EUROPEAN UNION

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EU MISSIONS

RESTORE OUR OCEAN & WATERS

The EU Digital Twin of the Ocean vision

Eva Tzika, Mission Secretariat, Directorate-General of Maritime Affairs and Fisheries (DG MARE)

#EUmissions #HorizonEU #MissionOcean

European Mission
‘Restore our Ocean and Waters by 2030’

Systemic path
to restoration of the health of the ocean & waters
as recommended by the
Mission Board in its Starfish report

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Mission intervention logic

Mission objective

Restore our ocean and waters by 2030

Specific objectives & targets

- **Protect and restore marine and freshwater ecosystems and biodiversity in line with EU Biodiversity Strategy**
- **Prevent and eliminate pollution in line with EU Zero Pollution Action Plan**
- **Make the sustainable Blue economy climate neutral and circular in line with EU Climate law**

Cross-cutting enablers

A. Digital ocean & water knowledge system
B. Public mobilisation & engagement

Outputs

- **Danube River Basin lighthouse**

- **Atlantic & Arctic sea basin lighthouse**

- **Mediterranean sea basin lighthouse**

- **Baltic & North sea basin lighthouse**

EU DTO: the EC Vision

Support the Mission

PROTECT AND RESTORE MARINE AND FRESHWATERS ECOSYSTEMS AND BIODIVERSITY

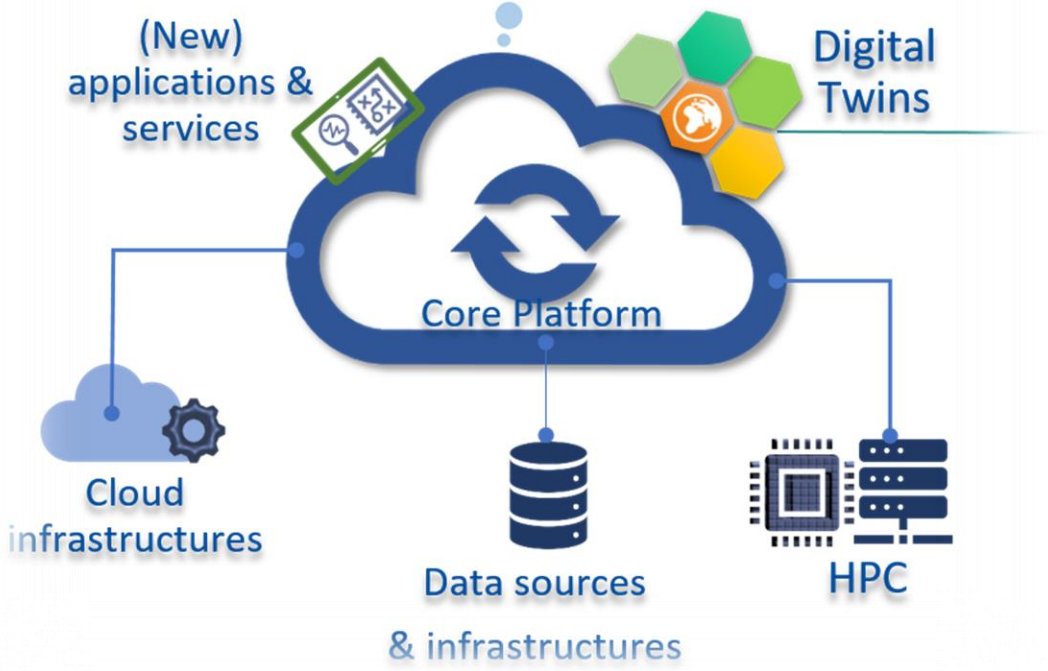
PREVENT AND ELIMINATE POLLUTION OF OUR OCEANS, SEAS AND WATERS

MAKE THE BLUE ECONOMY CARBON-NEUTRAL AND CIRCULAR

Cross-cutting enablers for the mission:

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

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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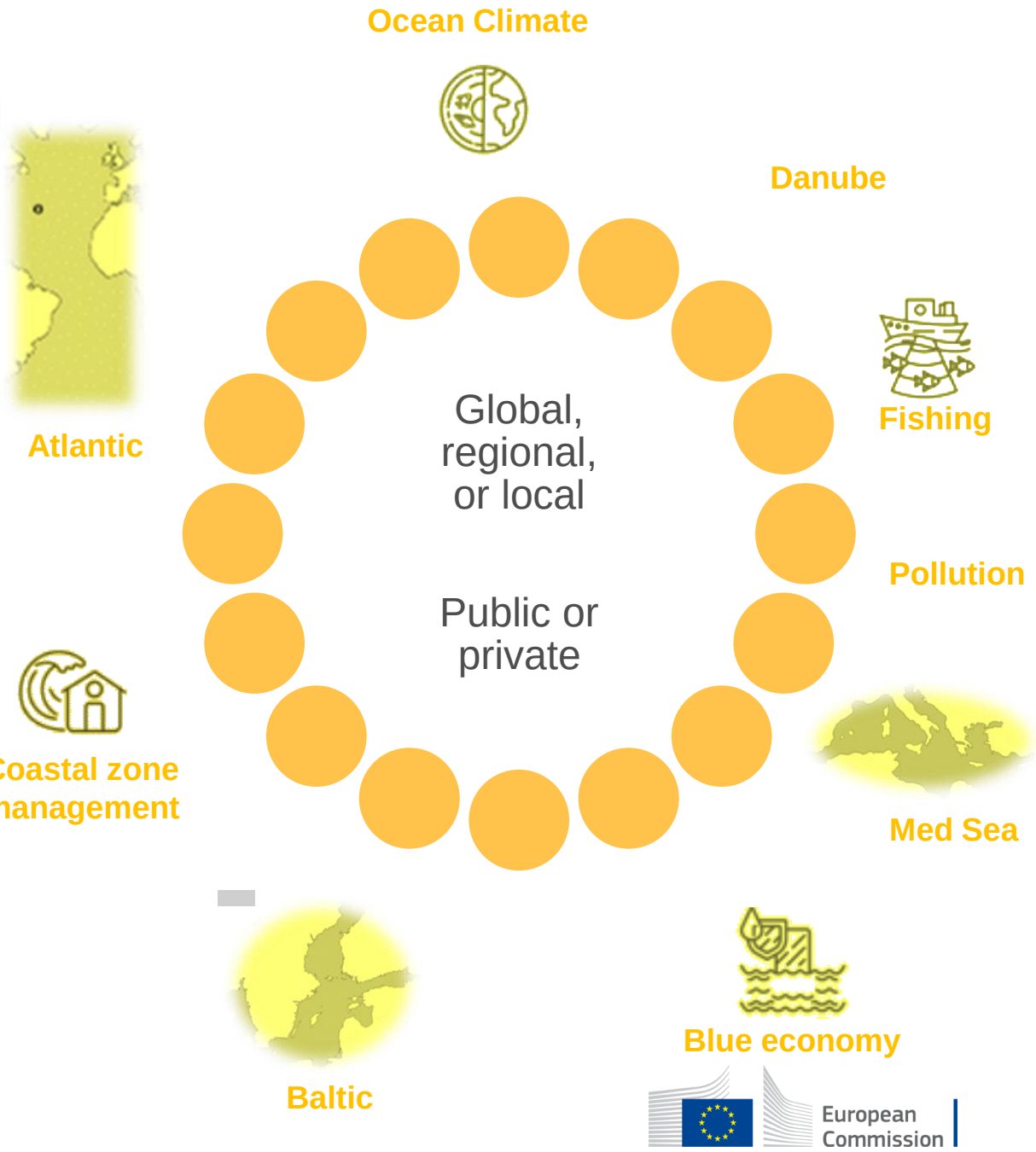

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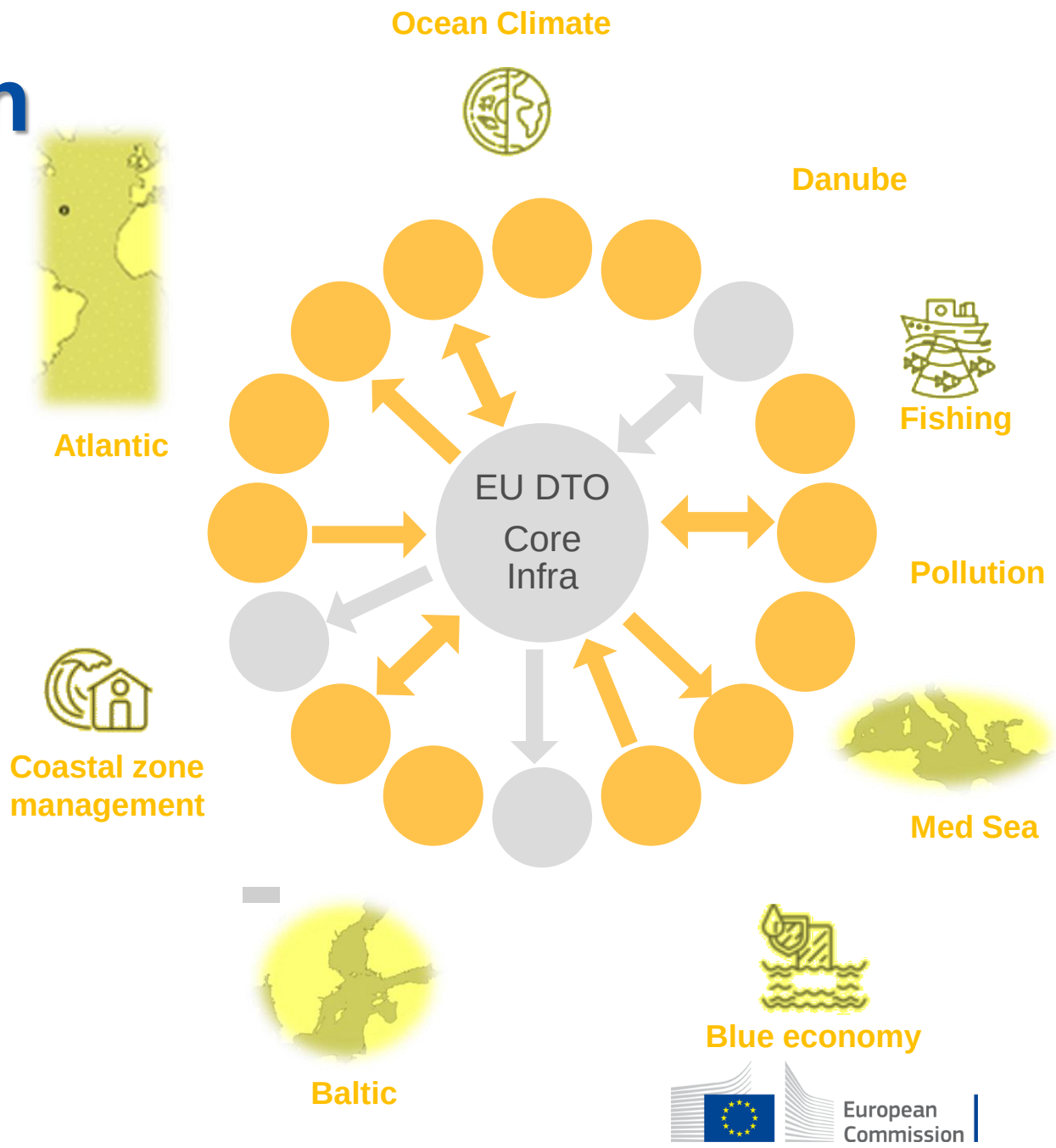

European Commission

EU DTO: the EC Vision

Other sources of data
Research, citizen, private and other networks data

Harmonised data

EMODnet · Copernicus Marine Service · Marine RIs

Models outputs

Models

Physics, Fisheries, biodiversity
(NEMO, ECOPATH & ECOSIM,…)

Research → *operations*

Core DTO

Ocean Data Space

DTO engine core models suite

Interactivity Co-working environment Local Twins Marketpace

3 pillars of action:

- Core infrastructure
- Science
- EU DTO in the world

LIGHTHOUSES

Ocean Climate

Biodiversity

Pollution

Med Sea

Atlantic

Blue economy

Baltic

Coastal zone management

Maritime Spatial Planning

Danube

Polar Environment Monitoring
Ocean Health
Trade & Marine Navigation
Climate & Adaptation
Policies & Ocean Governance & Mitigation
Science & Innovation
Socioecology
Marine Species ecosystems
Biogeochemistry
Physics
Education, Public Health & Recreation
Natural Resources & Energy
Marine Conservation & Biodiversity
Coastal Services
Marine Food
Extremes, Hazards & Safety
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ENGINE
Illiad
EuroSea
EMODnet
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Thank you!

Learn more here

European Commission