

COPERNICUS MARINE 8th GENERAL ASSEMBLY

- **FOCCUS Project Introduction**

Copernicus Marine General Assembly

Joanna Staneva, Project Coordinator

Helmholtz Zentrum Hereon



Forecasting and observing the open-to-coastal ocean
for Copernicus users



PROGRAMME OF
THE EUROPEAN UNION



Copernicus
Marine Service

implemented by



Partners

- | | | |
|-----|-----------|-------------|
| 1. | HEREON | Germany |
| 2. | MOi | France |
| 3. | CMCC | Italy |
| 4. | SHOM | France |
| 5. | CLS | France |
| 6. | SOCIB | Spain |
| 7. | CNR | Italy |
| 8. | Deltares | Netherlands |
| 9. | NERSC | Norway |
| 10. | MET.NO | Norway |
| 11. | SMHI | Sweden |
| 12. | +ATLANTIC | Portugal |
| 13. | RBINS | Belgium |
| 14. | MHD | Romania |
| 15. | EUROGOOS | Belgium |
| 16. | BC | Germany |
| 17. | DMI | Denmark |
| 18. | Ifremer | France |
| 19. | SSBE | Belgium |



● Background

Coastal zones are:

- heavily used and impacted areas of the global ocean
- diverse human pressures and anthropogenic stressors
- particularly vulnerable

Efforts still needed to reinforce coastal capabilities to:

- innovate with the related marine knowledge value chain towards seamless delivery
- tailor the information products and solutions to meet policy needs and wider user requirements



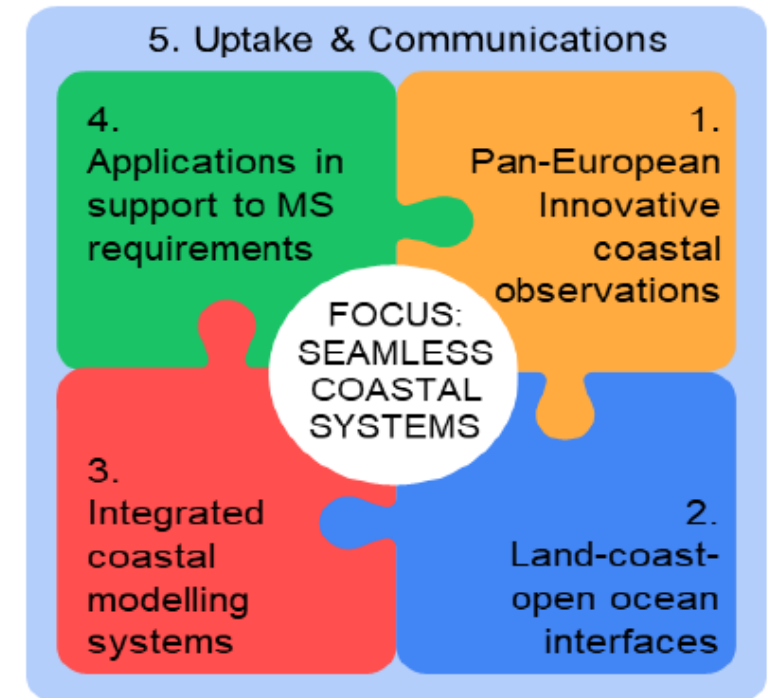
Objectives

To improve and advance the coastal dimension of CMEMS

- coupling of CMEMS and MSCS
- co-design between MS services and reinforced CMEMS

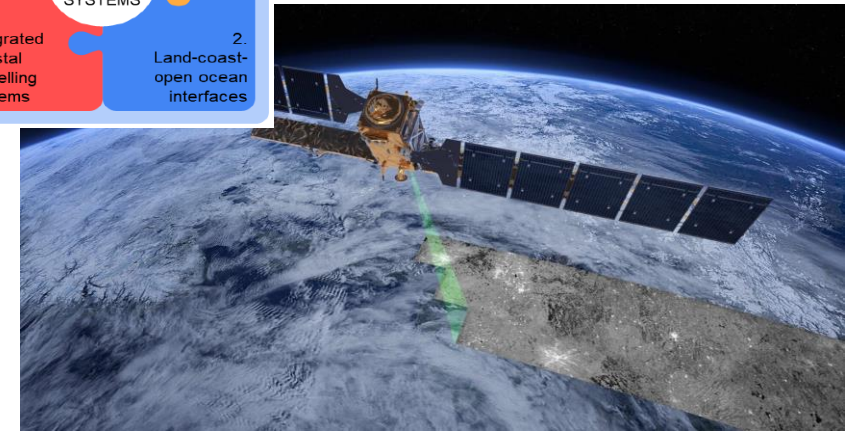
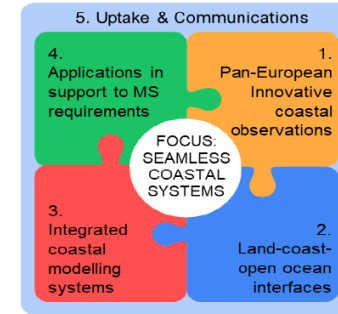
Develop advanced, seamless coastal monitoring and forecasting systems

- joint effort based on novel approaches
- better constrain coastal applications and models developed at national and local levels



Objectives

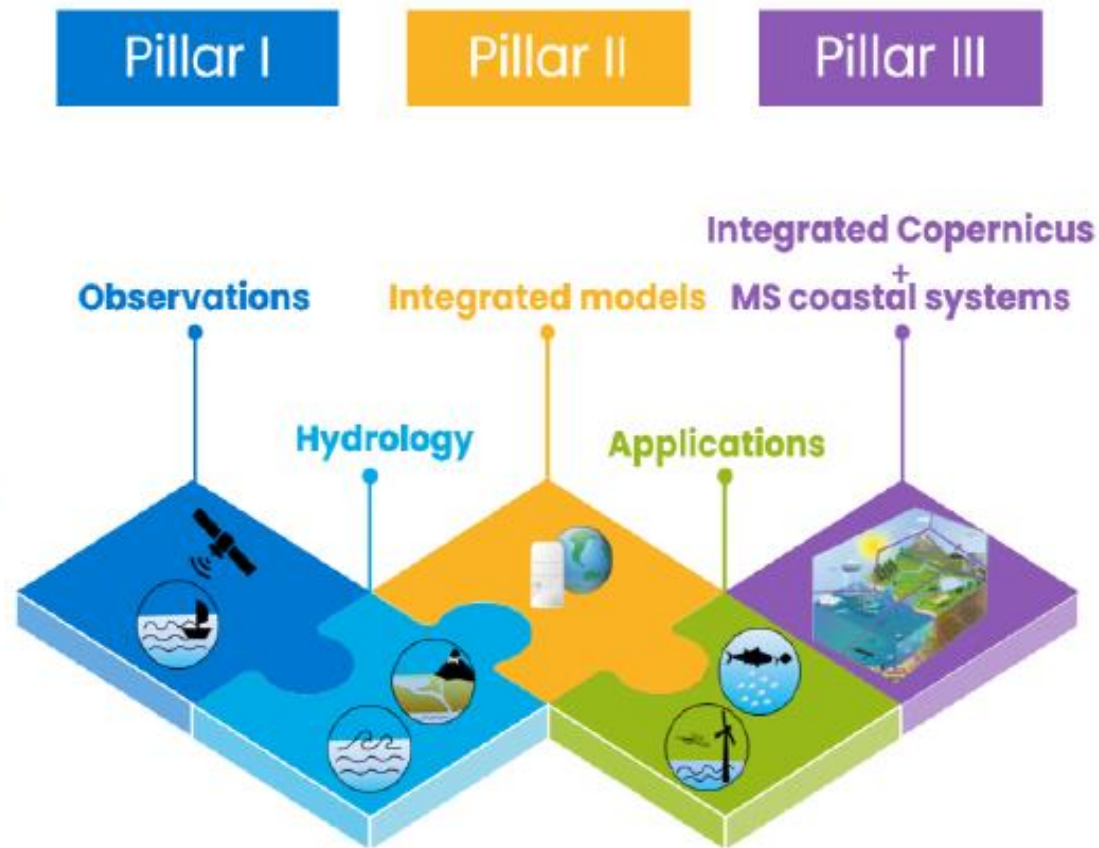
- Address and enhance coastal extension of Copernicus Marine Environment Monitoring Service (CMEMS) → better serve coastal users and Member States
- Objectives selected to specifically innovate and evolve CMEMS coastal products where limitations are identified, or where services not yet sufficient:
 - near coastal borders
 - areas with high socioeconomic pressures



Copernicus
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Ambitions



Achieve a **seamless monitoring and forecasting** of the ocean by:

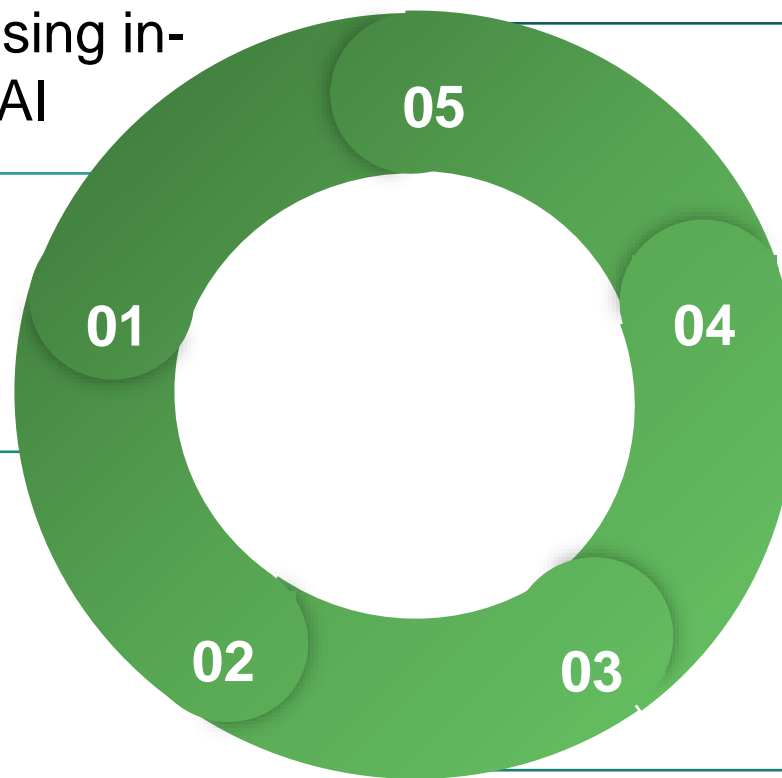
- applying and improving methods
- **development of new coastal products** co-production with MSCSSs

→ **operational, fit-for-use coastal information service for Europe**

Ambitions

Improve coastal variables and create new/fusion coastal products using in-situ/remote sensing data and AI

Advance framework of land-ocean continuum (LOC) by improving inputs of freshwater/rivers for coastal ocean models



Communicate potential combination of CMEMS with MSCSs to a variety of user groups

Co-design, co-develop and test **applications**, demonstrate value in different sectors (policy, blue economy, human activities)

Implement new, seamless methods in coastal ocean forecasting production chains

● Impact and Expected Outcomes

Enhanced quality and efficiency of the current service to respond to:

- policy and/or user requirements
- technological developments for space regulation
- complementing challenges for related initiatives

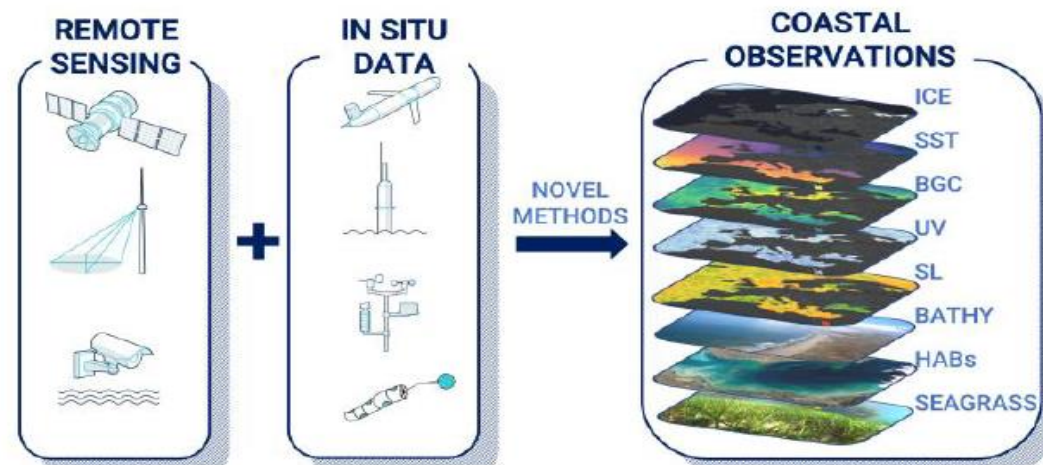
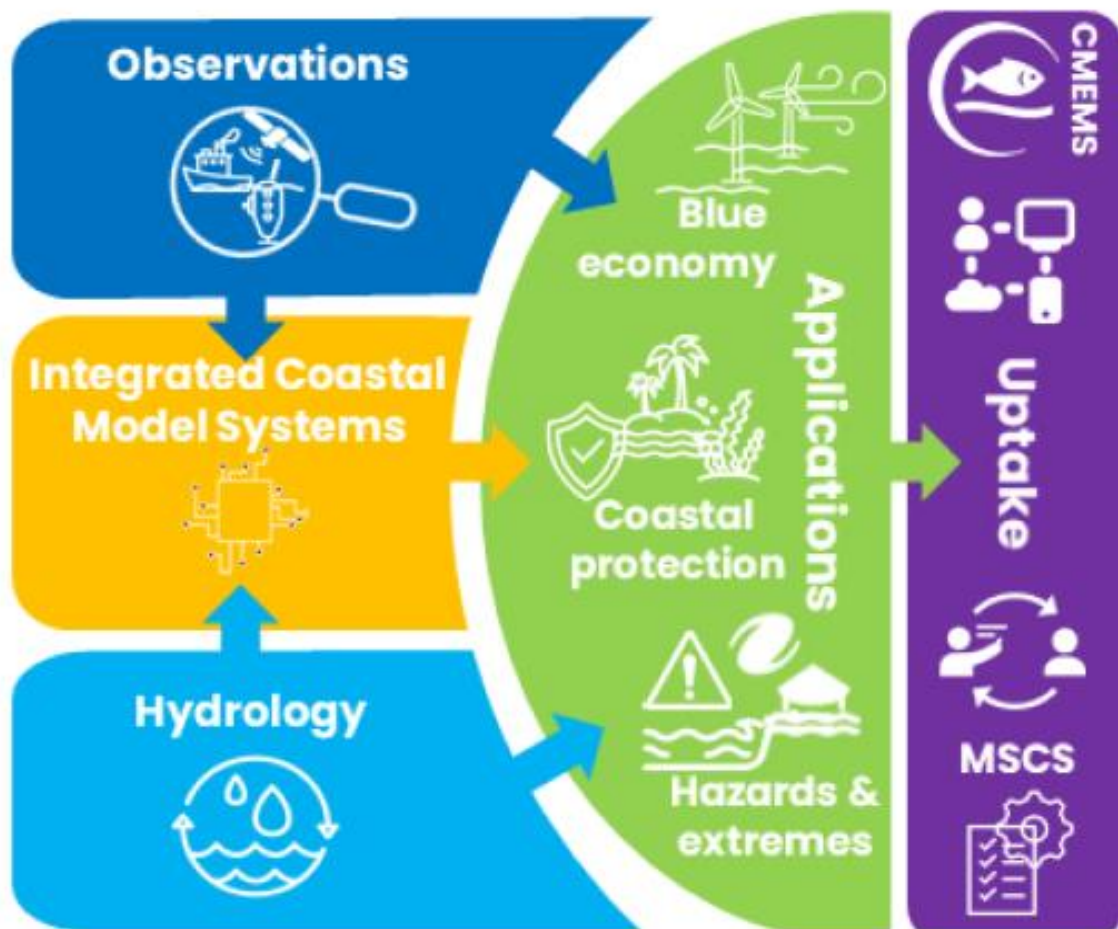
Development of efficient and reliable new products chains

- new paradigms in data fusion, processing and visualisation
- handle more high-volume satellite data sets
- evolving user-driven service, preserving continuity of service

Development of new algorithms and processing chains

- preparing use of new types of space observation data (new Sentinels, other contributing missions)
- development of new products or improvement of existing products

Methodology



FOCCUS & Copernicus Marine

Copernicus Marine Service: Evolution, R&D programme Developing the coastal extension of Copernicus Marine

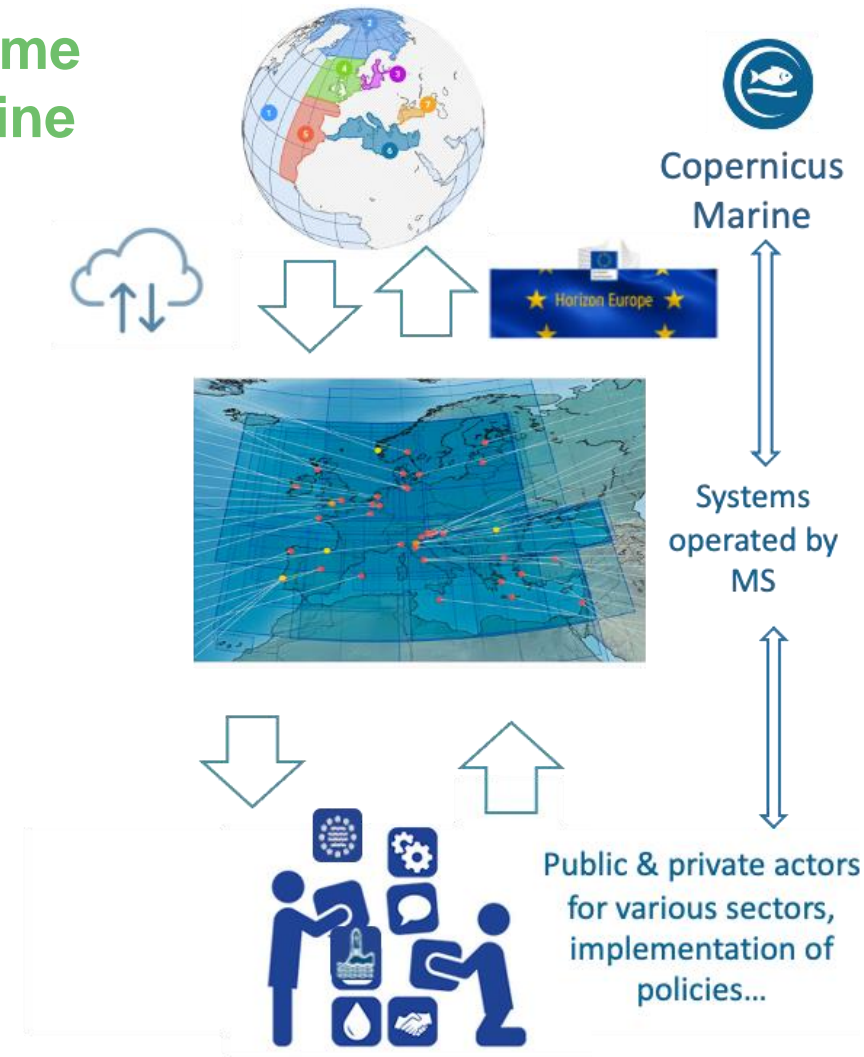


New satellite products (e.g. time evolving bathymetry, waves, winds, marine debris). Synergies with **EMODnet**.

Provision of **standardized modelled river discharges** (freshwater, nutrients, particulate and dissolved matter).

Coupling between **Copernicus Marine** and a series of **coastal models** operated by Member States. **Integration** in Marine portfolio of **coastal model derived information**.

Copernicus Coastal Thematic Hub (marine & land)



Program Relationships

FOCCUS will link to several European programs and networks, in addition to several selected **European Horizon 2020 (H2020)** and **Horizon Europe (HE)** projects.



2021
2030 United Nations Decade
of Ocean Science
for Sustainable Development





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