

First Demo of the European Digital Twin Ocean Unveiled at the Digital Ocean Forum 2024



The Digital Ocean Forum 2024 will take place on 13 June 2024 in Brussels, hosted under the auspices of the Belgian Presidency of the Council of the EU. It brings together experts from across Europe, including policymakers, European projects, civil society, and interested stakeholders from different disciplines, to participate in the co-design and co-creation of the European Digital Twin Ocean.

FOR IMMEDIATE RELEASE

The first pre-operational platform of the European Digital Twin Ocean (EU DTO) will be demonstrated at the 3rd edition of the Digital Ocean Forum (DOF2024). This is a milestone for the EU Mission “Restore our Ocean and Waters”, which aims to protect and restore the health of our ocean and waters through research and innovation by 2030.

The DOF2024 high-level event will be a hybrid event, broadcast live online from the Palais des Académies in Brussels, and will be attended by senior representatives from five European Commission Directorates-General (DGs), including: Iliana Ivanova, Commissioner for Research and Innovation (RTD), Florika Fink-Hooijer, Director-General for Environment (DG ENV), Thomas Skordas, Deputy Director-General for Communications Networks, Content and Technology (DG CNECT), Kestutis Sadauskas, Deputy Director-

General for Maritime Affairs and Fisheries (DG MARE), John Bell, Director Healthy Planet (DG RTD), and Mauro Facchini, Head of Unit for Defence, Industry and Space (DG DEFIS).

The pre-operational platform of the EU DTO will be showcased to diverse policy makers and stakeholders during the Forum, including Commissioner Ivanova. This live demonstration will fulfil a key commitment made by EC President Ursula von der Leyen, who first announced the EU DTO at the One Ocean Summit in Brest in February 2022. The public infrastructure platform of the EU DTO will enter operation in 2025, with opportunities for further beta testing in the coming months.

As one of the main elements of the Digital Ocean Knowledge System under the EU Mission “Restore our Ocean and Waters”, the EU DTO exemplifies Europe's commitment to developing innovative scientific tools to revolutionise the approach to the many stressors facing the ocean. By enabling sophisticated "what-if" scenario analysis, the EU DTO will offer unprecedented capabilities for modelling and science-driven decision making.

Building on existing European assets, the public infrastructure platform of the EU DTO combines and integrates data and services from the European Marine Observation and Data Network (EMODnet) and the Copernicus Marine Service into a single digital framework. The unified data services and processing is delivered by the EU-funded project, EDITO-Infra. The core infrastructure provides the foundation for the further development of the EU DTO. It will host a wealth of DTO applications from ongoing and future digital twin projects and initiatives, including those supporting the deployment of a new generation of ocean models using artificial intelligence and high-performance computing (i.e. EDITO-Model Lab), key projects developing digital applications and twins (i.e. Iliad; Blue Cloud 2026, etc.) and the Horizon Europe “Mission Lighthouses” projects.

The DOF2024 is organised by DG RTD, DG MARE, and DG DEFIS, with the support of Mercator Ocean International and the Flanders Marine Institute (VLIZ), the two main partners leading the development of EDITO-Infra on behalf of the Copernicus Marine Service and EMODnet, respectively.

The high-level event will showcase concrete applications and tools developed that shape the EU DTO, using state-of-the-art data visualisation tools. A wide variety of use cases will also be displayed on marine litter (i.e. plastic pollution), marine biodiversity, nature-based solutions (e.g. seagrass restoration), marine renewable energy (i.e. the potential of multi-use offshore wind energy), adaptation and mitigation, early warning for extreme events, coastal monitoring (i.e. extreme sea levels and hazards), and more.

The Forum will put a spotlight on how the EU DTO supports the EU Green Deal and Digital Strategy, as well as the goals and outcomes of the UN Decade of Ocean Science for Sustainable Development (2021-2030). It will underscore the importance of international cooperation in advancing oceanographic excellence, and the role of European innovation, from European High-Performance Computing (EuroHPC) to marine data exploitation.

The EU is fully committed to the development of Digital Twins, with the establishment of two fully compatible and interoperable initiatives: Climate Digital Twin / Destination Earth (DestinE) led by DG CNECT, and the European Digital Twin Ocean led by the EU Mission Restore our Ocean and Waters (DG RTD, DG MARE and DG DEFIS).

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Important links and notes to the editors:

- [European Digital Twin Ocean - EDITO](#)
- [About European Digital Twin of the Ocean \(European DTO\)](#)
- [Join June 13 Live Online: EU DTO pre-operational platform and DOF2024](#) **EMBARGO on this website until June 10, 2024**
- [Digital Ocean Forum 2024](#)
- [How Copernicus Marine supports the European Digital Twin of the Ocean | CMEMS](#)

About EMODnet The European Marine Observation and Data Network (EMODnet) is the European Commission (EC) *in situ* marine data service of the EC Directorate-General Maritime Affairs and Fisheries (EC DG MARE). EMODnet plays a pivotal role as a trusted source of *in situ* marine environmental and human activities data and data products, serving a diverse user base across various sectors.

About the Copernicus Marine Service

The Copernicus Marine Service is dedicated to ocean observation, monitoring, and forecasting. It is funded by the European Commission (EC) and implemented by Mercator Ocean international, a centre for global ocean analysis and forecasting. Copernicus Marine provides regular and systematic reference information on the state of the physical and biogeochemical ocean at the global and European regional scale. It provides key inputs that support major EU and international policies and initiatives.

About Mercator

About Mercator Ocean International Mercator Ocean International (MOi) is a non-profit organisation (in the process of transforming into an intergovernmental organisation) committed to building a science-based digital Ocean ecosystem to support the conservation and sustainable use of the Ocean. MOi provides an operational digital description of marine environments worldwide and supports international organisations in implementing community and institutional programmes, projects, and initiatives.

Copernicus Marine Service website: <https://marine.copernicus.eu/>

EMODNet Website: <https://emodnet.ec.europa.eu/en>

Follow Copernicus Marine on X: [@CMEMS_EU](#), LinkedIn: <https://www.linkedin.com/company/copernicus-marine-service/>

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