

EDITO

European Digital Twin Ocean

Overview of EDITO projects: EDITO Infra and EDITO Modellab

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BlueCloud2026 KO, 13th February 2023, Pisa (IT)

Digital Twin Ocean, The European Perspective

A **core infrastructure**, conceived as a public good and service, to support the implementation of the marine Green Deal objectives

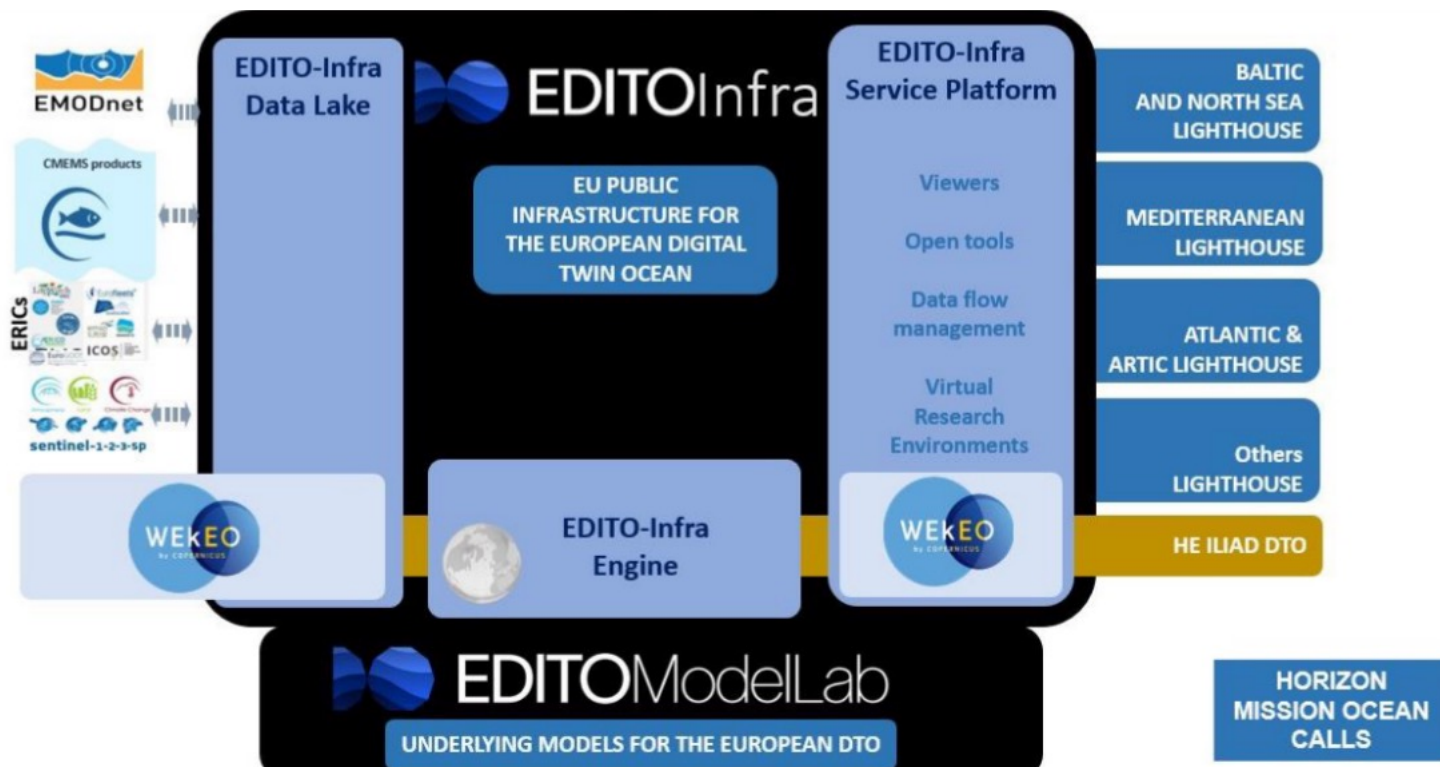
At European level: **hundreds of initiatives**, Regional, National and European marine projects and infrastructures, Private initiatives, Monitoring services, Citizen science campaigns.... are committed to study and protect the marine ecosystem.



The complexity is to help them to **work together** and with other international initiatives.

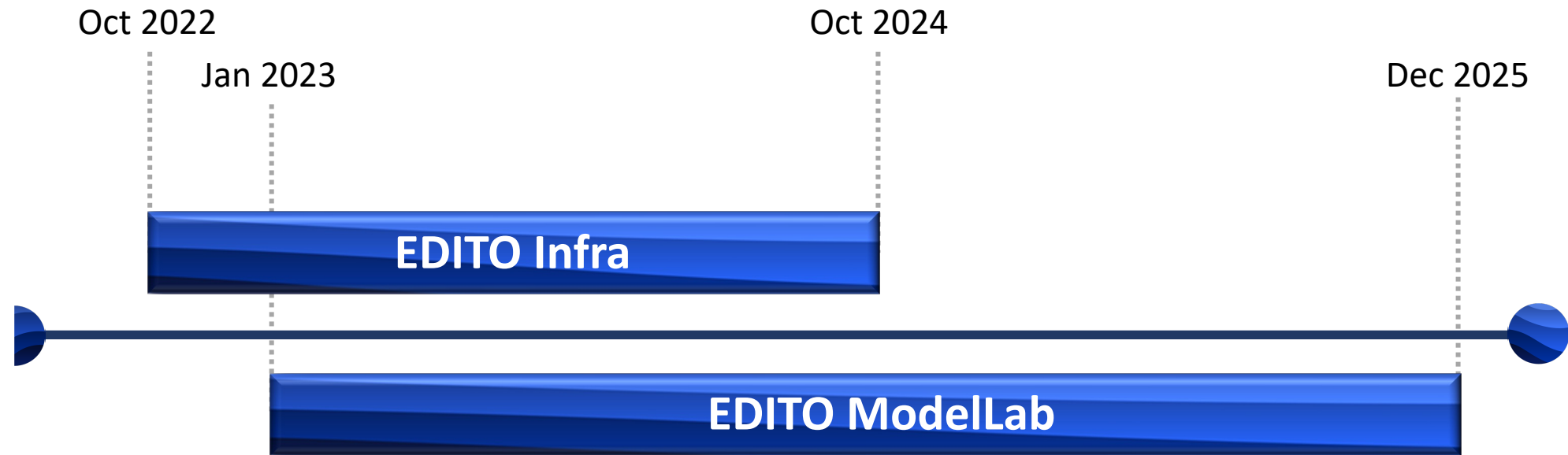
Need for user-driven **powerful tools**, fit for digital age, to strengthen ocean knowledge and ocean management: by integrating and connecting wide range of data and models (from physics to socio-economics) with cloud infrastructures, HPC, AI and services.

European Digital Twin of the Ocean



 EDITO Infra

 EDITO ModellLab



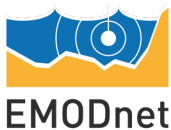


EDITO Infra: Public Infrastructure for a European DTO

Grant to Identified Beneficiary



Representing



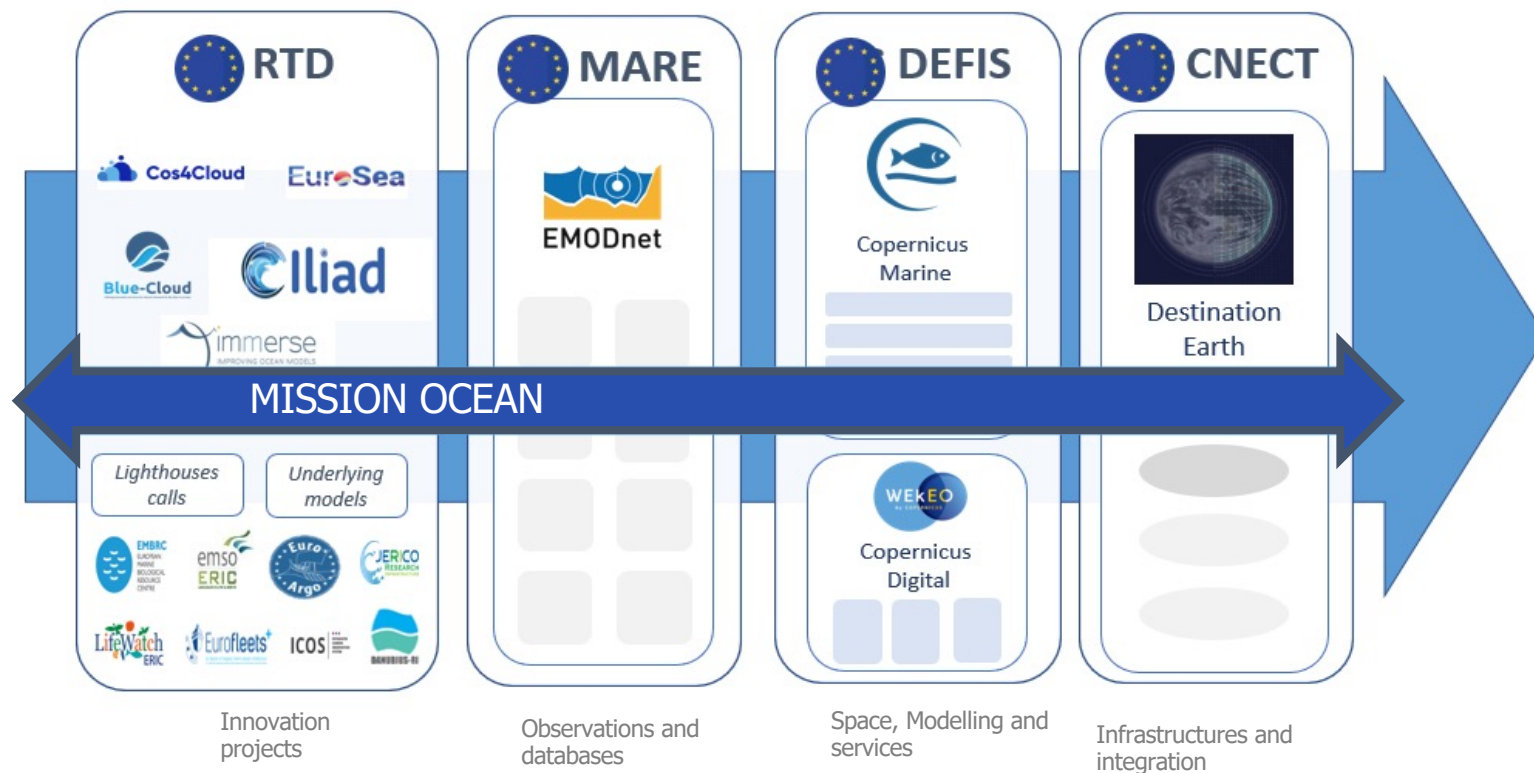
Budget: 2,999,850.00 €

Start October 1st, 2022

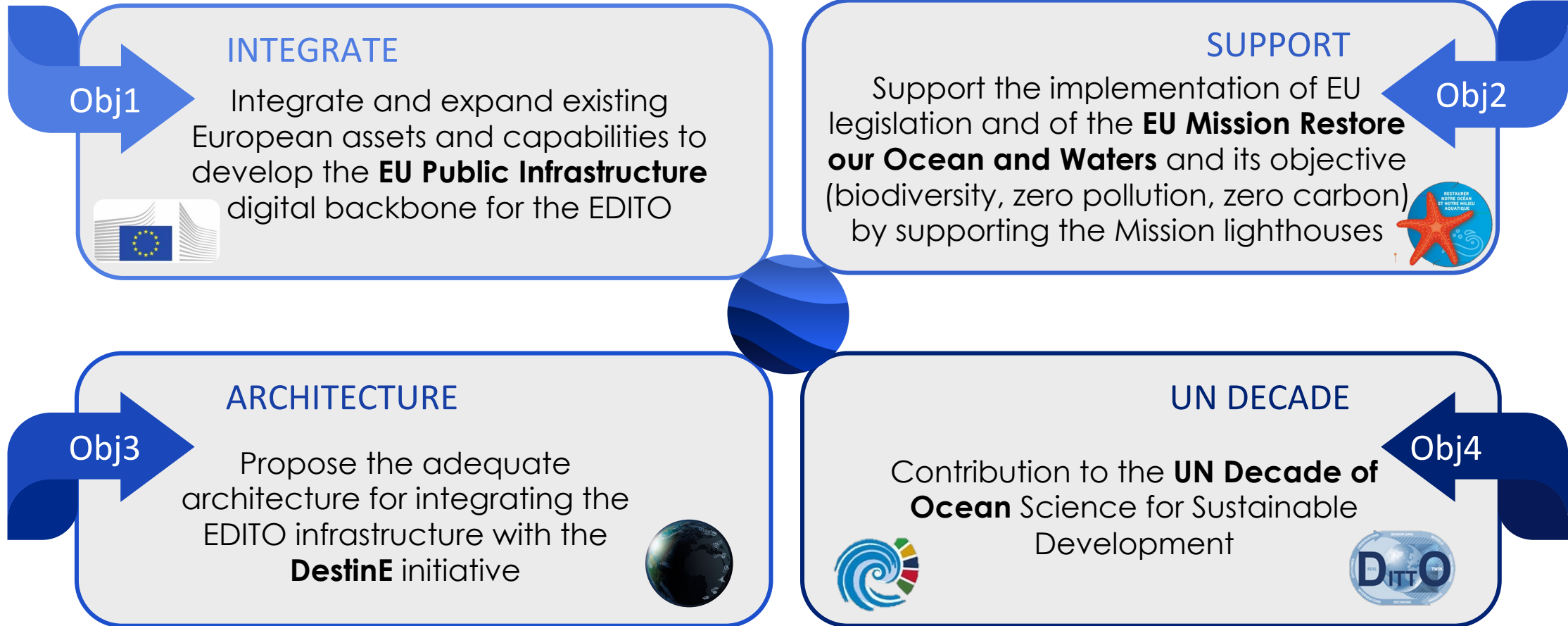
Kick-Off Meeting: November 2022

Intermediate Review: January 2024

Final review: October 2024



→ built to capitalize on existing EU assets and is co-designed with EC Directorates



A consortium based on ocean modeling expertise

7M€

3-year project

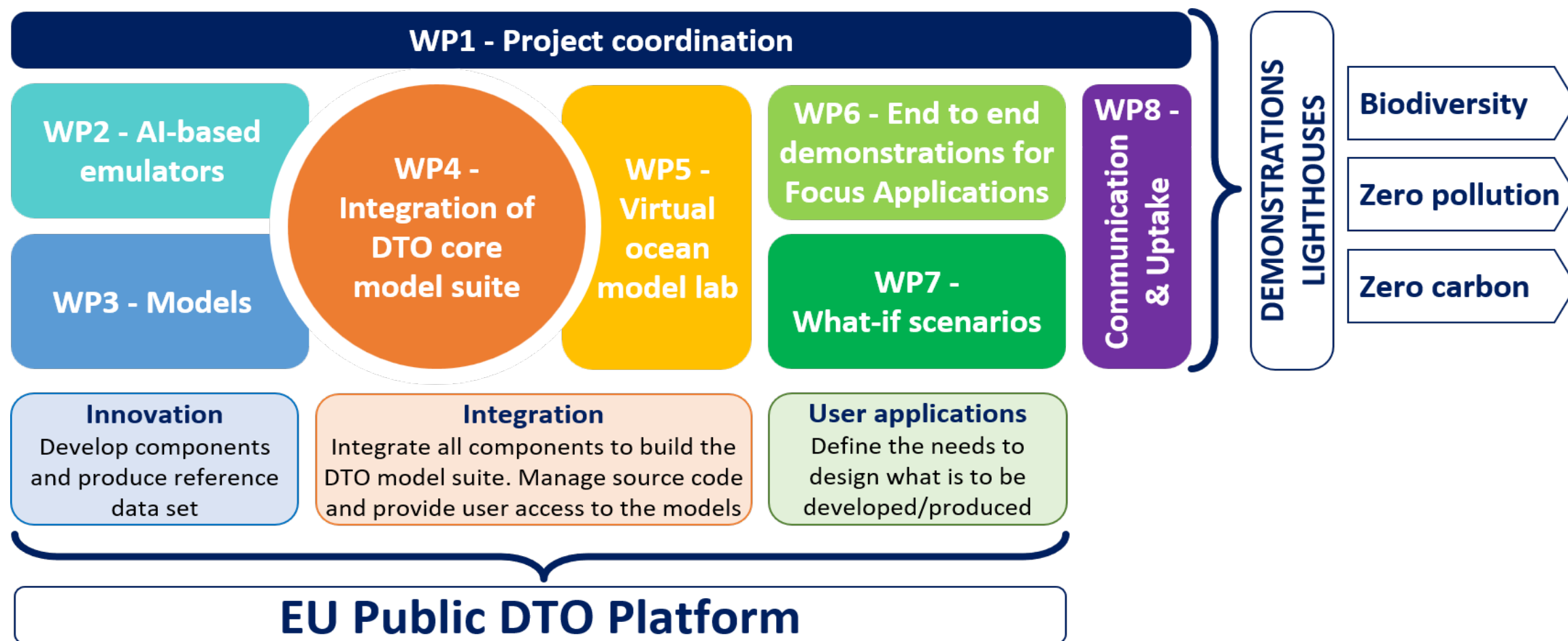
Starting date January 2023

Kickoff meeting 21-22 Feb 2023

14 partners from 9 countries with expertise in :

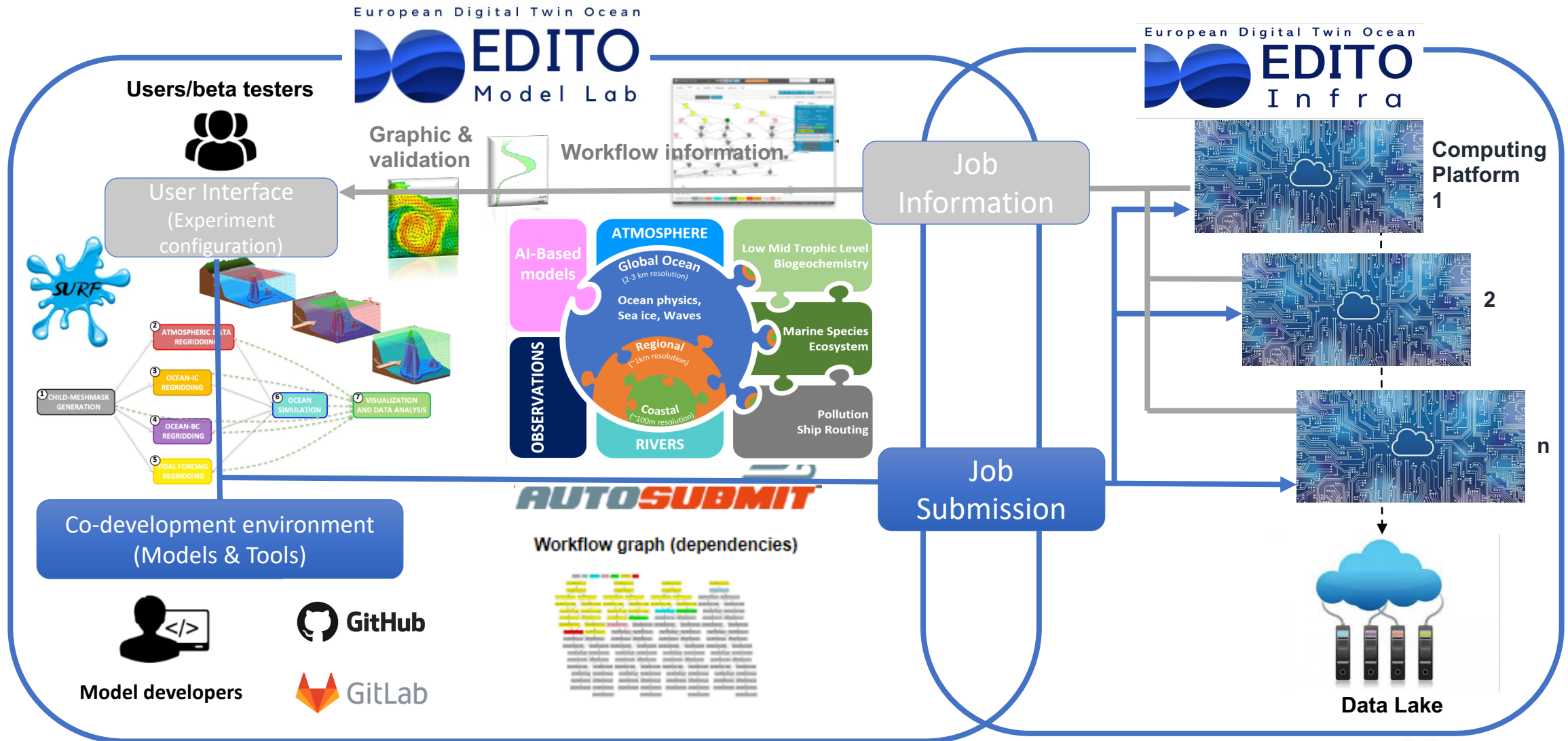
- **Ocean modeling** from global scale to coastal, for ocean physics, biogeochemistry and marine environment
- **Supercomputing** including experts from computing centers and GPU concepthor
- **Artificial Intelligence** applied to ocean application
- **Software development**, model and tools co-development
- **Operational oceanography** with strong links with Copernicus Marine, Ocean Predict and UN decade
- Intermediate to final **User applications**





Virtual ocean Model Lab and EDITO Infra

A co-development environment to share model development and configure simulations



What will be the European Digital Twin of the Ocean ?



- **EU Operational Oceanography framework**
- Global and regional high-resolution models/tools
- Projects to start new developments



- Improved **co development** framework and **interoperability** of existing and new systems
- **Optimised** models and tools
- Access to **robust infrastructure** for ocean modeling, AI, data processing



- **DATA** : integrate existing/new validated dataset
- **ENGINE** : increase ocean model/tools complexity, interaction
- **SERVICES** : provide on demand processing and modeling capacities

Trustable, validated and documented information, dataset and good practices to use the DTO

EDITO provides an architectural basis
for the interconnection of assets

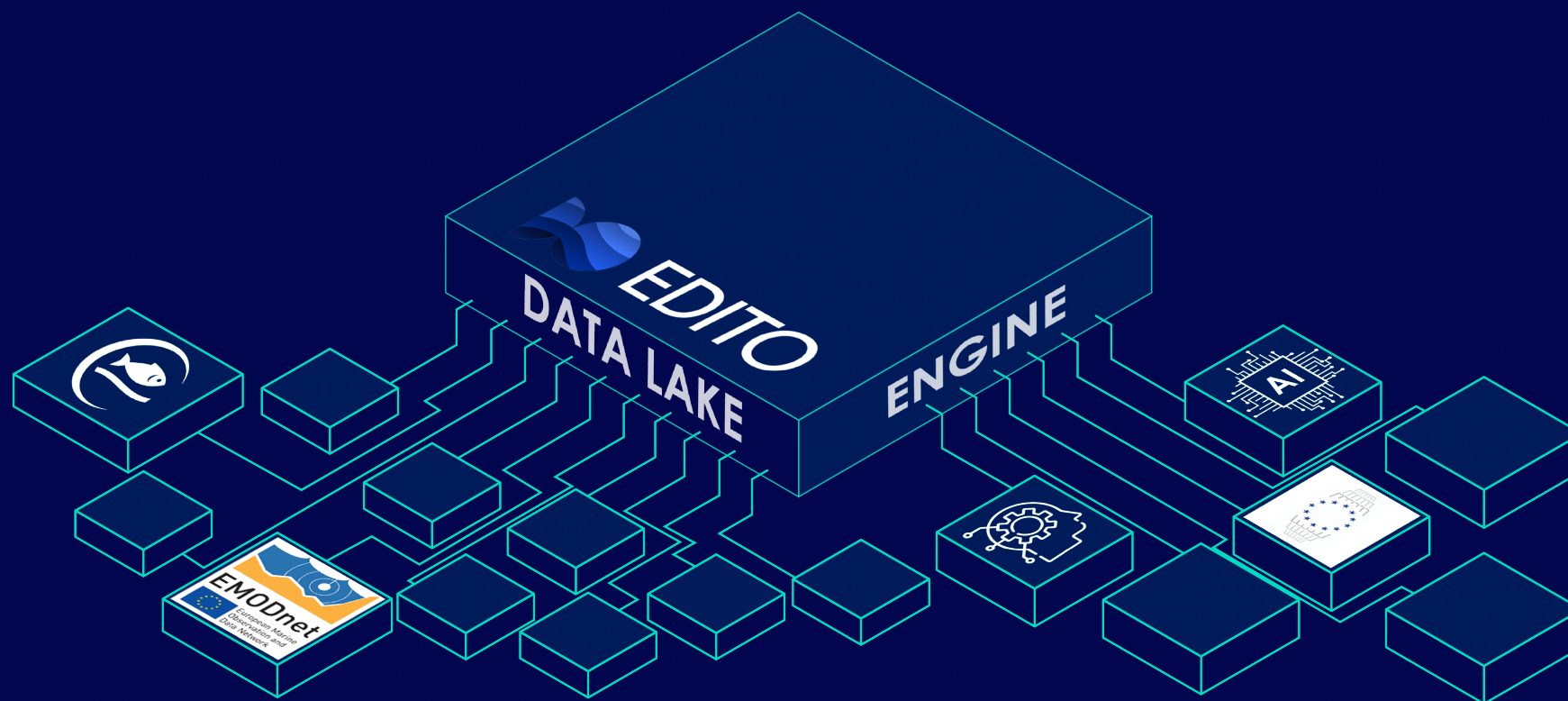


EDITO will set up a federated data lake



EDITO infra will set up a processing engine

for running models, AI Machine Learning, Hybrids models
and applications





Integration of

DATA

 **Blue-Cloud**
Piloting innovative services for Marine Research & the Blue Economy

VIRTUAL LABS





Ocean Health



Polar Environment Monitoring



Trade & Marine Navigation



Climate & Adaptation



Policies & Ocean Governance & Mitigation



Science & Innovation



Education, Public Health & Recreation



Natural Resources & Energy



Marine Conservation & Biodiversity



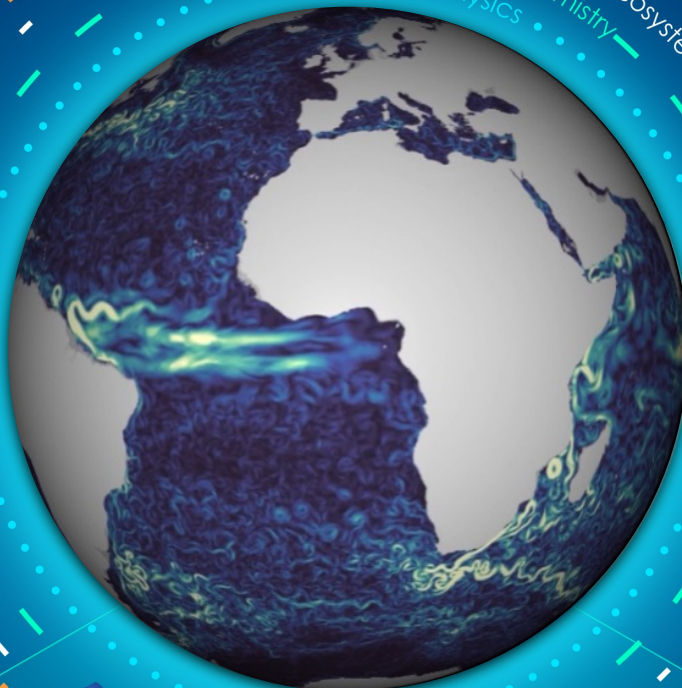
Coastal Services



Marine Food



Extremes, Hazards & Safety



EDITO
DATA LAKE

ENGINE





Polar
Environment
Monitoring



Ocean
Health



Trade
& Marine
Navigation



Climate
& Adaptation



Policies & Ocean
Governance
& Mitigation



Science
& Innovation



Education,
Public Health
& Recreation



Natural
Resources
& Energy



Marine
Conservation
& Biodiversity



Coastal
Services



Marine
Food



Extremes,
Hazards
& Safety

