

## Digital Ocean Forum 2024 to Unveil First Demo of the European Digital Twin Ocean for Better Decision-making



- The European Digital Twin Ocean (EU DTO) is a multi-dimensional and near real-time virtual representation of the Ocean, combining marine observations, artificial intelligence, advanced Ocean modelling operating on high-performance computers and accessible to all. A flagship initiative of the European Commission's Mission Restore Our Ocean and Waters, it is co-developed by Mercator Ocean International with the Flanders Marine Institute and other European partners, harnessing key EU assets and cutting-edge technology.
- The first EU DTO pre-operational platform will be unveiled at the Digital Ocean Forum 2024 and broadcast online. The EU DTO offers unprecedented capabilities for marine data exploration, next generation Ocean modelling, and science-driven decision making.

The third edition of the Digital Ocean Forum (DOF2024) high-level event, held under the auspices of the Belgian presidency of the Council of the EU, will take place in Brussels on June 13, 2024. It is co-organised by the European Commission's Directorates-General for Research and Innovation (DG RTD), Maritime Affairs and Fisheries (DG MARE), and Defence, Industry and Space (DG DEFIS) with the support of Mercator Ocean International (MOi) and the Flanders Marine Institute.

At the Forum, a **live demonstration of the European Digital Twin Ocean (EU DTO) pre-operational platform will be made to diverse stakeholders including European Commissioner Iliana Ivanova (RTD). This milestone will fulfil a key commitment made by European Commission (EC) President Ursula von der Leyen, who first announced the EU DTO at the One Ocean Summit in Brest in February 2022.** Aligning with the EU Green Deal and the UN Decade of Ocean Science for Sustainable Development, the EU DTO exemplifies Europe's commitment to developing innovative scientific tools to revolutionise the approach to addressing the multi-faceted challenges facing the Ocean.

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*"The Digital Twin Ocean is not only useful to bring together knowledge and make it accessible to all—it will help make to better decisions for the planet*

*and the environment. People will have a better idea of what is happening in our Ocean," stated Pierre Bahurel, Mercator Ocean International's Director General. "That is why the presentation of the platform to the European Commission, which allowed for a massive investment in service infrastructure, is important."*

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The DOF2024 brings together experts from across Europe and the globe, including policymakers, European projects, and interested stakeholders from different disciplines, facilitating co-design and co-creation. The EU DTO includes new capacities, such as [on-demand modelling capability to run simulations and to allow "what-if scenarios" to be deployed on the platform](#) to answer an array of questions such as on plastic pollution, sea level rise, and use of marine renewable energy. Applications on the platform will be presented including on marine litter (plastic pollution), marine biodiversity, nature-based solutions (seagrass restoration), marine renewable energy (the potential of multi-use offshore wind energy), adaptation and mitigation, early warning for extreme events, and coastal monitoring (extreme sea levels and hazards).

The DOF2024 will be attended by senior representatives from five EC Directorates-General (DGs), including: Commissioner Ivanova (DG RTD), Florika Fink-Hooijer, Director-General for Environment (DG ENV), Gustav Kalbe, Head of Unit for Administration & Finance, in the Communications Networks, Content and Technology (DG CNECT), Kestutis Sadauskas, Deputy Director-General for DG MARE, John Bell, Director Healthy Planet (DG RTD), and Mauro Facchini, Head of Unit (DG DEFIS).

The European Commission relies on two main actors involved in the Copernicus Marine Service and EMODnet programmes, Mercator Ocean International and the Flanders Marine Institute, respectively, to develop the core infrastructure of the EU DTO. The core infrastructure 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. It will be fully compatible with the Climate Digital Twin / Destination Earth (DestinE) led by EC DG Connect (Communications Networks, Content and Technology).

MOi has been lending its full expertise and experience to the European Commission and has had a leading role in the development of the EU DTO. Federating partners and initiatives at the EU and international levels, MOi works to ensure an inclusive and collaborative approach in building the digital framework, core model suite and virtual environment for the EU DTO.

Announced at the One Ocean Summit in Brest in February 2022, MOi is in the process of transitioning into an intergovernmental organisation, following the initiative of six European nations: France, Spain, Italy, the UK, Norway, and Portugal. An essential part of MOi's mission will be to design, develop and operate world-class Digital Ocean Systems encompassing marine physics, biogeochemistry and ecosystems and provide authoritative Digital Ocean Information Services of general interest to Member States and international Ocean governance, including operational ocean forecast services. The EU DTO is a key axis of this activity, as is the UN Decade Collaborative Centre for Ocean Prediction, which MOi hosts and implements for the IOC-UNESCO. Dedicated to connecting the world around Ocean prediction, it is based on interoperability and shared architecture to 'deliver as one,' leveraging innovations derived from the digital twinning concept.

### For further information

- [ED DTO Demo and DOF2024 minisite](#)
- [European Digital Twin Ocean - EDITO](#)
- [About European Digital Twin of the Ocean \(European DTO\)](#)
- [Digital Ocean Forum 2024](#)
- [How Copernicus Marine supports the European Digital Twin of the Ocean | CMEMS](#)

## About Mercator Ocean International

Mercator Ocean International (MOi) is a non-profit organization (in the process of transforming into an intergovernmental organization) committed to building a science-based digital Ocean to support the conservation and sustainable use of the Ocean.

MOi provides an operational digital description of marine environments worldwide and assists international organisations in implementing community and institutional programs, projects, and initiatives. MOi continually fosters interactions between scientists, policymakers, public and institutional decision-makers, and civil society. Led by Director General Pierre Bahurel, MOi is based in Toulouse and has over 100 employees.

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