



The EU Digital Twin of the Ocean vision

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European Commission

(DG MARE)

representing the inter-service EU DTO team

Learn more here:



EU DTO: the EC Vision

Support the Mission



**PROTECT AND RESTORE MARINE
AND FRESHWATERS ECOSYSTEMS
AND BIODIVERSITY**

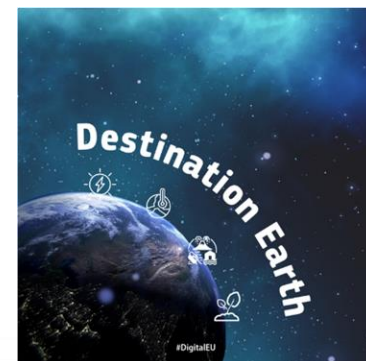
**PREVENT AND ELIMINATE POLLUTION
OF OUR OCEANS, SEAS AND
WATERS**

**MAKE THE BLUE ECONOMY CARBON-
NEUTRAL AND CIRCULAR**

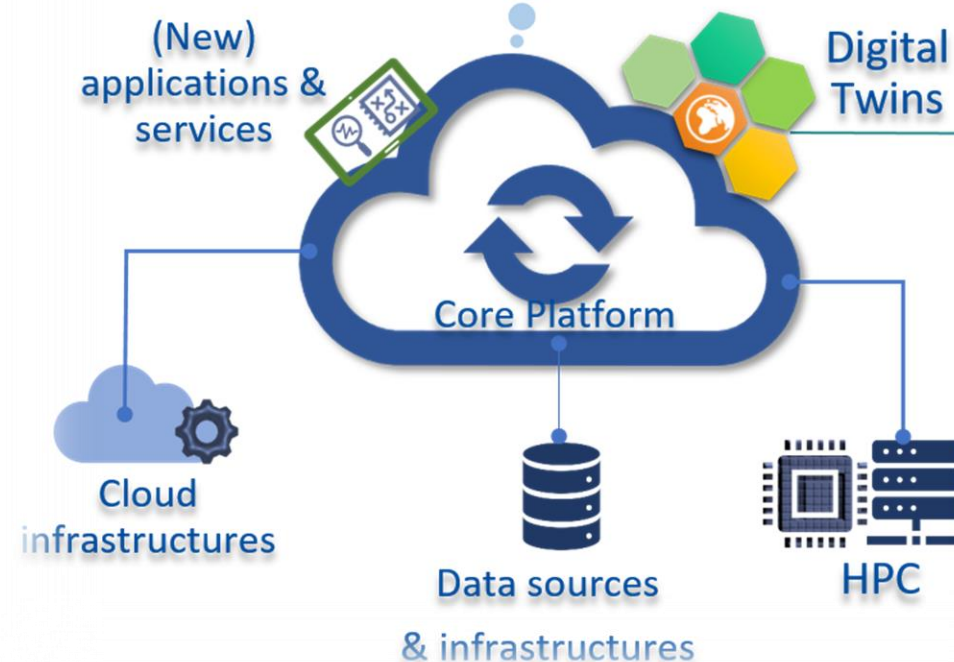
Cross-cutting enablers for the mission:

- Digital Ocean and Water knowledge system
- Public mobilisation and engagement

Part of DestinE



Climate adaptation, extrêmes and geohazards
Ocean, biodiversity, urban



From the EU to the world



“Today, we know the ocean is vulnerable and is threatened by our misdeeds. Pollution, chemicals and the overexploitation of marine resources. The ocean is too large for any one of us, and yet so fragile that our individual actions matter. ...

*... Every problem is an opportunity for innovation. But we need a clear and ambitious objective. We need a mission, like the European Green Deal. **That is why we have launched the ‘Mission to restore our ocean and waters by 2030’***

... Finally, the ocean is still largely a great mystery for humankind.

That is why Europe is building a digital twin of the ocean.

We are connecting our assets – like the Copernicus satellites, marine infrastructure like icebreakers, buoys and underwater drones, and high performance computing. We will gather the raw data and turn it into real-time knowledge and longer-term predictions.

We are putting the power of the digital revolution at the service of our climate. ...”



EU DTO: the EC Vision



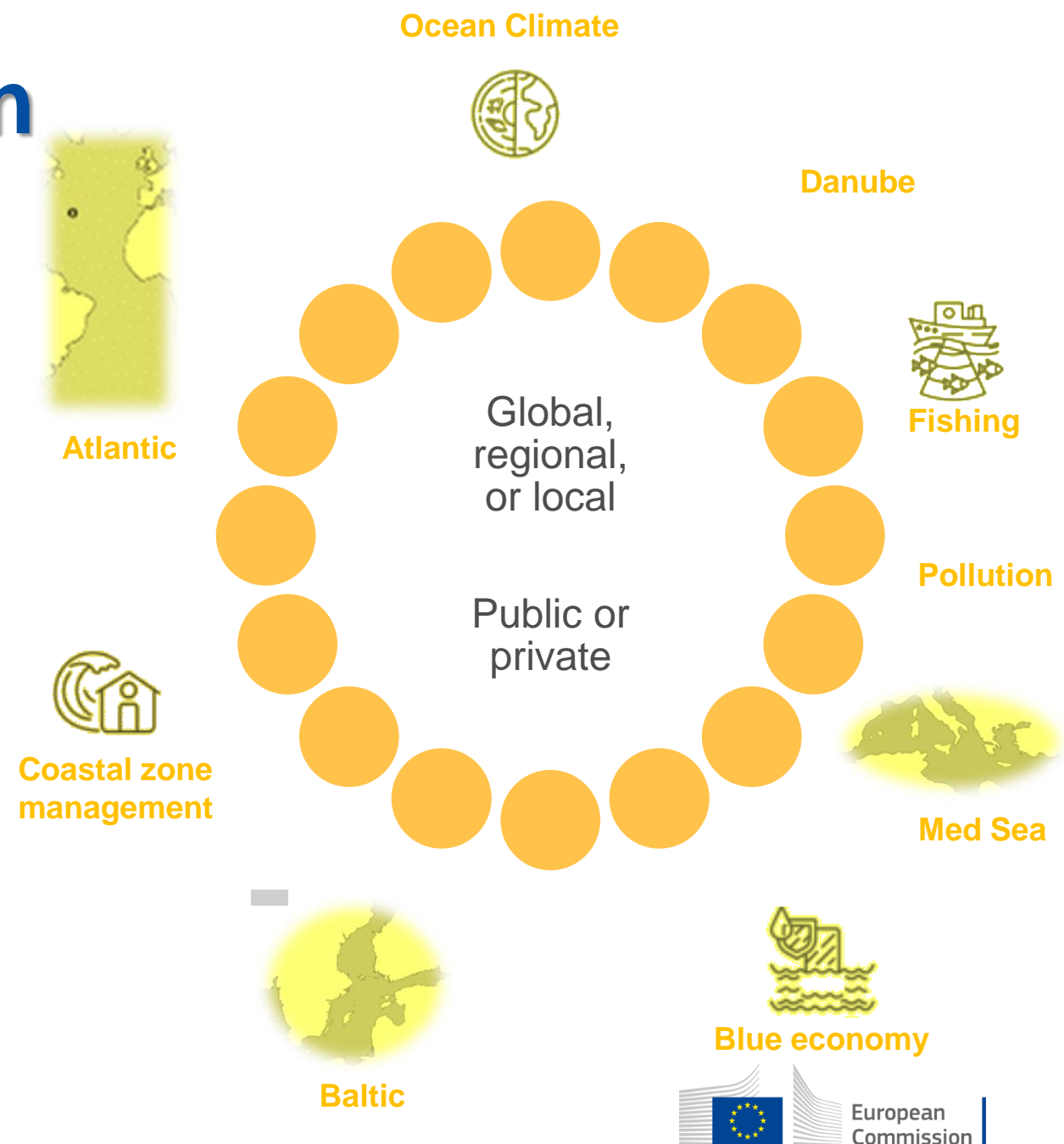
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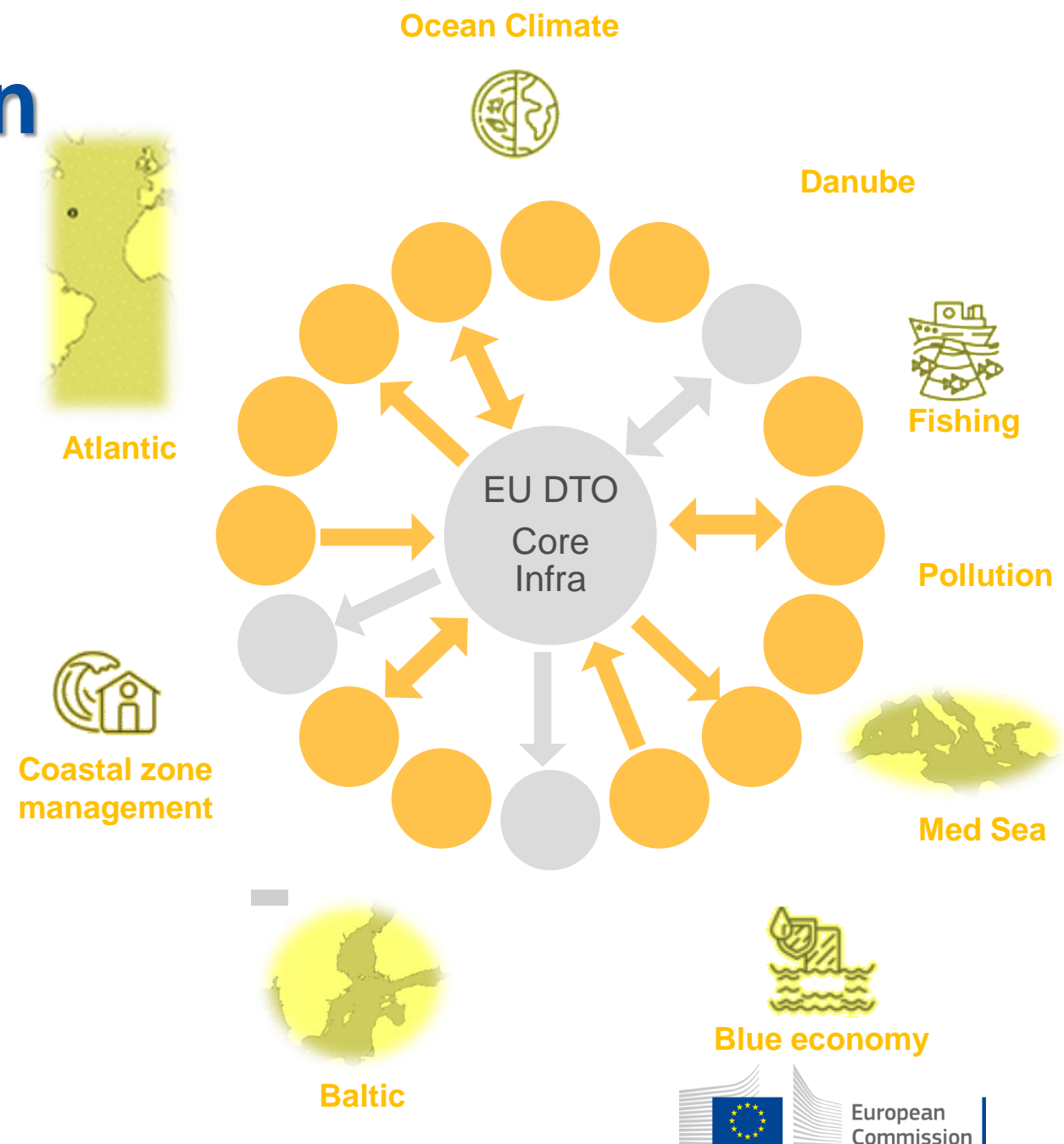
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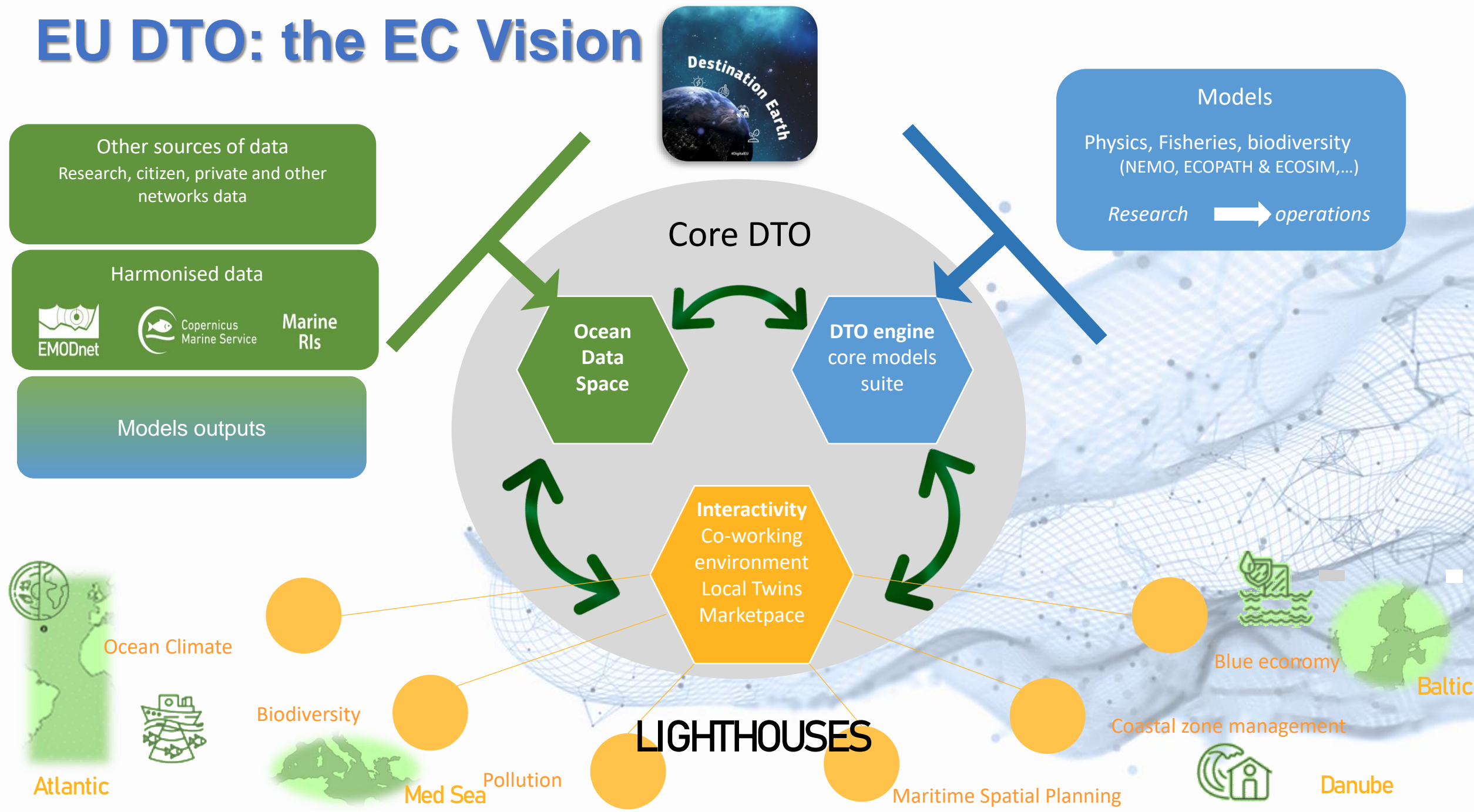
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EU DTO: the EC Vision



3 pillars of action

Science-base

- ILIAD
- Horizon Europe:
 - Projects: Blue Cloud, Immerse (Adv Nemo models), Obama-Next, MarcoBolo, Biocean5D, Marbefes (marine and coastal biodiversity and ecosystems)
 - Calls: FAIR and open data sharing in support of healthy oceans, seas, coastal and inland waters; Operational ecosystem models from space; Understanding the oceanic carbon cycle
- Sustainable Blue Economy Partnership

EU Core Digital Twin Ocean

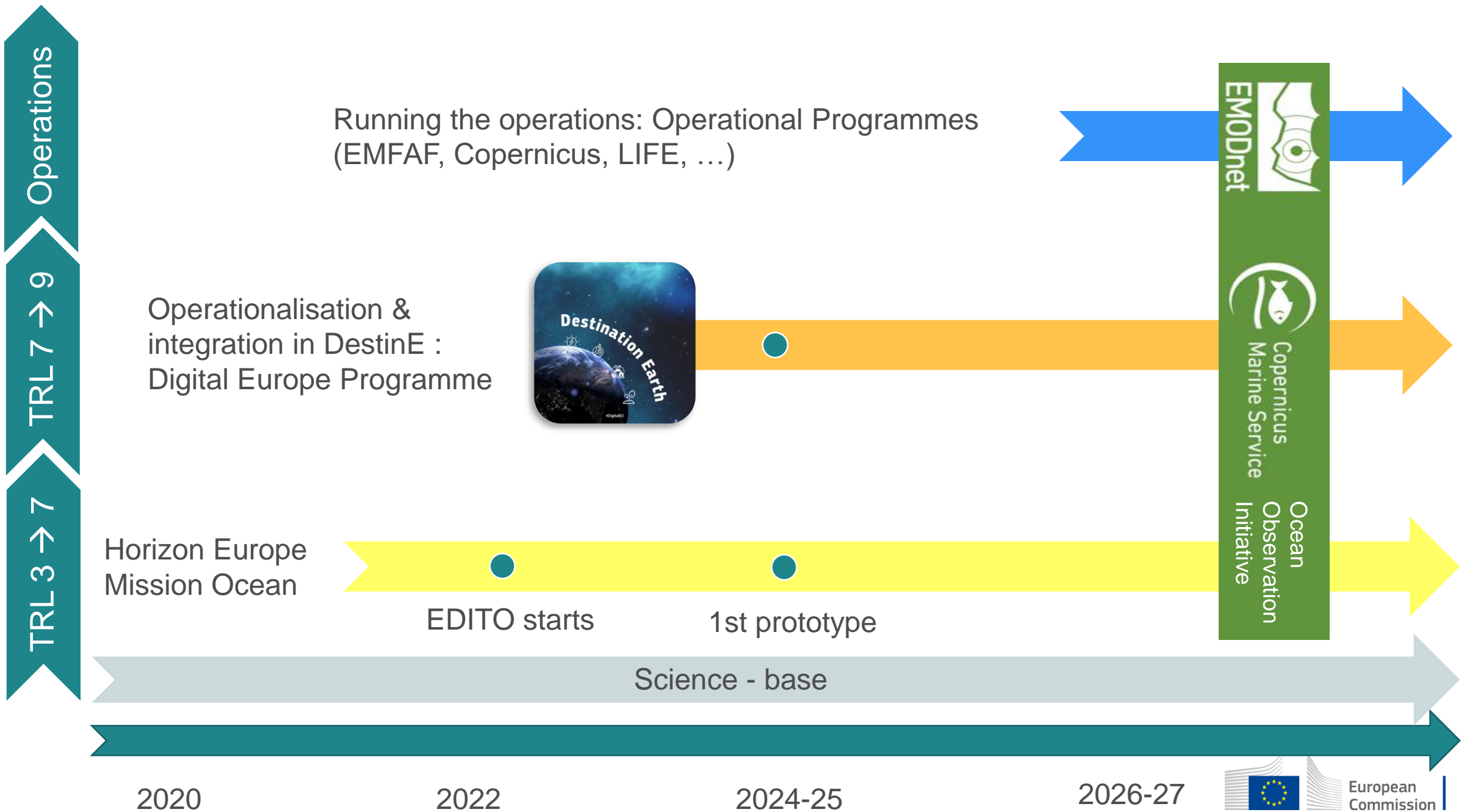
- Infrastructure for EU DTO:
 - EDITO-INFRA
- Data:
 - Integration of biodiversity monitoring data into the DTO
 - Roadmap inland waters (CSA)
- Models:
 - EDITO-Model-LAB: Underlying models for the European Digital Twin Ocean,
 - Socio-economics models (RIA)
- Services & Interfaces:
 - First steps by EDITO-INFRA & ILIAD

EU DTO in the world

- EU 27
- ESA
- UN Ocean Decade
 - DittO
 - Ocean Data Coordination Platform
 - UN DCC Ocean Prediction & Coastal Resilience
- G7 – FSOI
- All-Atlantic Ocean Research Alliance

To come (2023 – onwards) :

- gradual integration in EU DTO of ecosystems and socio-ecological models, as well as inland waters
- user and impact-driven services and applications





Thank you!

