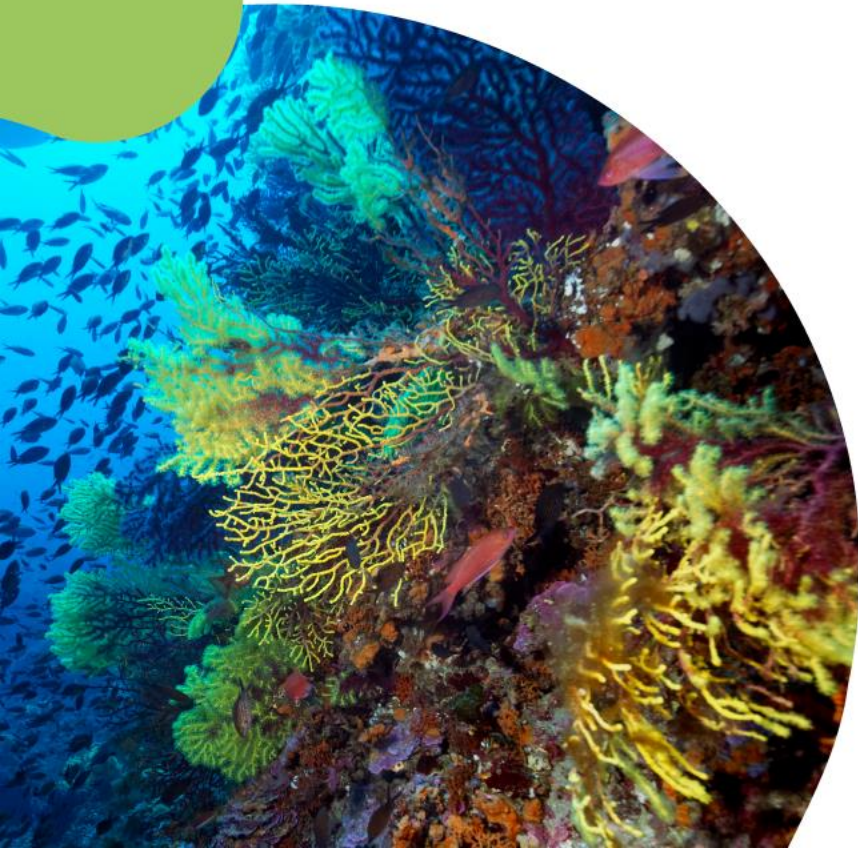


EFFECTIVE

PROTECTION AND RESTORATION MANAGEMENT · MEDITERRANEAN MPAs

**Enhancing social well being and
economic prosperity by reinforcing
the eFFECTIVENess of protection
and restoration management in
Mediterranean MPAs**



Co-funded by
the European Union

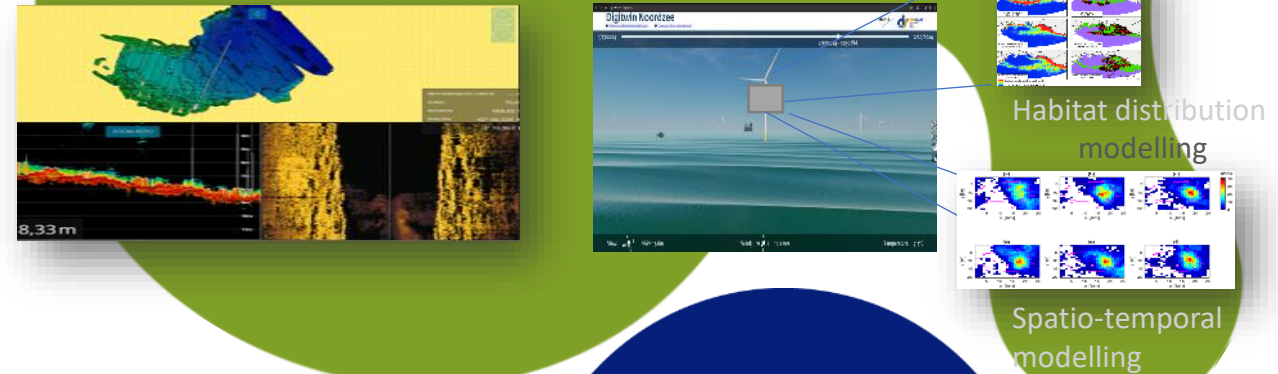
What?

The EFFECTIVE Project aims to promote large-scale MPA in the European seas trough:

- Innovative marine ecosystems restoration solutions (NbS).



Different observations and monitoring scales with digital technologies (Digital Twin Ocean).



The application of a new ecosystem-based management framework (EBMS).

Involving governance, participation and social engagement

How?

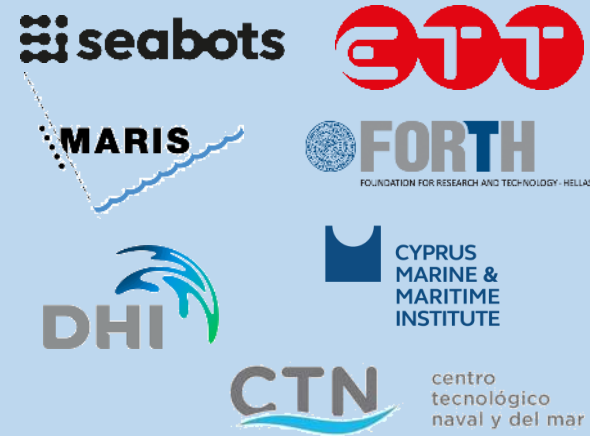
Block I

Policy frame and prot./rest. toolbox



Block II

Information pillar



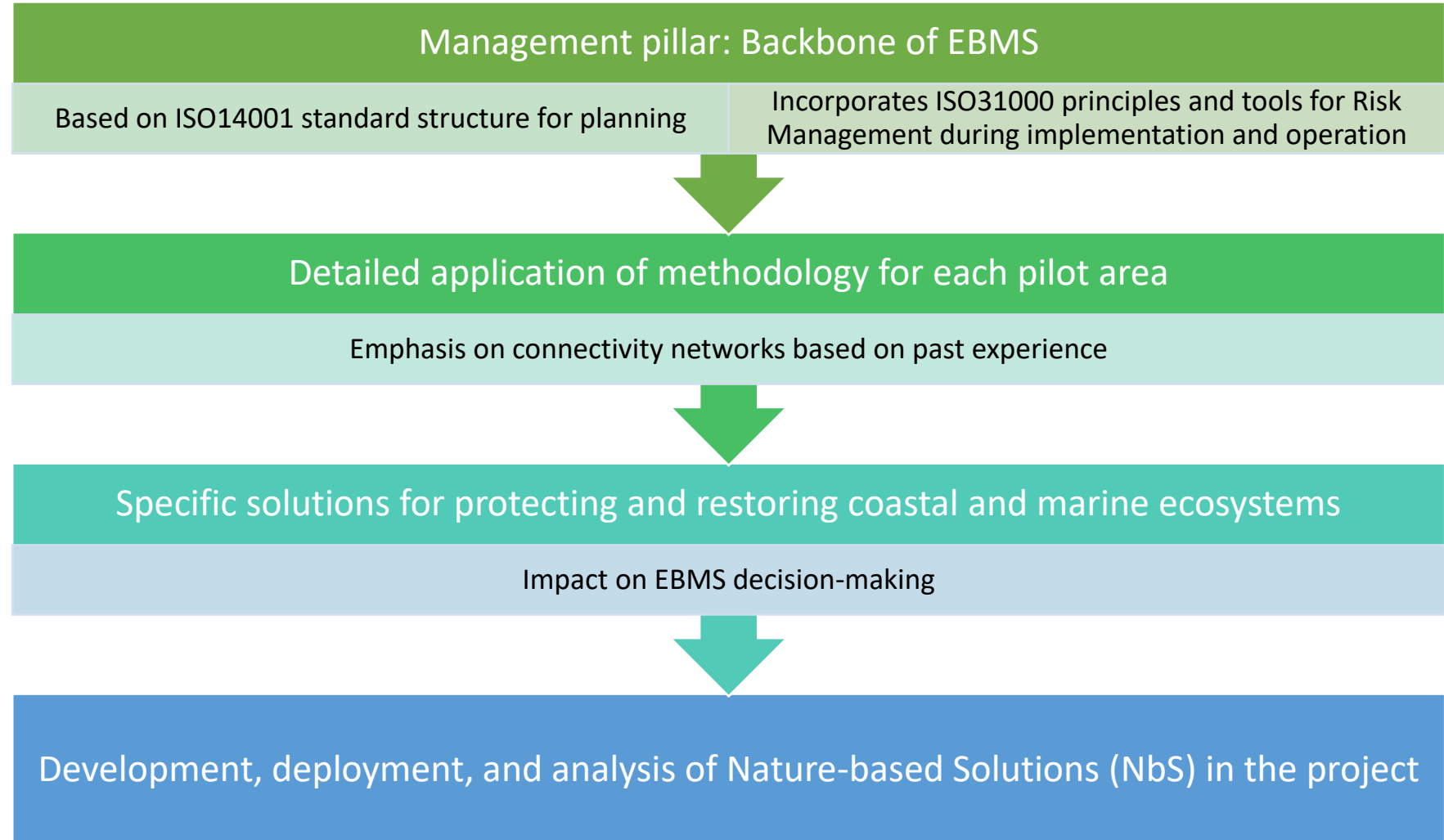
Block III

Participation pillar



Intro: Block I Policy frame and protection/restoration toolbox

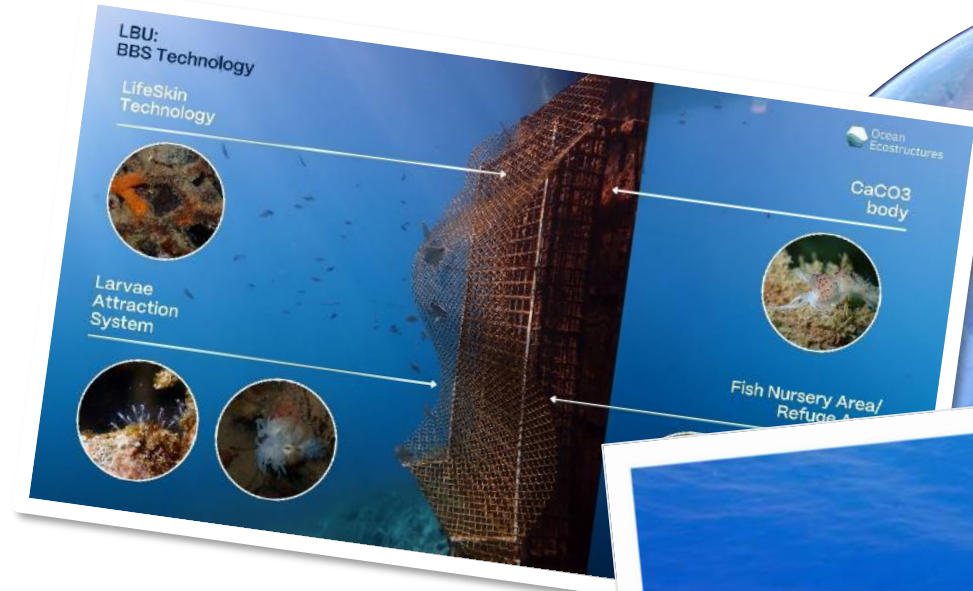
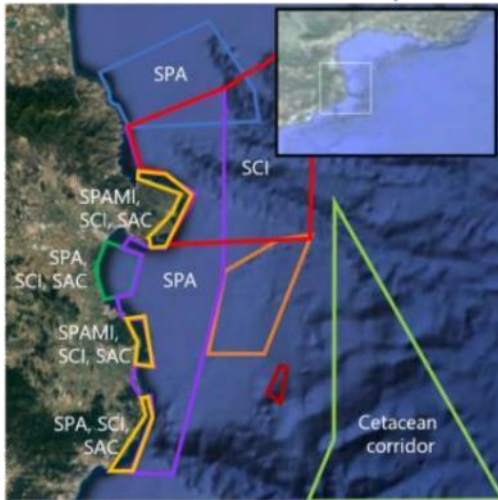
Managerial pillar



Pilot 1.

The EFFECTIVE Project pilot areas:

Pilot area 1. Mar de l'Empordà



Bioregenerative solutions through BioBoosting System technology (BBS) to promote low impact Ports and Marinas

Marine artificial reef deployment with Geocorail process for marine restoration



Figura 3. Render demostrativo de la estructura de arrecife artificial. El diseño de la estructura no es el definitivo, durante el proyecto EFFECTIVE se trabajará el diseño para que se mimetice con el entorno y siga las directrices de la tecnología desarrollada por Ocean Ecostructures

Pilot 2.

The EFFECTIVE Project pilot areas:

Pilot area 2. Ebro Delta Bays



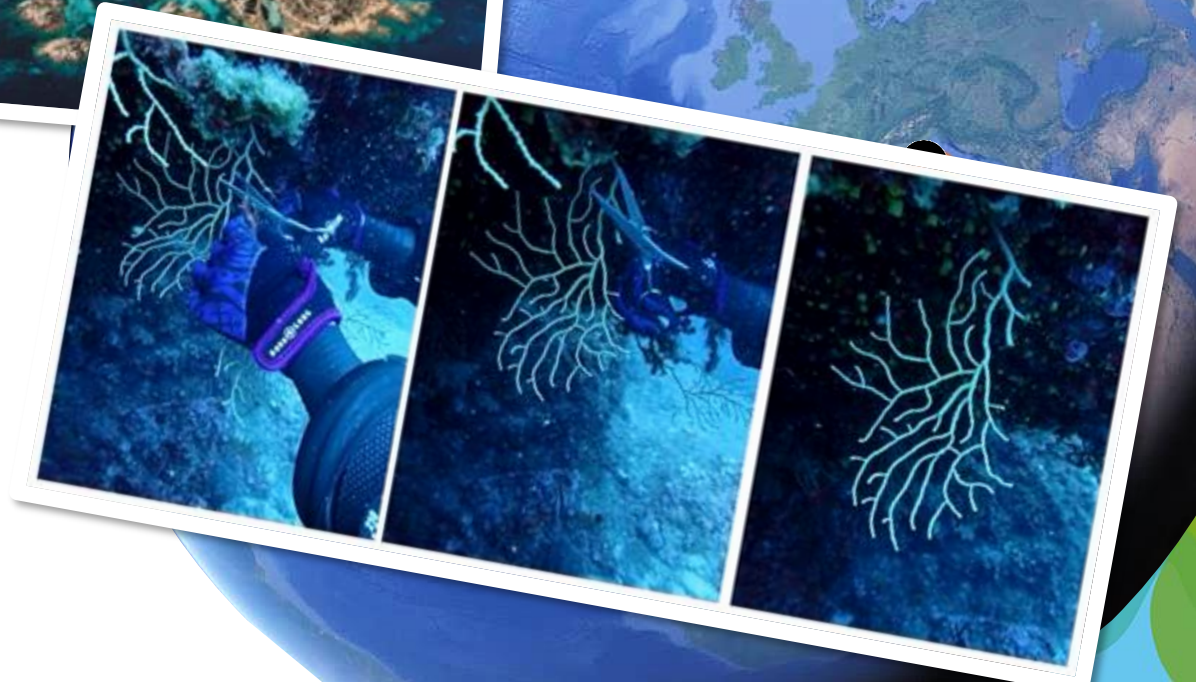
Innovative solutions for EBM of MPAs suffering from anthropogenic impacts (irrigation community):

- **Constructed wetland**
- **Seabed remediation**
- **Seagrass restoration**
- **Marine biotopes and oxygenation**

Pilot 3.

The EFFECTIVE Project pilot areas:

Pilot area 3. Sardinia Septentrional

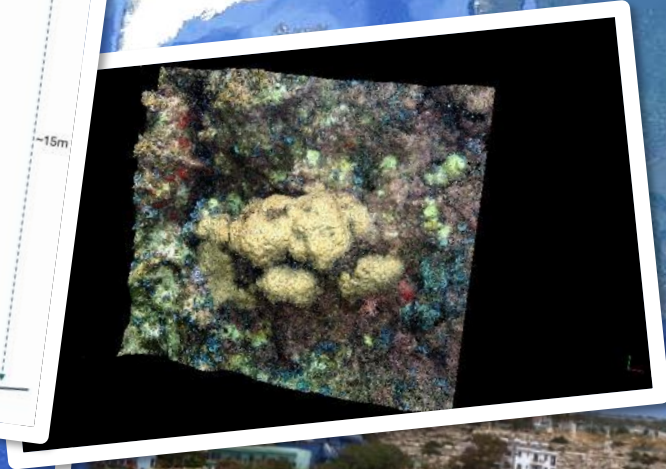
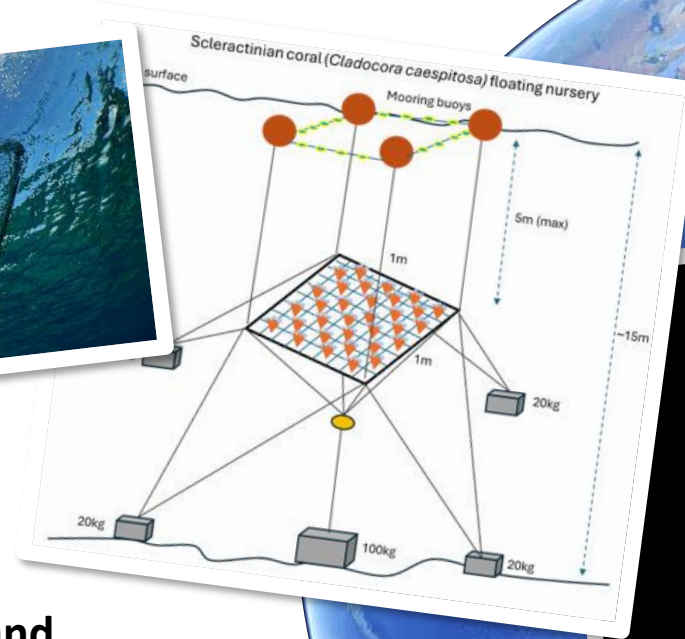
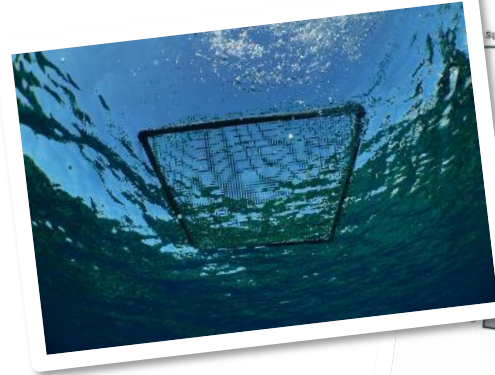


Coral Recovery program (AMP- Tavolara Punta Coda Cavallo + Parco Nazionale dell'Arcipelago di La Maddalena)

Pilot 4.

The EFFECTIVE Project pilot areas:

Pilot area 4. Cavo Greco

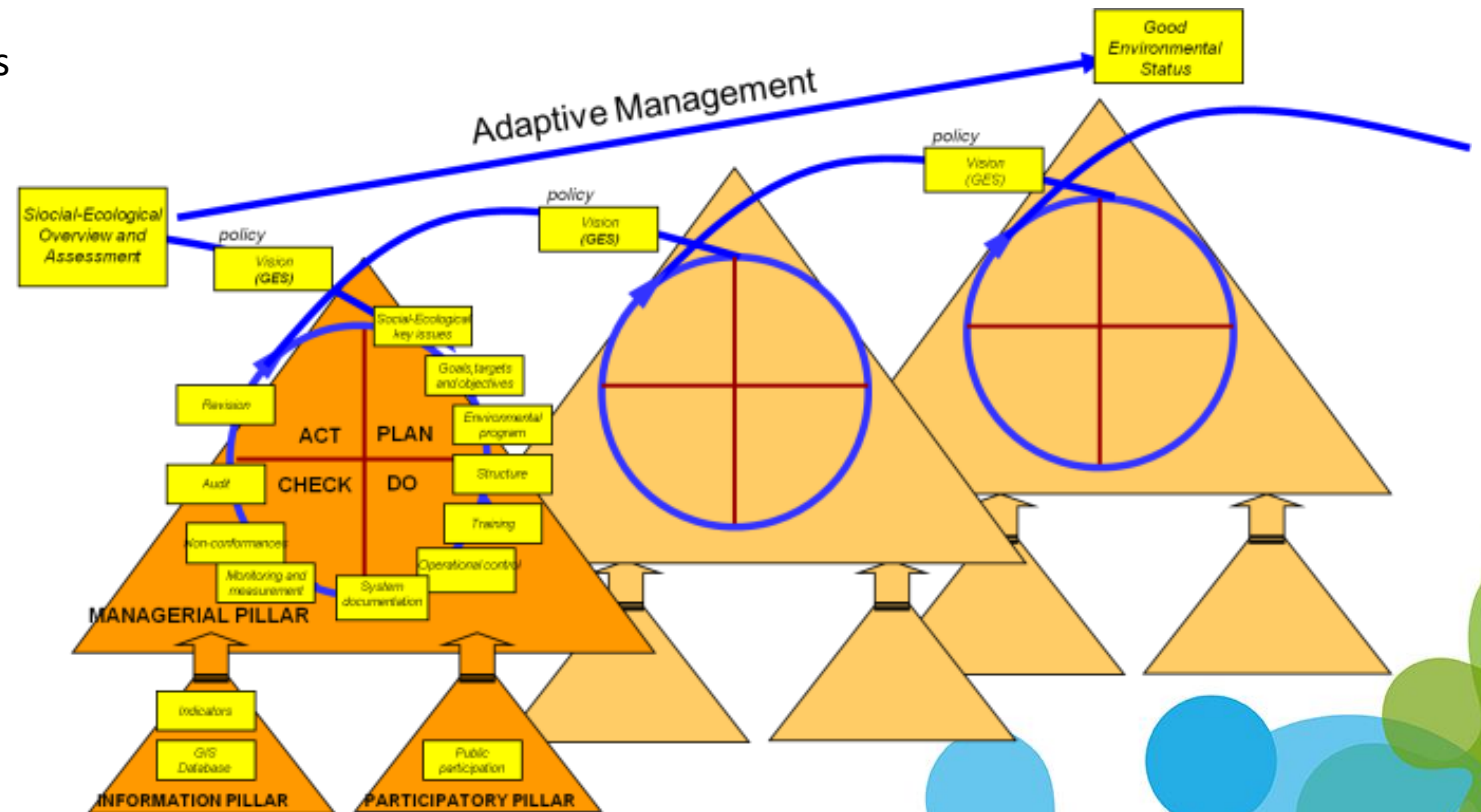


Floating nurseries for threatened marine species and complemented by “smart” technologies (*Cladocora caespitosa*)

EBM Roadmap implementation

The EBMS is an intended standard operational procedure

- Quality assurance, adaptive management tool
- Runs under Quality and Risk management schemes
- Normalizing a common set of instruments
- Introducing a common language
- Intended for real practice and capacity building



Intro: Block II information pillar

Information pillar

Requires both detailed in-situ characterization of the benthic ecosystem and a digital tool supported by wide range monitoring and spatial-temporal forecasting.



On-site monitoring and analytics

Demonstrate and validate nature-based seabed protection and restoration solutions, including its preservation and the carbon sequestration capacity.

Remote and wide range monitoring and analytics

Set up a dataflow from EU aggregators to feed ecosystem and connectivity models into the Digital Twin.



Blue Parks Digital Twin

Information pillar

In-situ monitoring and small-scale modelling

USV: Port bathymetry



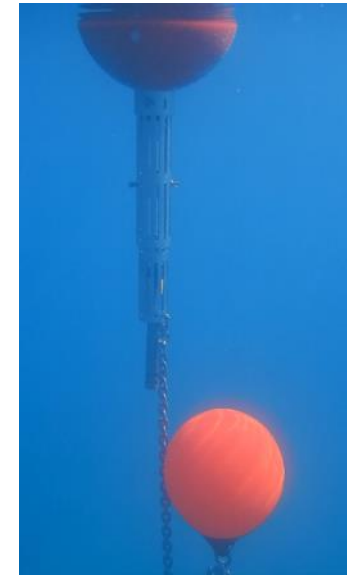
ROV: video transects & multiparametric



Water sampling: nutrients, water quality

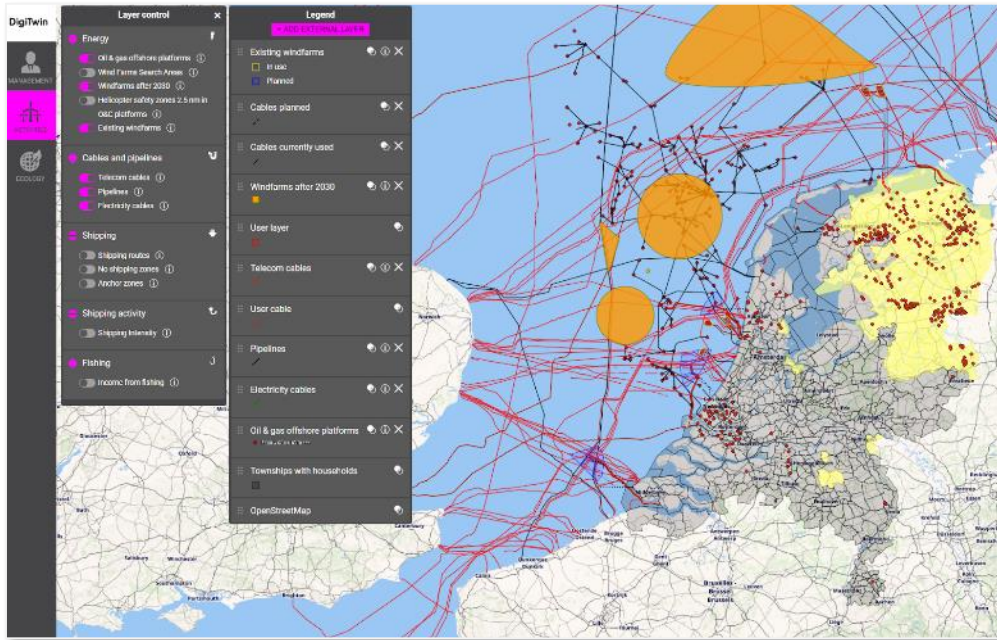


“smart” buoys

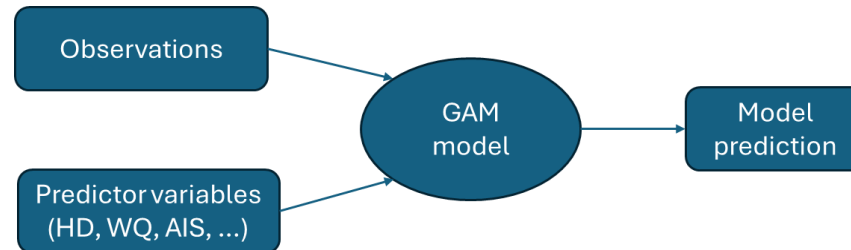
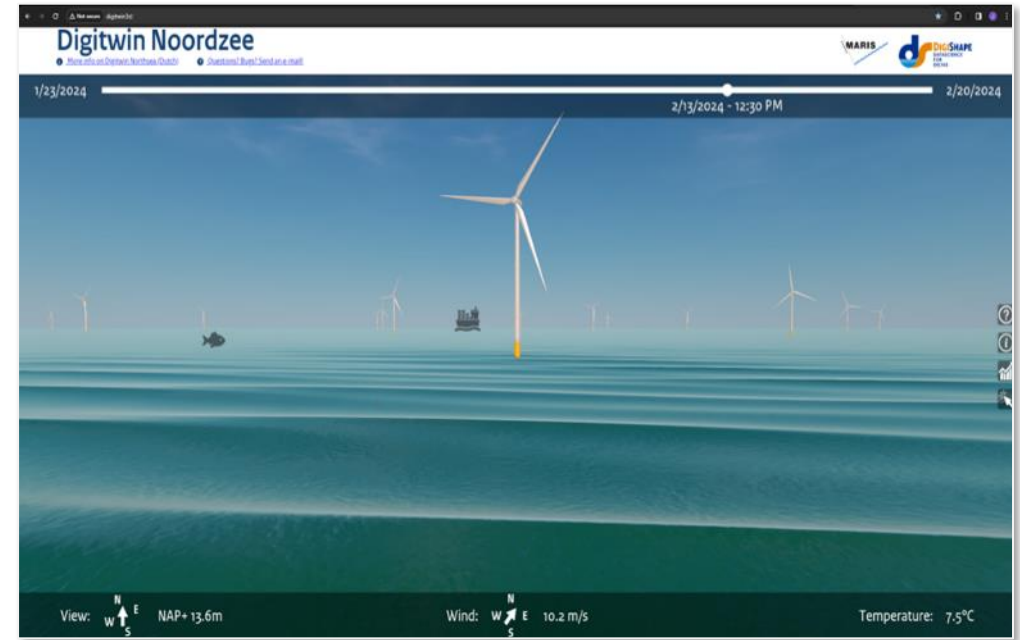


Blue Parks Digital Twin and spatial-temporal modelling

The 2D twin

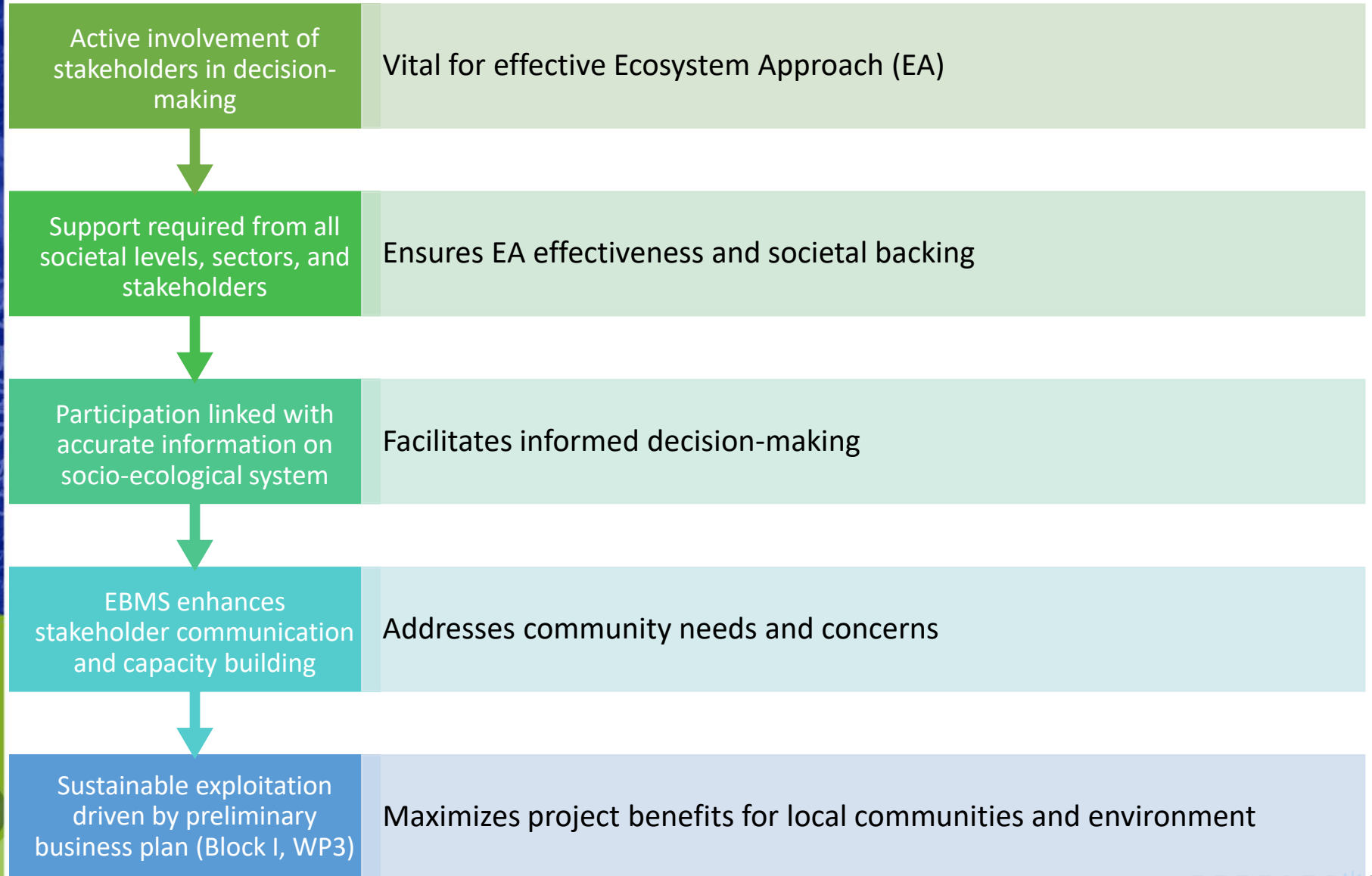


The 3D twin



Intro: Block III participatory pillar

Participation pillar



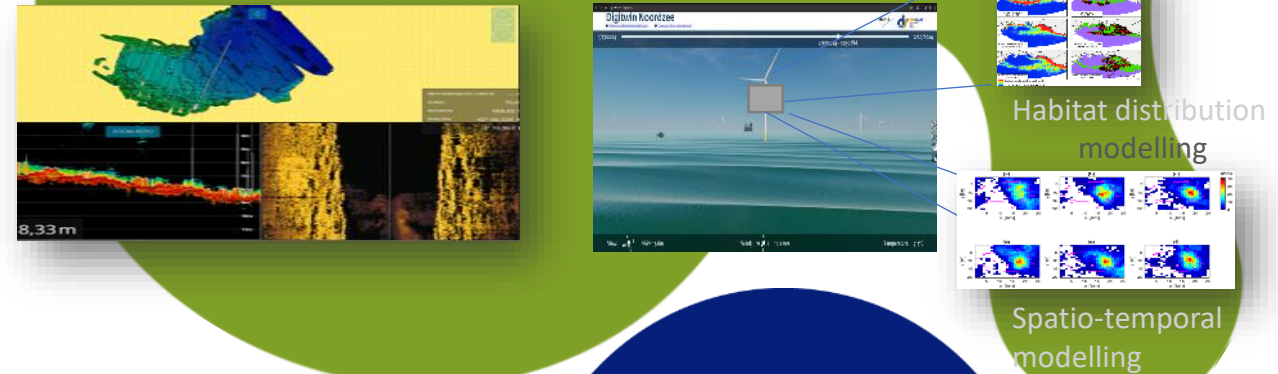
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**THANK
YOU!**

