embedded in a Rolling Review of Requirements approach,
- Improve regional and global climate assessments, and
- Provide projections and actionable indicators for sustainable development provided.

### WP6 - EuroGOOS role

**Clustering of activities** with other projects funded through the same call (BioEcoOcean and tbc BGC EOV project), to form a 'European EOV network', with the projects' **legacy** potentially sustained within the existing framework of EuroGOOS WGs.

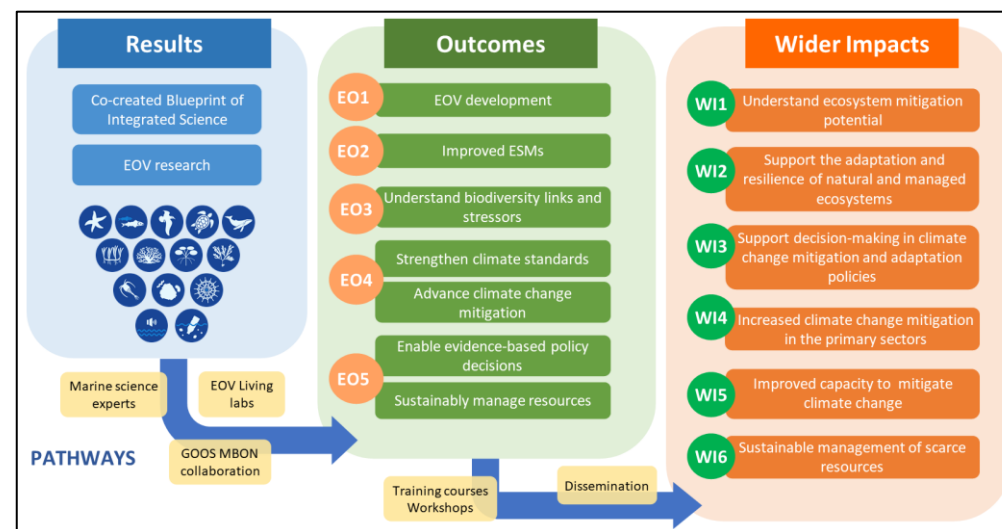
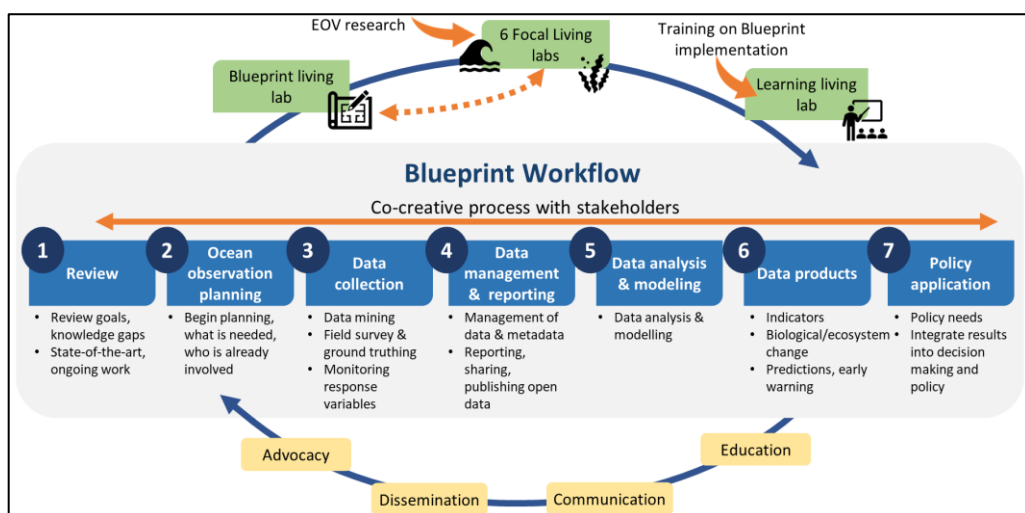


# Co-Creating Transformative Pathways to Biological and Ecosystem Ocean Observations

February 2024 - January 2028

Co-create a comprehensive, fit-for-purpose, and inclusive **Blueprint for Integrated Ocean Science (BIOS)** and improve the implementation and usage of EOVs for biology and ecosystems

## WP6 Lead – impact monitoring and cross-domain integration





# Proposals

## **EuroGOOS Office participated in the preparation of the following proposal:**

### **AMRIT C2**

#### **Advance Marine Research Infrastructures Together - Command and Control**

Coordinator: ENSTA-B

Partners: 25 Partners, including 7 EuroGOOS members (CNR, CNRS, Ifremer, NOC, PLOCAN, SOCIB, UK Met Office)

Budget: € 10 M (total), € 252 725,00 (EuroGOOS)

EuroGOOS is engaged in work packages on Management, Dissemination and User Engagement (Communication Strategy and Outreach; User Communities Engagement; Liaison with European and national initiatives), EOOS-C2 Requirements Co-design (User group identification and users requirements; Forecasting the future trajectory of EOOS), and Uptake by different categories of operators and Standard Operating Procedures (EOOS-C2 Academic Training; EOOS-C2 Engineering Training; EOOS-C2 Societal Training).





# Report from the Executive Board of Directors

Henning Wehde  
Chair, EuroGOOS

[EuroGOOS](#) > Executive Directors Board

## Executive Directors Board

The Executive Directors Board is appointed by the General Assembly and includes the following members:

**Henning Wehde**  
Chair, Institute for Marine  
Research (IMR), Norway



**Holger Brix**  
Vice-chair, Helmholtz-Zentrum  
Hereon, Germany



**Corine Lochet**  
Member, Service  
hydrographique et  
océanographique de la marine  
(SHOM), France



**Giovanni Coppini**  
Member, Euro-Mediterranean  
Center on Climate Change  
(CMCC), Italy



**Enrique Alvarez Fanjul**  
Member, Mercator Ocean  
International, France



**Ghada El Serafy**  
Member, Deltares, The  
Netherlands



**Carlos Fernandes**  
Member, Hydrographic  
Institute, Portugal



# EuroGOOS Strategy Implementation

## 1 STIMULATE

communities of practice.

- Strengthen internal partnership
- Facilitate linkages
- Enhance cooperation
- Boost synergies
- Provide guidance

## 2 ADVOCATE

for coordinated and integrated  
European ocean observing and  
operational oceanography.

- Strengthen science-policy dialogue
- Lead EOOS
- Guide system design
- Integrate observing and forecasting systems

## 3 STRENGTHEN

and expand partnerships.

- Stimulate knowledge transfer
- Facilitate cooperation among  
broader community

## 4 PROMOTE

sustainability across the  
value chain of operational  
oceanography and ocean  
observing.

- Establish links with national funders
- Support national coordination
- Demonstrate value of observations
- Advocate long-term commitment

## 5 MOBILISE

the public on the  
importance of the ocean  
and oceanographic services.

- Co-design promotion materials
- Organise events to engage with  
policymakers



## EuroGOOS Executive Directors Board

- Conducted 8 meetings since the last Annual Assembly and 31 in total in my period a Chair
- Enhancing the collaboration with the surrounding world such as EG contribution to Ocean Decade
- Discussing strategic prioritisation focussing the work on essential activities
- Discussion and work on the actions from the last Assembly

- Following the office work and issues
  - providing feedback and advice on main priorities and development in activities
  - Information and feedback on staff development in the office
  - Several meeting on challenges related to the Office working environment
  - Discussion on the financial status and outlook for the time ahead
  - Update and feedback on the Core and project activities in EG office, incl discussion on the involvement of the EG office in calls for proposals/project
  - EuroGOOS Conference
  - Discussion on the preparation of meetings such as the annual Assembly, Chairs/board meetings and reflection of/feedback on those

## Concluding remarks since my term as Chair is ending this year

- I want to thank all the Members for their confidence and for giving me the opportunity to serve EuroGOOS.
- I also want to thank the Secretary General Inga and all the Office personnel for their support, commitment and their hard work and enthusiasm
- I want to thank the Board members and the TTs, WGs and ROOSs Chairs for their active role in steering EuroGOOS
- I will continue my service and support to our EuroGOOS in the coming years as a Member representative.



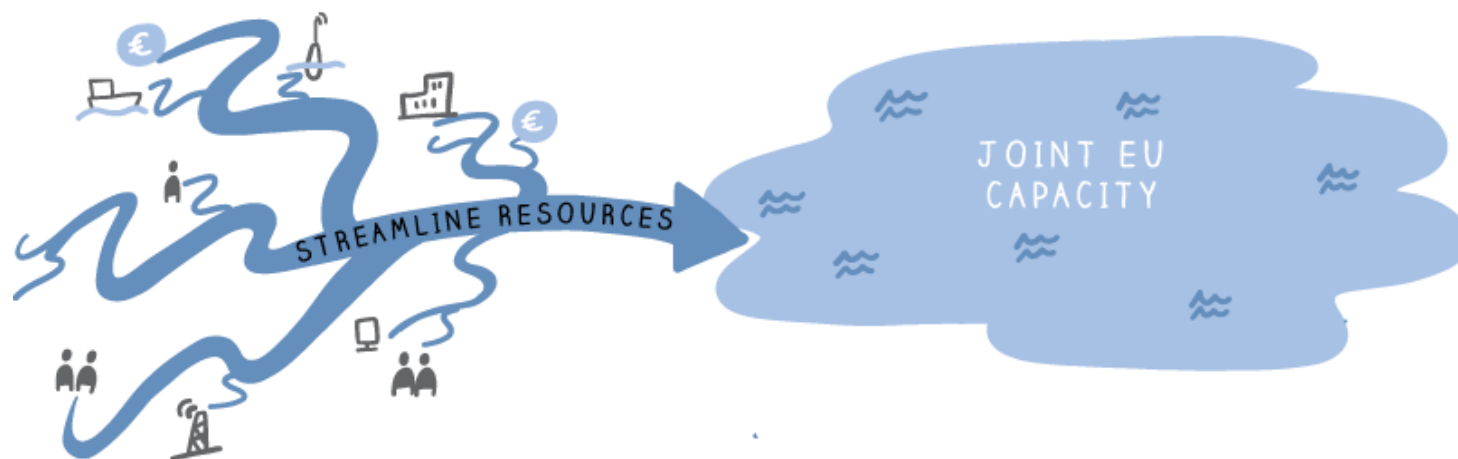
## Concluding remarks continued

- During my period as chair issues were arising which needed a lot of focus a
  - Member fee contribution
  - Office working environment
- Challenges in general to progress with important development
- How Ease/enable the contributions from members/transition towards the new needs
- Proposing a change of way in Chairing, to facilitate more progress
  - Implementing a co chair instead of continuing as usual
  
- I am looking forward to meet in person with all of you at one of our EuroGOOS events.



**EuroGOOS**

European Global Ocean  
Observing System



@EuroGOOS

[info@eurogoos.eu](mailto:info@eurogoos.eu)

[www.eurogoos.eu](http://www.eurogoos.eu)



# Status of EOOS Strategy Implementation

Inga Lips  
Secretary General, EuroGOOS



European  
Ocean  
Observing  
System

# Implementing the European Ocean Observing System

## Status of EOOS Strategy Implementation

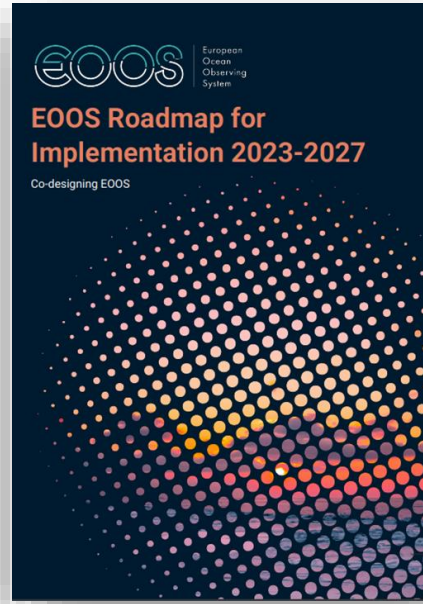
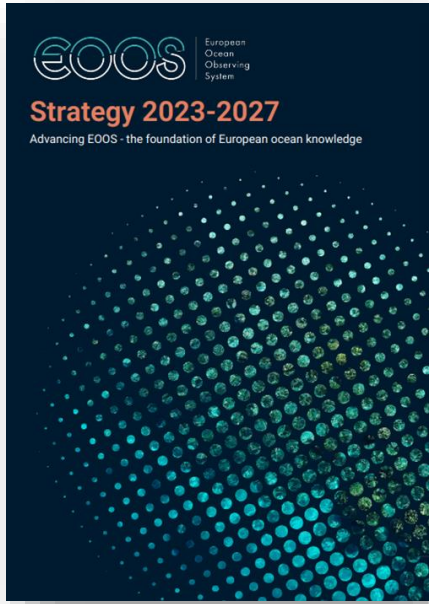
Inga Lips

EuroGOOS Annual General  
Assembly Meeting  
Tuesday, 21 May 2024

# EOOS Strategy 2023-2027

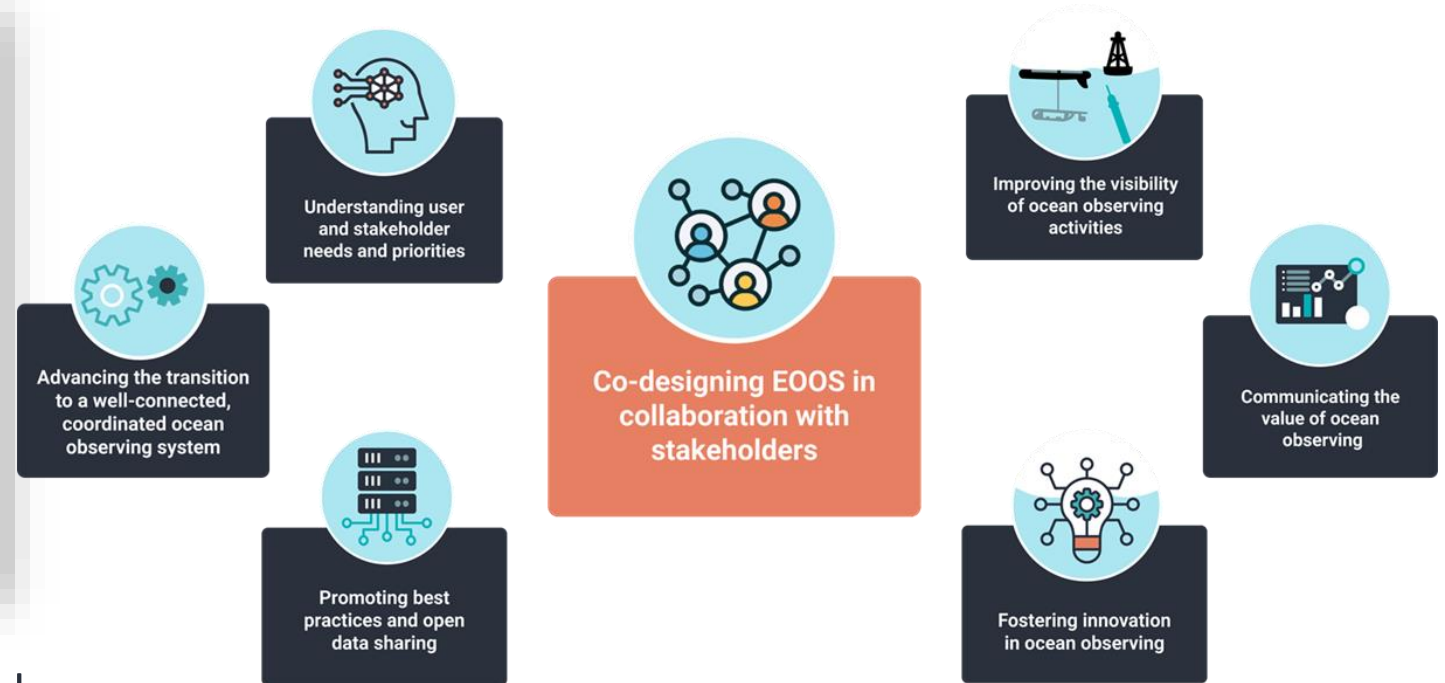


## Advancing EOOS Co-designing EOOS

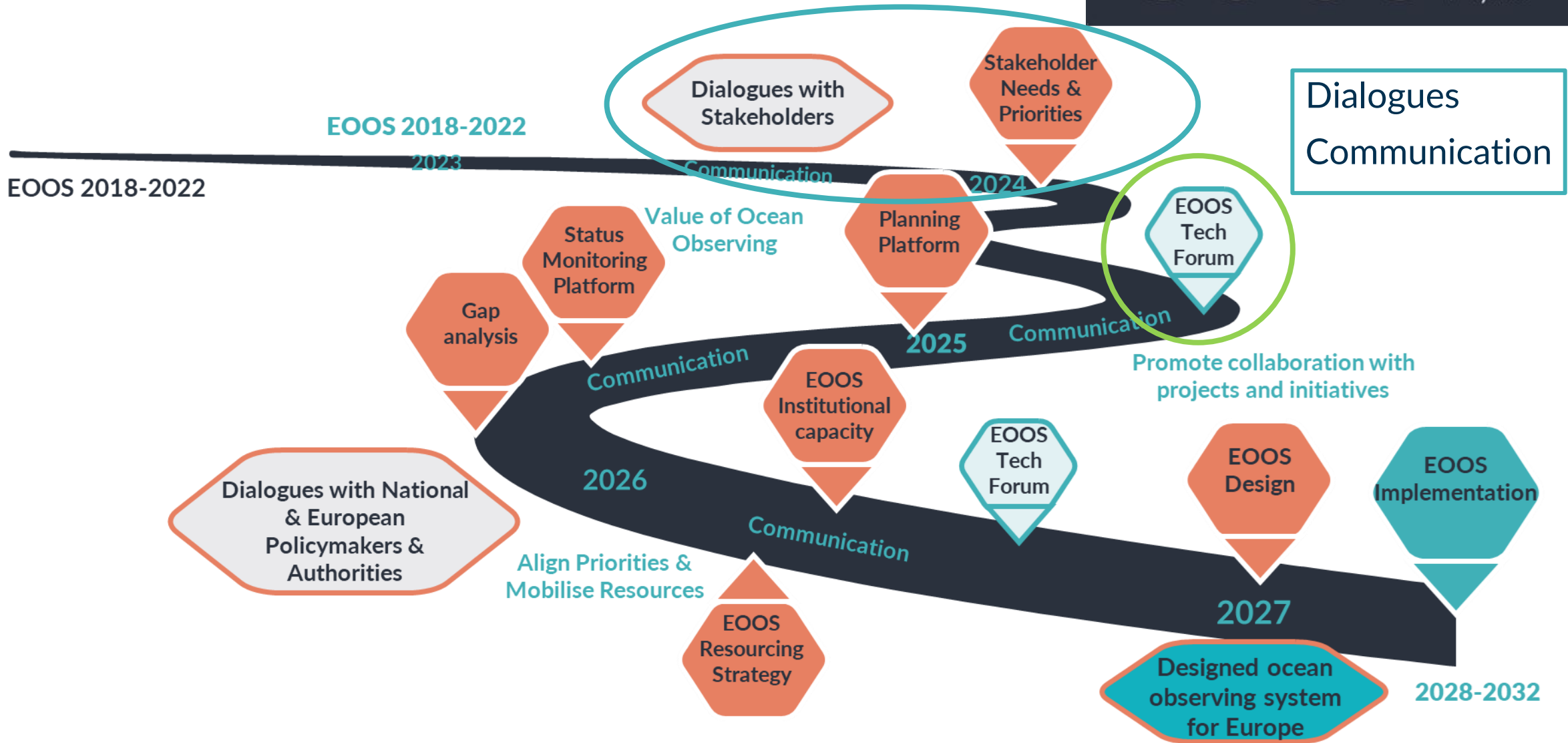


**EOOS** is the infrastructure, platforms, sensors, and people that gather essential data and information about Europe's ocean, seas, and coastal waters

**EOOS Framework** as a collaborative structure



# Roadmap for Implementation





## Activity 2 Understanding user and stakeholder needs and priorities

Action 2.1 Promote dialogue, across the ocean observing value chain, with remote sensing, modelling, forecasting, data management and marine services communities to inform the design of EOOS according to their needs and priorities.

Action 2.3 Identify emerging priorities in marine science.

Action 2.4 Engage with regional oceanographic conventions and operations within Europe to contribute to the co-design of EOOS, ensuring it can address specific regional needs and issues.

## RECOMMENDATIONS FOR IMPLEMENTATION OF GENOMICS AND IMAGING TECHNOLOGIES IN MARINE OBSERVATION (BIO WG)

Has the national observing system been evaluated/assessed to fit the needs of priorities?

- Improve the integration of European biological observing and data to the Global Ocean Observing System **RSCs** → **CONNECTIONS WITH NETWORKS** → **HOW AND WHAT TO OFFER?**

- Define the potential roles of EuroGOOS in optimising this process

- Standards (SOPs on collection, QC procedures, data flows, standardisation of data), analytical tools, concrete efforts **VALUE CHAIN DIALOGUES** → **GAP IDENTIFICATION** → **MECHANISM TO IMPROVE?**

Dialogue with service providers on methodologies to assess data adequacy, ocean observing gaps and requirements.

Dialogue with European data services and initiatives on ways forward to provide ocean observers with feedback on data use and impact.



## Activity 3 Improving the visibility of ocean observing activities

Action 3.1 Streamline the online reporting and sharing of ocean observing planning with the development of an online tool.

Action 3.5 Facilitate the development of a platform for monitoring the status and performance of European ocean observing activities (European OceanOPS).

Is there an informat

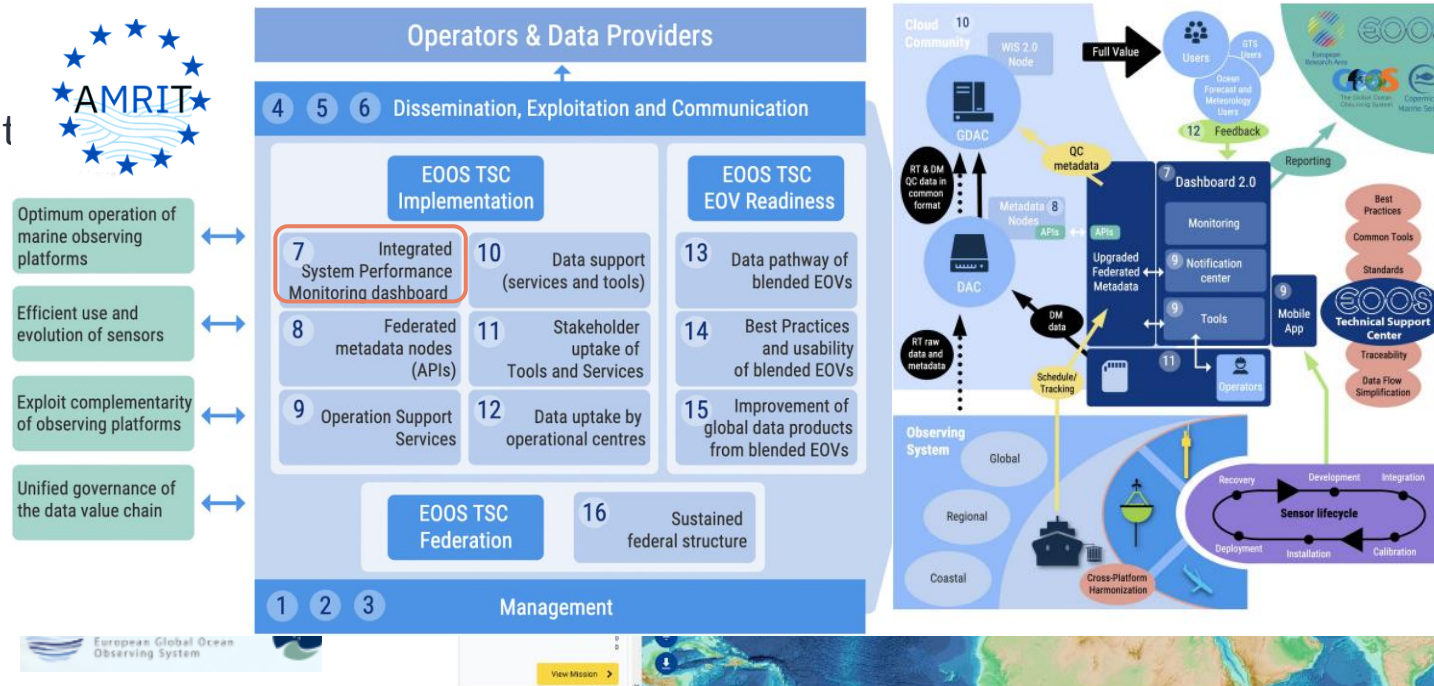


Figure 2. Scheme illustrating EOOS TSC tools and services developed by WP 7-12:

**Web based dashboard**

- o Real-time search engine on system capabilities
- o Interactive map, routine static maps
- o Metrics for implementation status data/metadata flows and uptake
- o GIS processing and analysis products,
- o Tools for platform/cruises registration
- o Tools for planning and running ops
- o Notification services
- o Data link to the cloud
- o Data/Metadata flow mapping
- o Report generator on system capabilities
- o User groups management interface
- Dashboard Mobile application**
- Cloud based community for open source developments**
- Overarching API for metadata exchange and PID allocation**
- Controlled vocabulary and ontologies server**
- Mobile Application** to flash, register, track platforms/sensors
- Helpdesk support centre)**
- Documentation** including tutorial videos

vel? mplate for

p viewer the plans



# EOOS IP 2023-2024

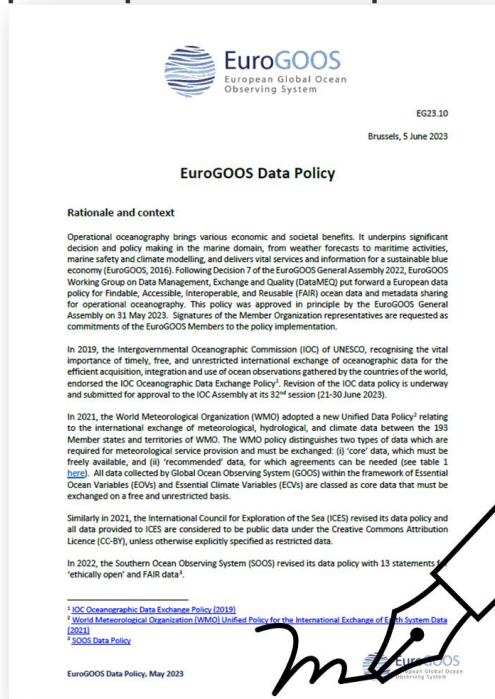


Promoting best practices and open data sharing

## Activity 4 Promoting best practices and open data sharing

Action 4.1 Promote the benefits and mechanisms for open data sharing.

Action 4.2 Promote the implementation of FAIR principles and Open Data and Open Science policies, provide support and training to the Member States to implement FAIR principles in Europe.





Fostering innovation in ocean observing

## Activity 5 Fostering innovation in ocean observing

Action 5.1 Identify emerging priorities in ocean technologies and data management/use.

Action 5.2 Facilitate exchange between global and European initiatives on biological observations – a) Organise joint meetings with relevant initiatives/programs; b) Align the recommendations of different European biological ocean observing initiatives to identify priorities and possible actions for implementation through the EOOS Framework.

Bio  
Eco



**EOOS** | Technology Forum 2024 | 13 March 2024 · 09:45 - 17:45 | South Gallery Room SG5

CALLING THE MOMENTUM IN OCEAN OBSERVING TECHNOLOGY: OPTIMISING VALUE AND DATA PROVISION

Cluster events with ongoing activities under the All-Atlantic Ocean Research and Innovation Initiative of Ocean Science, GOOS and other relevant projects (e.g. MARCO BOLS, DTO-Bioflow, OBAMA-5/7)

**Session 1 (10:00-11:00)** **Disruptive technology: Needs of the ocean observing community**

**Session 2 (11:30-13:00)** **Opportunities and challenges for accessible ocean observing technologies**

**Session 3 (14:00-15:30)** **Data quality aspects of accessible ocean observing technologies**

**Session 4 (15:30-17:30)** **Sustainability aspects of accessible ocean observing technologies**

**Closing session (17:30-17:45)**

**EuroGOOS** European Global Ocean Observing System | **JERICO3** | **Ifremer** | **OGS** National Institute of Oceanography and Applied Geophysics | **SMHI** | **DOOS** | **2021-2030** United Nations Decade of Ocean Science for Sustainable Development



Advancing the transition  
to a well-connected,  
coordinated ocean  
observing system

## Activity 6 Advancing the transition to a well-connected, coordinated ocean observing system

Action 6.1 Launch survey to gather feedback on barriers to integration

Action 6.3 Foster the development of national ocean observing systems.

Action 6.4 Optimise work through the EOOS Framework by maximising the effectiveness of its governance structure.

Action 6.5 Dialogue with national and European policymakers and authorities to provide expert input to processes to develop EOOS and European ocean observing.



**3rd EOOS Resource Forum and  
7th Operations Committee Meeting**  
28 November 2023, 11:00-16:00 CET Hybrid  
[Report](#)

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3. Resourcing discussion: Capturing national structures	4
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## Activity 7 Communicating the value of EOOS

Action 7.1 Develop an EOOS Communication and Engagement Strategy for the period 2023-2027.

Action 7.2 Implement an EOOS Communication and Engagement Strategy for the period 2023-2027.

Action 7.3 Dialogue with funders of European Ocean Observing to align priorities and advocate for the mobilisation of resources to realise EOOS.

Action 7.4 Engage with established and developing research infrastructures and ESFRI, leveraging their capacities as contributing components of EOOS and demonstrating their current and further value.

Action 7.5 Continue engagement with international initiatives with resourcing capacities.

Action 7.6 Strengthen EOOS' connection with GOOS through EuroGOOS.

# Towards EOOS Implementation!

**“Individually, we are one drop but  
together, we are an ocean.”**

**Ryunosuke Satoro**

The EOOS Strategy and Roadmap for Implementation have been prepared by EuroGOOS and the EMB in consultation with the EOOS Steering Group, Advisory Committee, Operations Committee and Resource Forum, as well as the DG MARE, the Global Ocean Observing System (GOOS) and the EuroSea project (European Union Horizon 2020, grant agreement No 862626).

# Cross-cutting mapping of EuroGOOS Activities

Joseph Nolan  
EuroGOOS

## Cross-cutting mapping

### Identified cross-cutting topics from multiple EuroGOOS activities:

1. Artificial intelligence (AI) and machine learning (ML) applications in operational oceanography
2. Accessible ocean observing technologies

## AI and ML applications in operational oceanography

Access the Miro board:

**[bit.ly/EGAI](https://bit.ly/EGAI)**





# AI and Operational Oceanography (O.O.): an introduction

*Jun She (js@dmi.dk), Jian Su (jis@dmi.dk)  
Danish Meteorological Institute*

# What can AI do for O.O.?

- AI is an “intelligence” based on a data-driven deep learning process. The AI learns ocean via connections rather than equations. In this way it builds up capacities for predicting the ocean.
- AI has been used in many O.O. areas, e.g.
  - Downscaling
  - Optimised local forecast
  - Improve reanalysis: multi-source data-simulation fusion
  - Observation quality control
  - Model validation
  - Annotate biological observations
  - Marine climate emulator
  - Remote sensing (e.g. automated image processing)
  - Etc.

# What are the benefits and challenges?

- **Benefits:**
  - Improved marine information products in both quality and resolution with low costs
  - Contributing to specific challenges in O.O., e.g., product accuracy in coastal waters, BGC variables, biological observations, pollution in LOAC, HPC bottlenecks, harmonising fragmented data
- **Major challenges:**
  - Lack of expertise in both AI/ML and O.O.
  - Lack of good training datasets, esp. For 3D ocean
  - **Fragmented expertise**

# Some of the on-going projects and collaborations involving AI for O.O.

Projects/WGs	AI/ML partners on oceanography	Areas of expertise & ML app. areas
<b>DT Extreme</b>	TalTech, Slovenia Env. Agency	Local sea level forecast, model validation
<b>EDITO Model Lab</b>	IMT, CNRS, HEREON, NERSC, Deltares	Hybrid modelling: DDEs for model parameterization, forecasting & DA
<b>OLAMUR</b>	HEREON, DMI, KLU	ML for optimized local forecast, image processing
<b>FOCCUS</b>	HEREON, Deltares, DMI, ...	AI/ML in data assimilation, optimal local forecast & downscaling
<b>BOOS AI/ML working group</b>	DMI, FMI, HEREON, IOPAN, IOW, KLU, SYKE, TalTech, Slovenian Environment Agency	Data QC, model validation, forecast, data assimilation, downscaling, data-simulation fusion, image processing
<b>EuroGOOS Coastal WG Data-Science Task team</b>	Deltares, DMI (co-lead)....	Data assimilation, data QC, image processing,...

# Suggestions to EuroGOOS/ROOSs

- For ROOSs,
  - Initiating AI/ML working groups in ROOSs
  - Enhance internal ROOSs cooperation between AI/ML and modelling, remote sensing
  - Initiate joint proposals on AI/ML on oceanography (DTO proposals, SBEP, JPI-Ocean, Horizon Europe etc)
- For EuroGOOS,
  - Promote knowledge sharing between EuroGOOS WGs/TTs and ROOS AI/ML working groups
  - Define an "EuroGOOS strategy on AI for O.O." incl. Eg Ressource & expertise mapping, AI impacts on O.O. ecosystem, specific joint activities, short-, long-term plan

# Questions for discussion

- What areas do you think AI and ML could be applied in, in operational oceanography?
- What expertise relating to AI and ML would benefit the EuroGOOS community?
- What specific activities relating to AI and ML should EuroGOOS consider implementing?
- What resources would be needed to support these activities in EuroGOOS?

## AI and ML applications in operational oceanography

Access the Miro board:

**[bit.ly/EGAI](https://bit.ly/EGAI)**



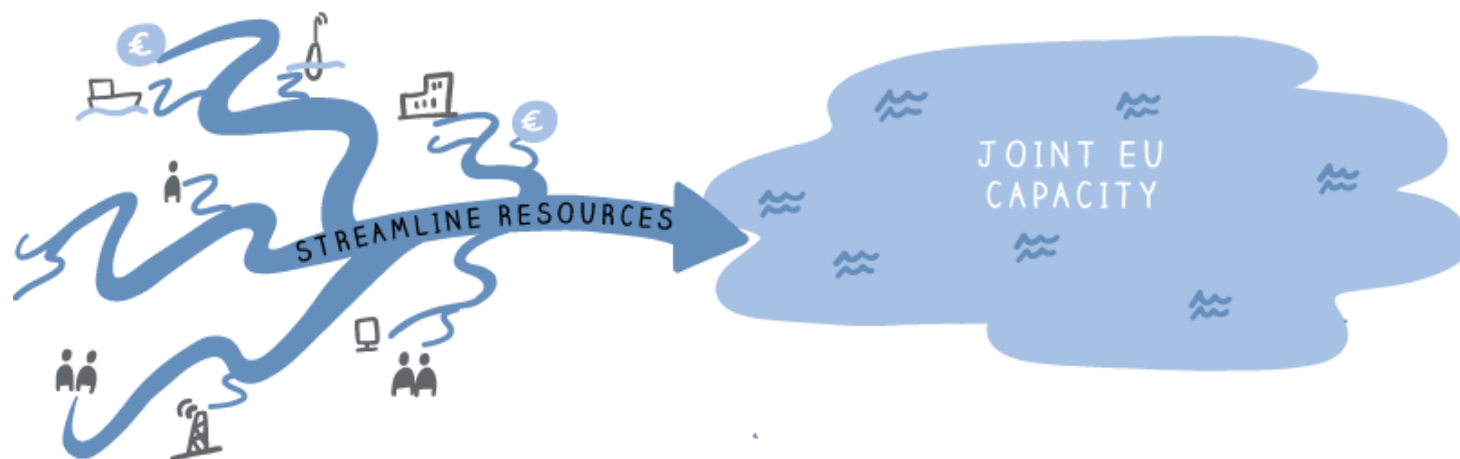
## Accessible ocean observing technologies

Access the Miro board:

**[bit.ly/EGOOtech](https://bit.ly/EGOOtech)**







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