EDITO ModelLab

European Digital Twin Ocean

Underlying models for the European Digital Twin Ocean

Funded by the European Union
Grant Agreement 101093293

Coordinated by Mercator Ocean International

MERCATOR OCEAN INTERNATIONAL

D8.2: Website

Work Package 8 | Task 8.1

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Approval: Mercator Ocean International

V1
April 2023

Table of Contents

1. Introduction

This document describes the Deliverable 8.2 of the Horizon Europe project EDITO-Model Lab, designated as "Website". The EDITO-Model Lab website is the centrepiece of all communication, dissemination, and exploitation activities in the project. It presents all public information available on the project and its progress, while also serving to raise awareness on the need and benefits of having a functional European Digital Twin of the Ocean. The website includes a section dedicated to project news which will serve to publish stories based on the consortium achievements within the framework of EDITO-Model Lab, including public deliverables, research articles, significant technological accomplishments, organisation, and participation in events, progress in the sister project EDITO-Infra and other related projects and initiatives, among others.

The EDITO-Model Lab website was launched on 7th April 2023 available at https://edito-modellab.eu/. It will act as the main showcase of EDITO-Model Lab and will also help visitors learn more about the European Digital Twin of the Ocean (EDITO) initiative comprising both EDITO-Model Lab as well as its sister project, EDITO-Infra. For those interested in receiving special announcements and updates from the EDITO initiative, the website will provide the chance to subscribe to a mailing list to receive news related to both projects.

The website was conceived and developed partially in cooperation with the EDITO-Infra communication team. The goal was to ensure that both websites shared the official EDITO visual identity and present a similar look and feel. This way, the visitors can immediately understand that the projects are interdependent and contribute to developing the core of the European Digital Twin of the Ocean. Although EDITO-Model Lab and EDITO-Infra may partner in various communication activities, the responsibility for maintaining, updating, and populating their websites is to be fully taken by each of the projects separately.

2. Structure and mock-up

The EDITO-Model Lab website was conceived as a storytelling tool. The "About" section was designed to address various key questions about the EDITO initiative before going into the details of the EDITO-Model Lab project. The remaining sections are more standard and straightforward, providing direct access to news, events, results, and contacts.

The EDITO-Model Lab website architecture includes:

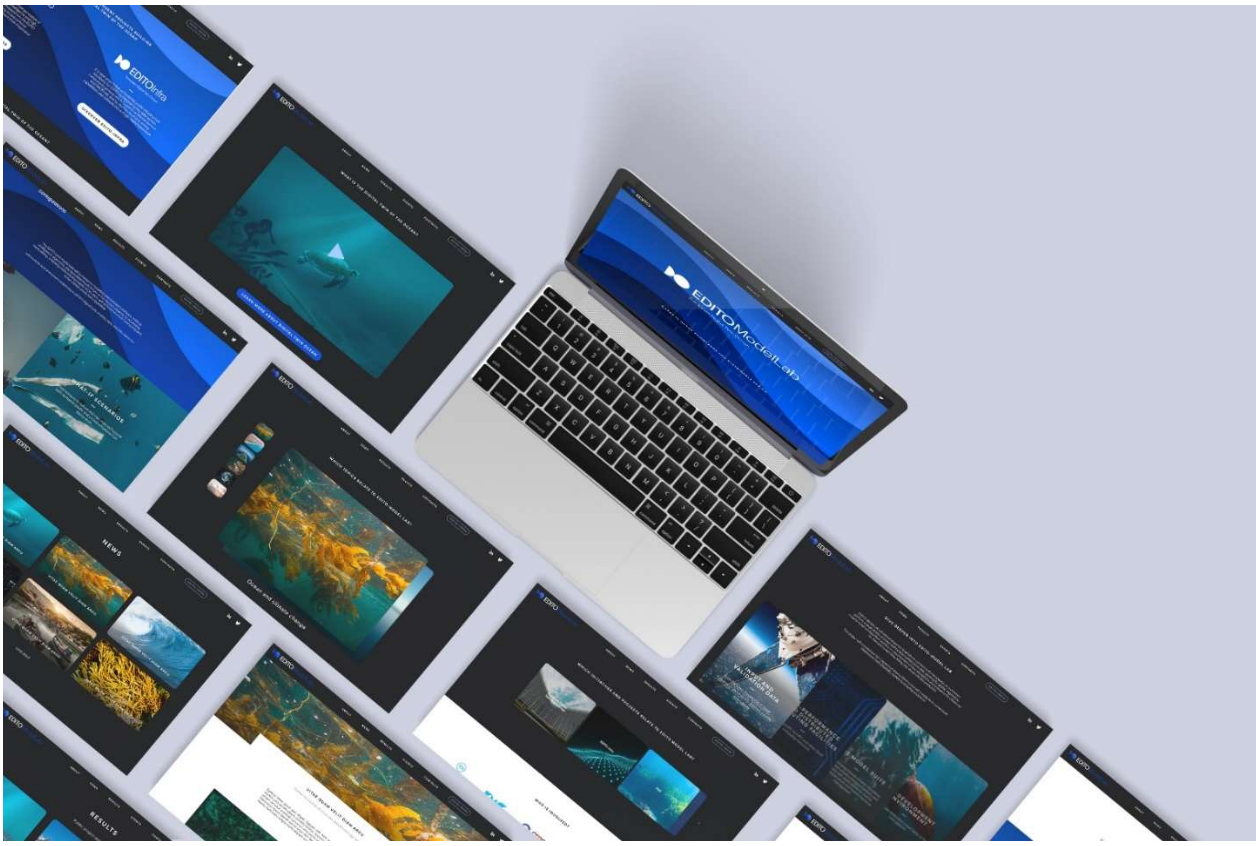
- Homepage
- About
    - What is EDITO?
    - Discover two interdependent projects building the European Digital Twin of the Ocean
    - What is the Digital Twin of the Ocean
    - Dive deeper into EDITO Model-Lab
    - Who will benefit from EDITO-Model Lab?
    - What will EDITO-Model Lab produce?
    - Which topics relate to EDITO Model-Lab
    - Which initiatives and projects relate to EDITO-Model Lab?
    - Who is involved?
    - How is EDITO-Model Lab organised?
- News
- Results
- Contacts
- Link to EDITO-Infra

The beta version mock-up is available at https://www.figma.com/file/W28SZD5MJAhG3kwzZs6V6b/Edito.
It serves as a testing ground for new website developments.

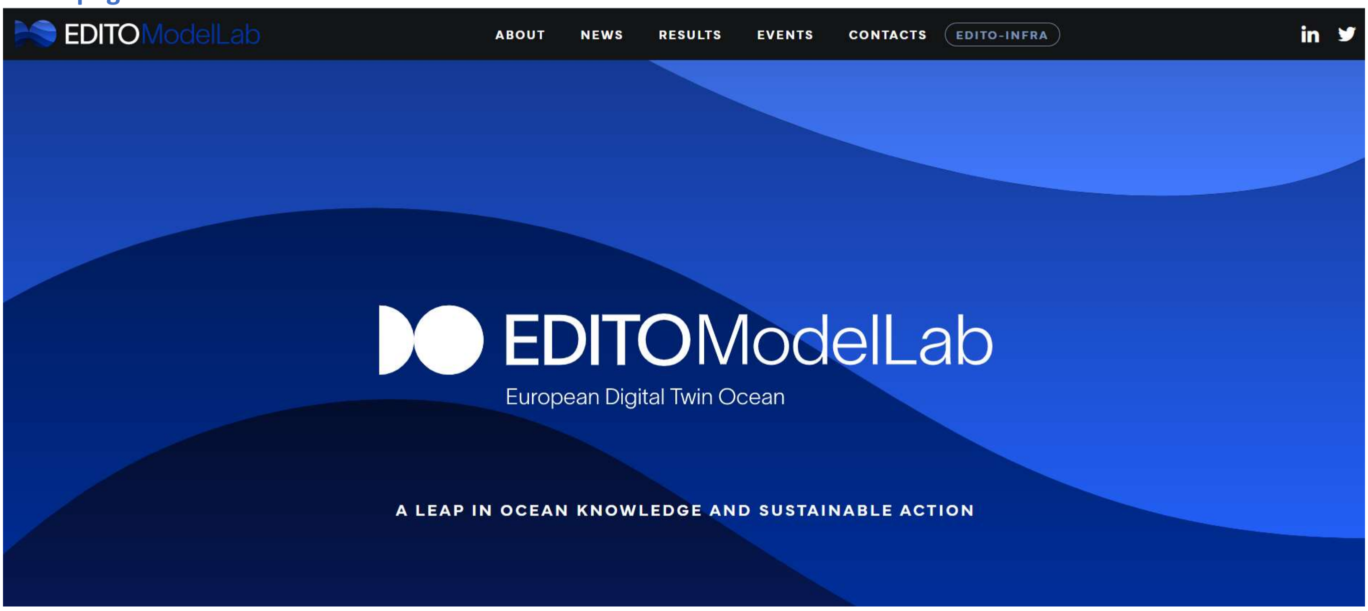
3. Future developments

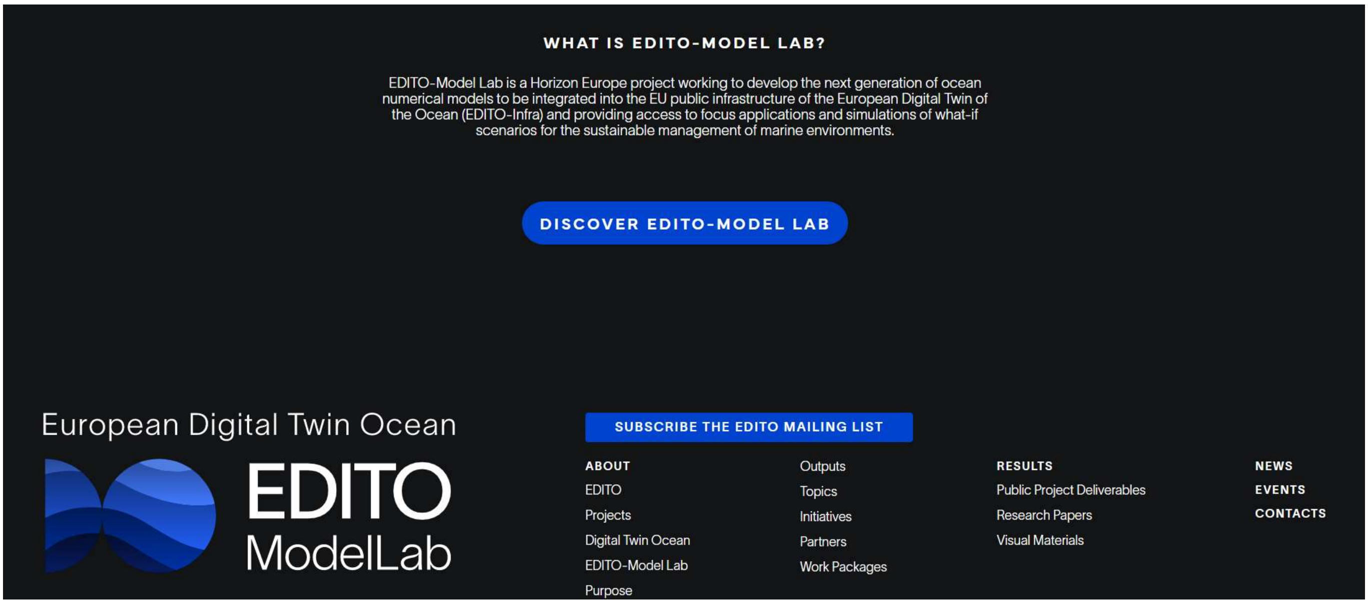
The website will evolve with the project with new pages and content, including information and communication, materials on the demonstrators (Focus Applications and What if Scenarios) and access to the Virtual Ocean Model Lab (VOML).

4. Look and feel

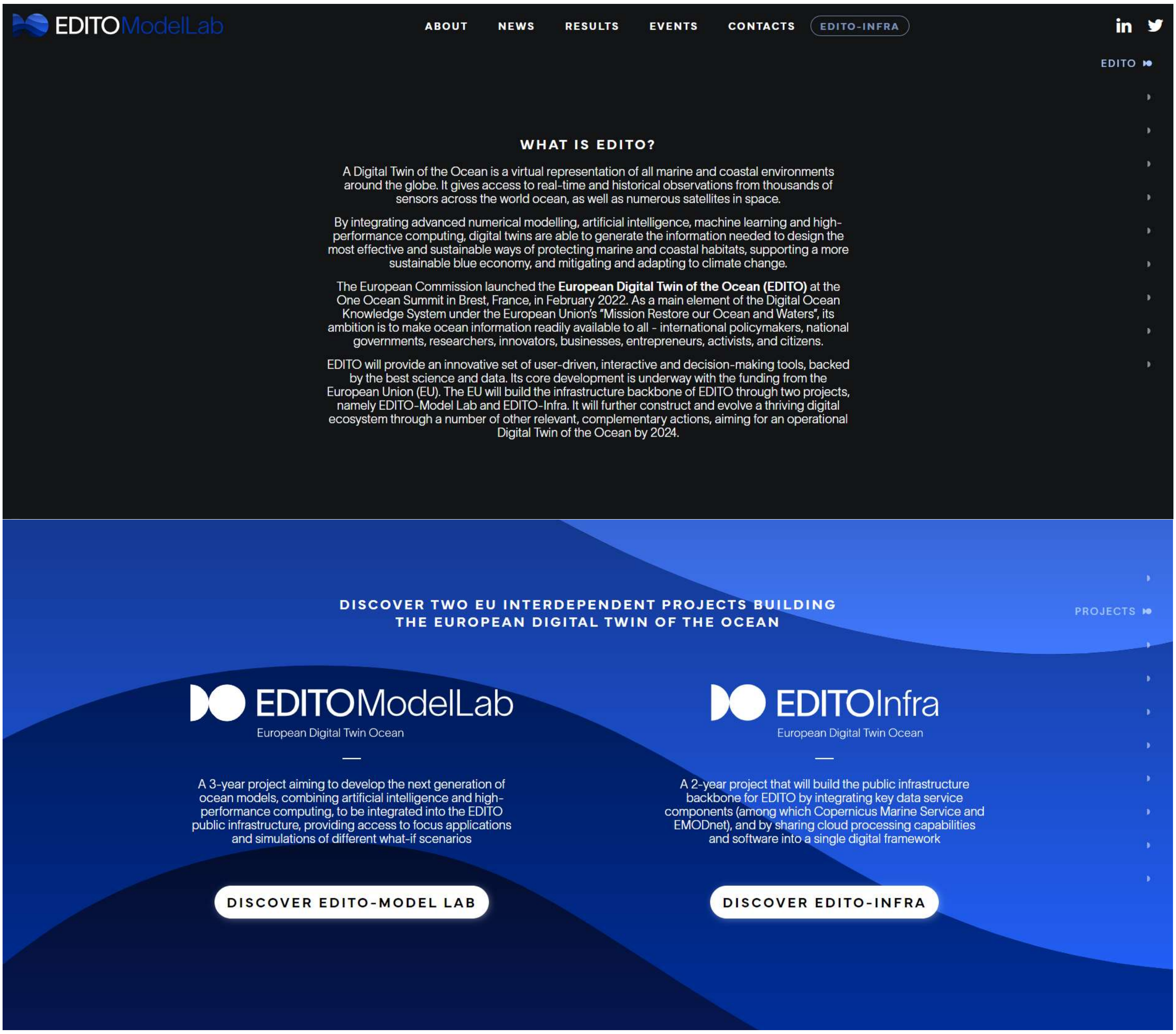


Homepage


EDITOModelLab
ABOUT
NEWS
RESULTS
EVENTS
CONTACTS
EDITO-INFRA
EDITOModelLab
European Digital Twin Ocean
A LEAP IN OCEAN KNOWLEDGE AND SUSTAINABLE ACTION


WHAT IS EDITO-MODEL LAB?
EDITO-Model Lab is a Horizon Europe project working to develop the next generation of ocean numerical models to be integrated into the EU public infrastructure of the European Digital Twin of the Ocean (EDITO-Infra) and providing access to focus applications and simulations of what-if scenarios for the sustainable management of marine environments.
DISCOVER EDITO-MODEL LAB
European Digital Twin Ocean
EDITO ModelLab
SUBSCRIBE THE EDITO MAILING LIST
ABOUT
EDITO
Projects
Digital Twin Ocean
EDITO-Model Lab
Purpose
Outputs
Topics
Initiatives
Partners
Work Packages
RESULTS
Public Project Deliverables
Research Papers
Visual Materials
NEWS
EVENTS
CONTACTS

About


EDITOModelLab
ABOUT
NEWS
RESULTS
EVENTS
CONTACTS
EDITO-INFRA
EDITO
WHAT IS EDITO?
A Digital Twin of the Ocean is a virtual representation of all marine and coastal environments around the globe. It gives access to real-time and historical observations from thousands of sensors across the world ocean, as well as numerous satellites in space.
By integrating advanced numerical modelling, artificial intelligence, machine learning and high-performance computing, digital twins are able to generate the information needed to design the most effective and sustainable ways of protecting marine and coastal habitats, supporting a more sustainable blue economy, and mitigating and adapting to climate change.
The European Commission launched the European Digital Twin of the Ocean (EDITO) at the One Ocean Summit in Brest, France, in February 2022. As a main element of the Digital Ocean Knowledge System under the European Union's "Mission Restore our Ocean and Waters", its ambition is to make ocean information readily available to all - international policymakers, national governments, researchers, innovators, businesses, entrepreneurs, activists, and citizens.
EDITO will provide an innovative set of user-driven, interactive and decision-making tools, backed by the best science and data. Its core development is underway with the funding from the European Union (EU). The EU will build the infrastructure backbone of EDITO through two projects, namely EDITO-Model Lab and EDITO-Infra. It will further construct and evolve a thriving digital ecosystem through a number of other relevant, complementary actions, aiming for an operational Digital Twin of the Ocean by 2024.
DISCOVER TWO EU INTERDEPENDENT PROJECTS BUILDING THE EUROPEAN DIGITAL TWIN OF THE OCEAN
PROJECTS
EDITOModelLab
European Digital Twin Ocean
A 3-year project aiming to develop the next generation of ocean models, combining artificial intelligence and high-performance computing, to be integrated into the EDITO public infrastructure, providing access to focus applications and simulations of different what-if scenarios
DISCOVER EDITO-MODEL LAB
EDITOInfra
European Digital Twin Ocean
A 2-year project that will build the public infrastructure backbone for EDITO by integrating key data service components (among which Copernicus Marine Service and EMODnet), and by sharing cloud processing capabilities and software into a single digital framework
DISCOVER EDITO-INFRA

WHAT IS THE DIGITAL TWIN OF THE OCEAN?

DIGITAL TWIN OCEAN

DIVE DEEPER INTO EDITO-MODEL LAB

EDITO-Model Lab will demonstrate the feasibility to connect and interoperate, on a common platform, a large variety of ocean and coastal numerical models, allowing for global, regional-to-coastal model configuration and the co-development of new simulations and scenarios for enhanced on-demand ocean forecasting and ocean climate prediction.

The project will complement the Copernicus Marine Service and will contribute to consolidate Destination Earth (DestinE), namely by ensuring access to:

EDITO-MODEL LAB

INPUT AND VALIDATION

—

from EMODnet, EuroGOOS, ECMWF, Copernicus Services and Sentinels satellite observations

HIGH-PERFORMANCE AND DISTRIBUTED COMPUTING FACILITIES

—

from EuroHPC for HPC and other cloud computing resources

CORE MODEL SUITE

—

based addressing several oceanic disciplines such as ocean physics, biogeochemistry and biodiversity with applications for marine pollution,

CO-DEVELOPMENT ENVIRONMENT

—

to integrate dedicated ocean twins on the core platform

WHO WILL BENEFIT FROM EDITO-MODEL LAB?

EDITO-Model Lab will make ocean knowledge freely available to researchers, scientific experts, decision-makers, entrepreneurs, policymakers, and citizens alike. It will enable them to become partners in knowledge generation, explore desirable futures and develop ocean management scenarios, and assemble their own digital twins.

This way, the project will engage a wide global community to help to ensure a safe, healthy, and productive ocean.

PURPOSE

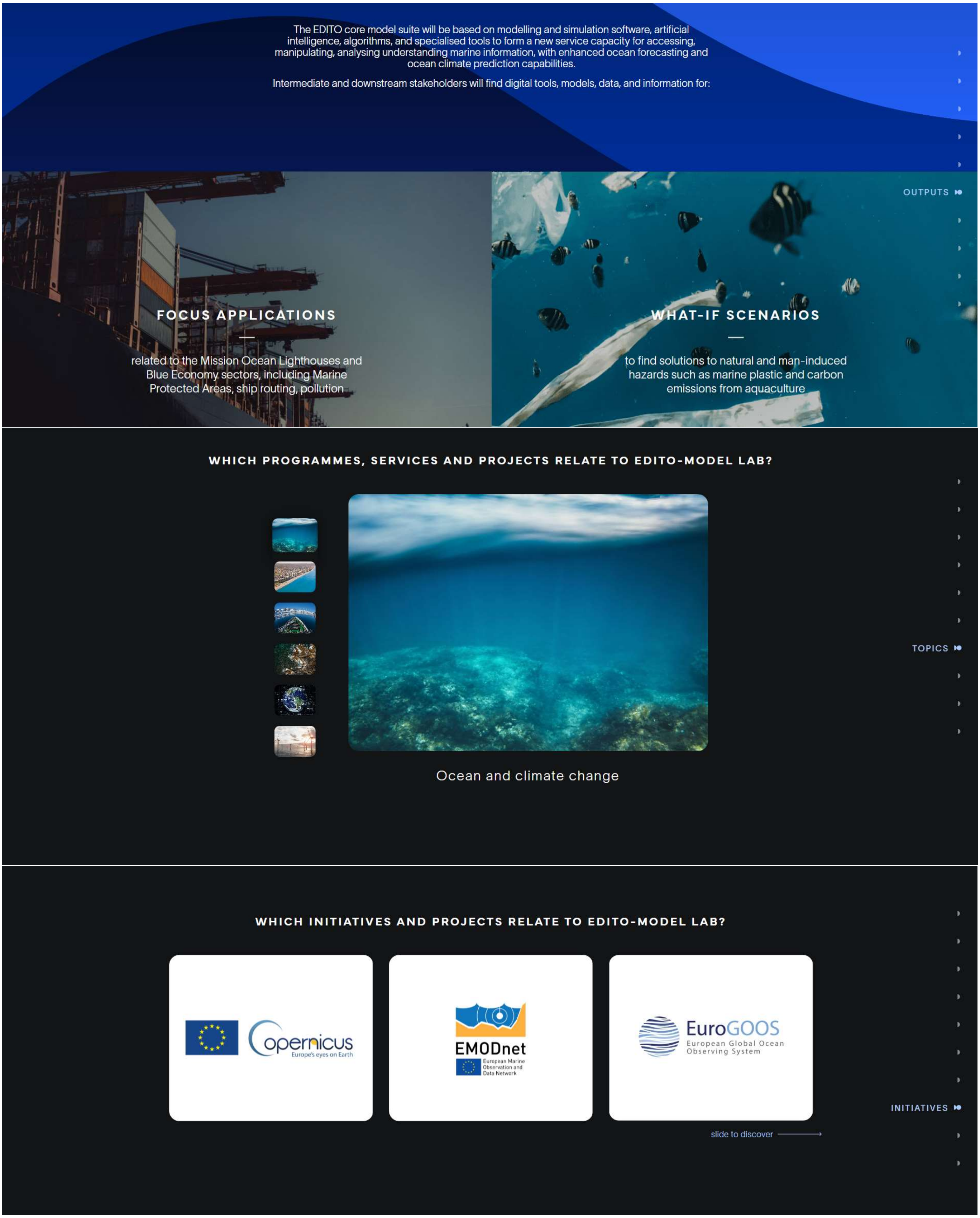
WHAT WILL EDITO-MODEL LAB PRODUCE?

As a collaborative and user driven initiative, EDITO-Model Lab will deliver a Virtual Ocean Model Lab, an interactive and co-development environment to operate models, including:

Core model suite with global high-resolution models and coastal configurations

Downstream user toolkits

Developer's toolkit for a sustainable ocean


The EDITO core model suite will be based on modelling and simulation software, artificial intelligence, algorithms, and specialised tools to form a new service capacity for accessing, manipulating, analysing understanding marine information, with enhanced ocean forecasting and ocean climate prediction capabilities.
Intermediate and downstream stakeholders will find digital tools, models, data, and information for:
FOCUS APPLICATIONS
related to the Mission Ocean Lighthouses and Blue Economy sectors, including Marine Protected Areas, ship routing, pollution
WHAT-IF SCENARIOS
to find solutions to natural and man-induced hazards such as marine plastic and carbon emissions from aquaculture
OUTPUTS
WHICH PROGRAMMES, SERVICES AND PROJECTS RELATE TO EDITO-MODEL LAB?
Ocean and climate change
TOPICS
WHICH INITIATIVES AND PROJECTS RELATE TO EDITO-MODEL LAB?
Copernicus
Europe's eyes on Earth
EMODnet
European Marine Observation and Data Network
EuroGOOS
European Global Ocean Observing System
INITIATIVES
slide to discover

WHO IS INVOLVED?

PARTNERS

HOW IS EDITO-MODEL LAB ORGANISED?

WP 2
…LATORS FOR OCEAN FORECASTING

WP 3
MODELS FOR EDITO

Led by Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)

co-led by Danmarks Meteorologiske Institut

Merge numerical models for hydrodynamics and … create new ocean model configurations opti… Digital Twin use and European HPC hardware … validate global and regional-to-coastal config… integrate WP4, WP6, and WP7.

WP 4
EDITO CORE MODEL SUITE

Led by Mercator Ocean International

co-led by Deltares

Build the EDITO core model suite by designing and integrating model components, utilising next-gen models available in the EDITO-Model Lab. Use optimised and validated models, along with DDE and classical approaches to construct hybrid models.

WP 5
VIRTUAL OCEAN MODEL LAB

Barcelona Supercomputing Center

co-led by Cineca

…e technological platform for co-developing, …enting, and testing prototypes for Focus … (FA; WP6) and What-if Scenarios (WiS; WP7) … thematic models (WP4), AI (WP2) and global … to coastal scales models (WP3).

WP 6
DEMONSTRATIO… APPLICATIONS

WORK PACKAGES

News

EDITO ModelLab | ABOUT | NEWS | RESULTS | EVENTS | CONTACTS | EDITO-INFRA

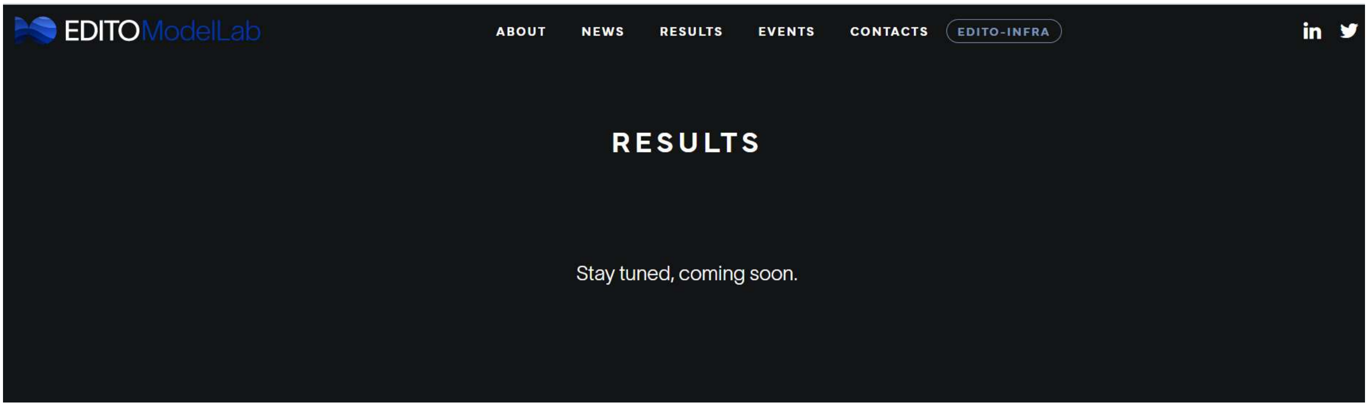
VITAE QUAM VELIT DIAM ARCU

Pulvinar arcu sed eu sit accumsan. Aliquam enim eget sem augue.

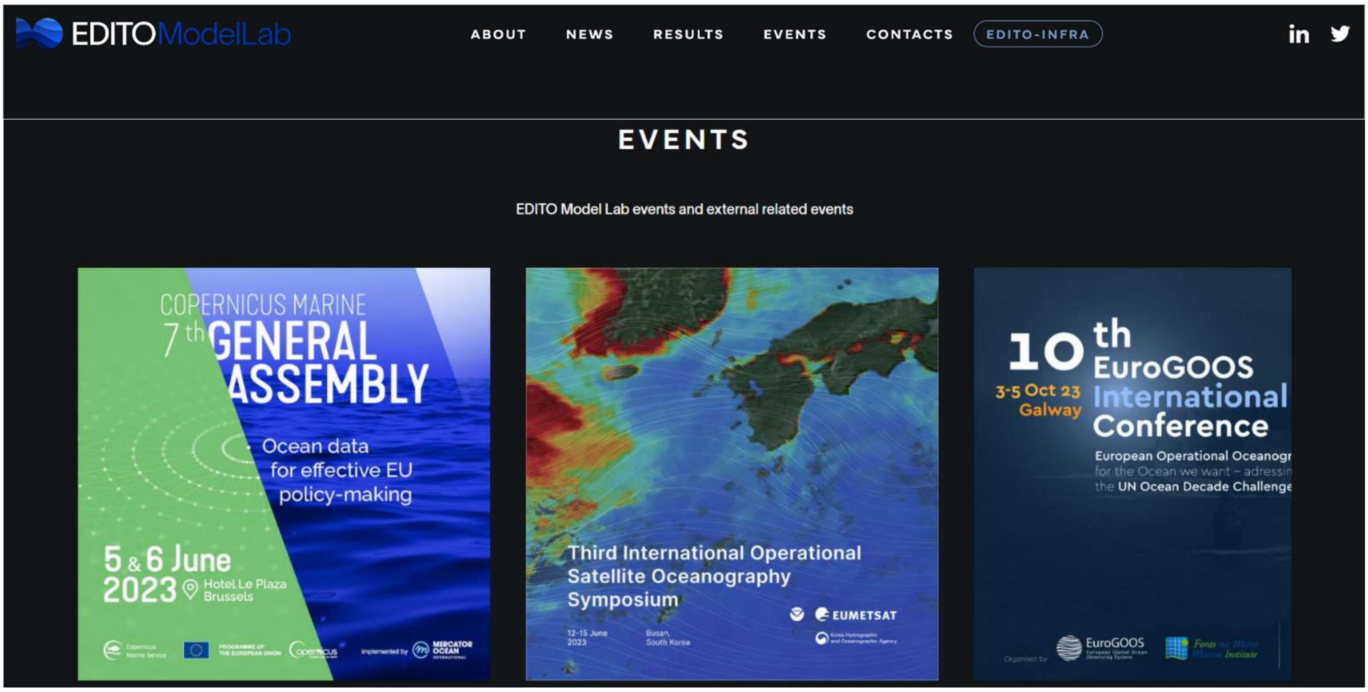
Egestas libero purus quis aliquet. Egestas velit enim sed sed elit duis enim turpis. Ut lectus lobortis urna dui elit aliquet convallis facilisis. Accumsan sagittis dapibus cursus in pellentesque ornare vel tellus euismod. Lacus vel urna auctor eget quis vestibulum placerat at pellentesque. Elementum ipsum blandit rutrum lacus nibh faucibus imperdiet. Tellus tristique massa dui id ac viverra. Sem nulla congue mattis aliquam ornare.

Pellentesque eleifend purus mattis cras penatibus habitant. Sit mauris nunc convallis dictum sed adipiscing nullam ac vel. Elementum pharetra adipiscing dis ullamcorper sit in nec risus elementum. Velit velit id id amet. Tristique sit sed nibh dolor purus interdum accumsan proin enim.

Results



Events



Contacts