



LandSeaLot Land-Sea interface: Let's observe together!

Improving (**also sediment**) observation capacity in the land-sea interface area

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Powered by



International Centre
for Advanced Studies
on River-Sea Systems



ICOS

Integrated
Carbon
Observation
System



Co-funded by
the European Union

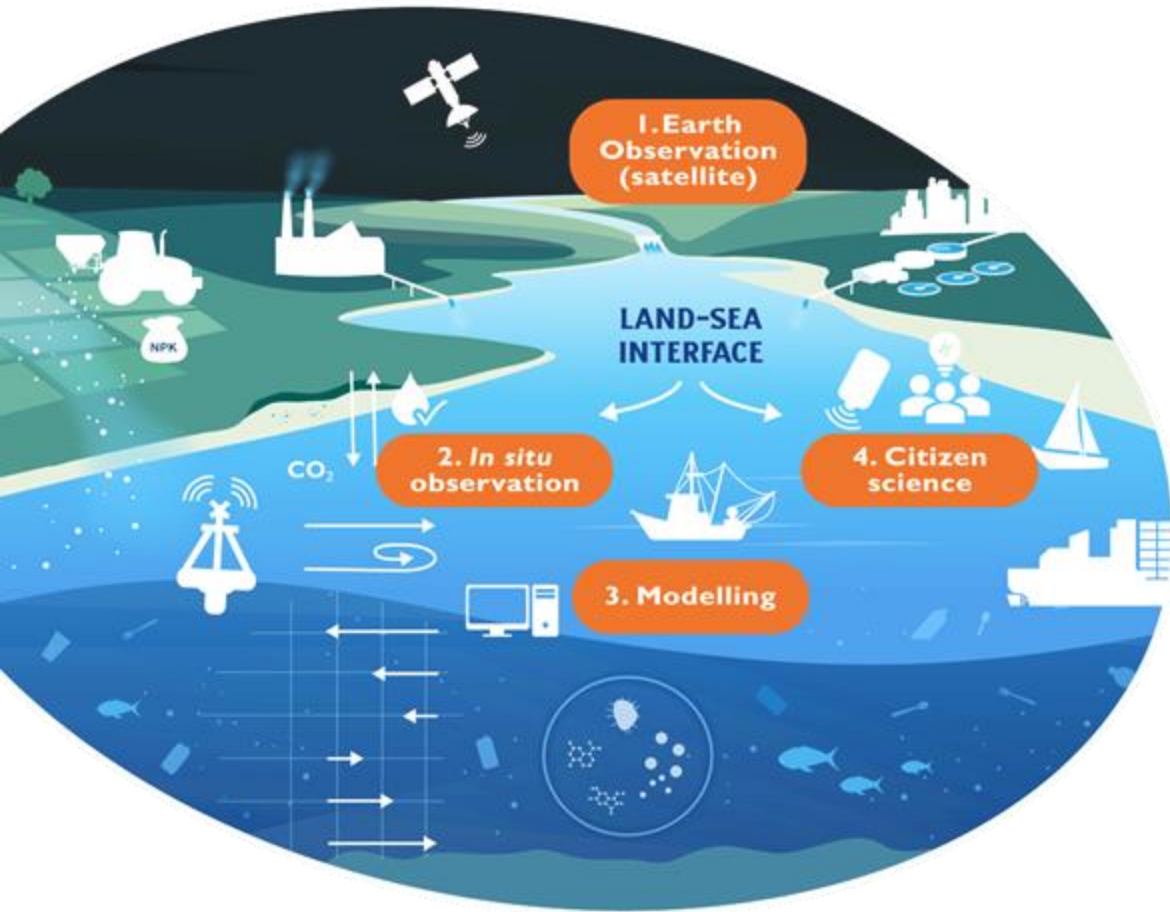


UK Research
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About LandSeaLot

Project Objective



LandSeaLot seeks to:

- **integrate, scale-up and enhance existing observation efforts**
- including *in-situ*, satellite, modelling and citizen science
- to better study the **land-sea interface**
- where terrestrial and marine habitats meet.

Disclaimer



LandSeaLot is also about
observing sediment,
but it is only one of the
many societal challenges
observed at the land-sea
interface !



Photo Sand Motor: <https://beeldbank.rws.nl> ,
Rijkswaterstaat / Joop van Houdt

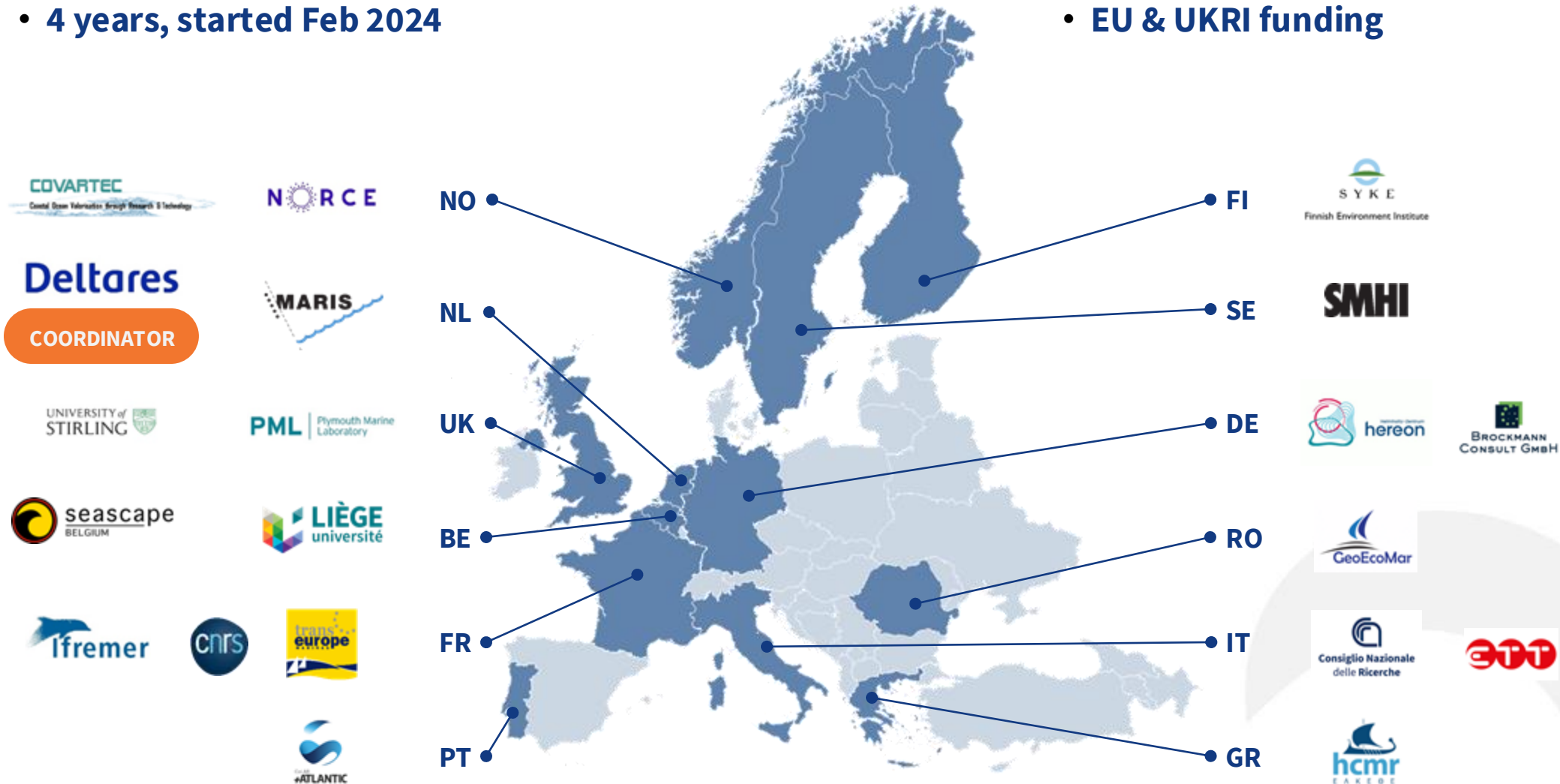
About LandSeaLot

A European project co-funded by Horizon Europe



- 23 partners (12 nations)
- 4 years, started Feb 2024

- Funding: 9,199,778.5
- EU & UKRI funding

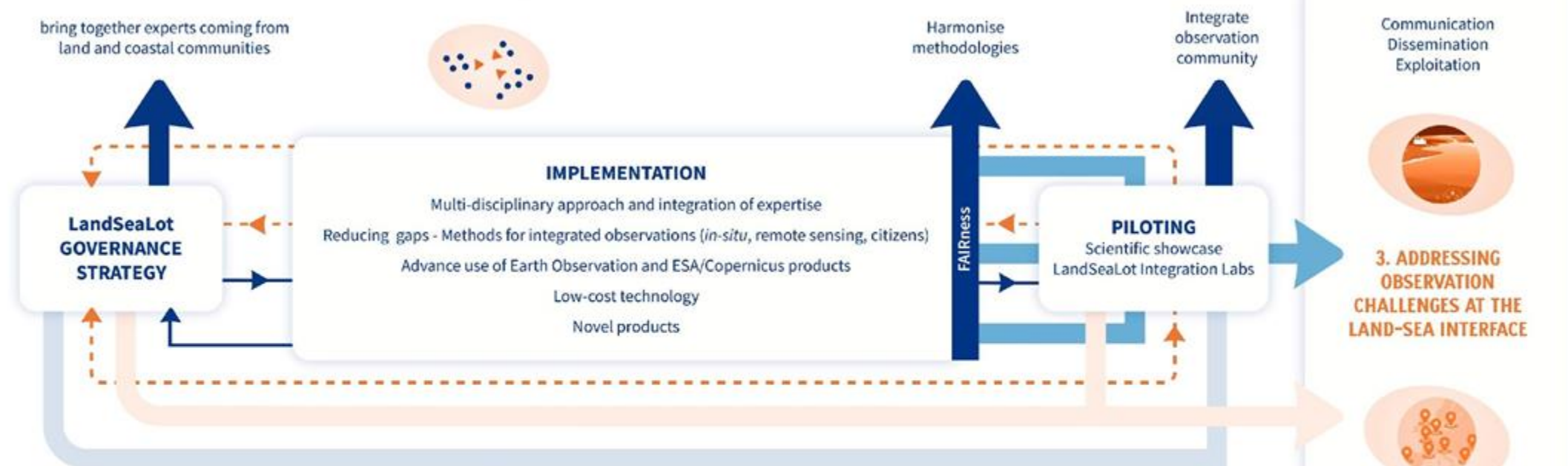


Co-designing a common observation strategy

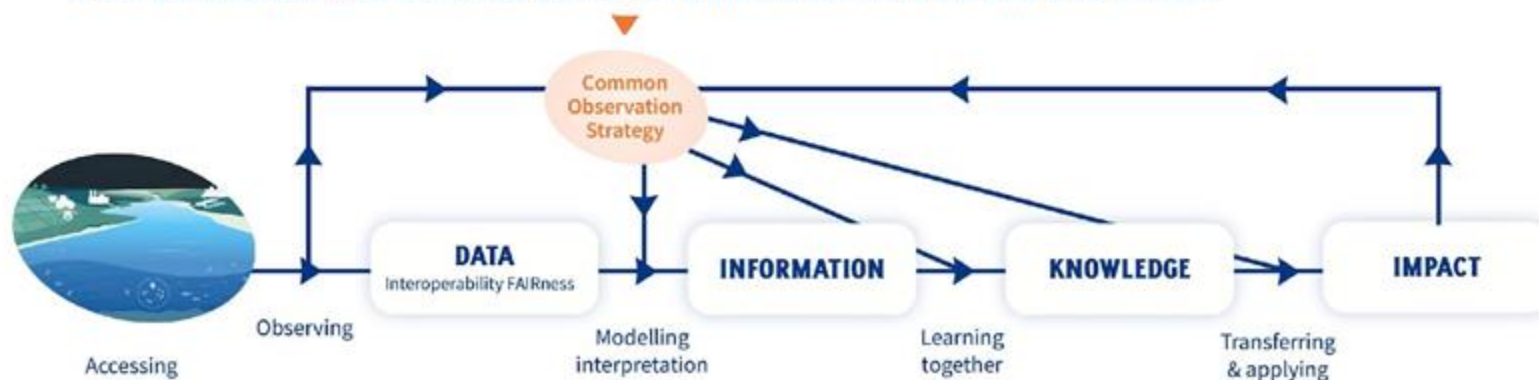
Project Concept



1. DEFRAGMENTATION ACROSS COMMUNITIES AND DOMAINS



2. CO-DESIGNING A COMMON OBSERVATION STRATEGY WITH KEY ACTORS IN THE LAND-SEA INTERFACE



--- Direct implementation
--- Feedback/lessons learnt

4. PILOTING IN LANDSEALOT INTEGRATION LABS TO ADDRESS 9 KEY SOCIETAL CHALLENGES

Co-designing a common observation strategy

Project Workplan



Deltares WP1

Coordination & Management



WP2

Common Observation Strategy for the Land-Sea Interface



WP3

Integrated Observation & Model Frameworks



WP4

Increasing the Observation Capacity



WP5

LandSeaLot Integration Labs (LIL)



Deltares

WP6

Data Management & Services



WP7

Communication, Dissemination & Exploitation

“We look forward to the output of LandSeaLot in terms of **improved process understanding, monitoring and prediction capabilities** for a wide range of phenomena impacting coastal populations”

European Space Agency

“Observations within LandSeaLot would certainly **enable us to concentrate on assessments rather than handling information**”

OSPAR & HELCOM

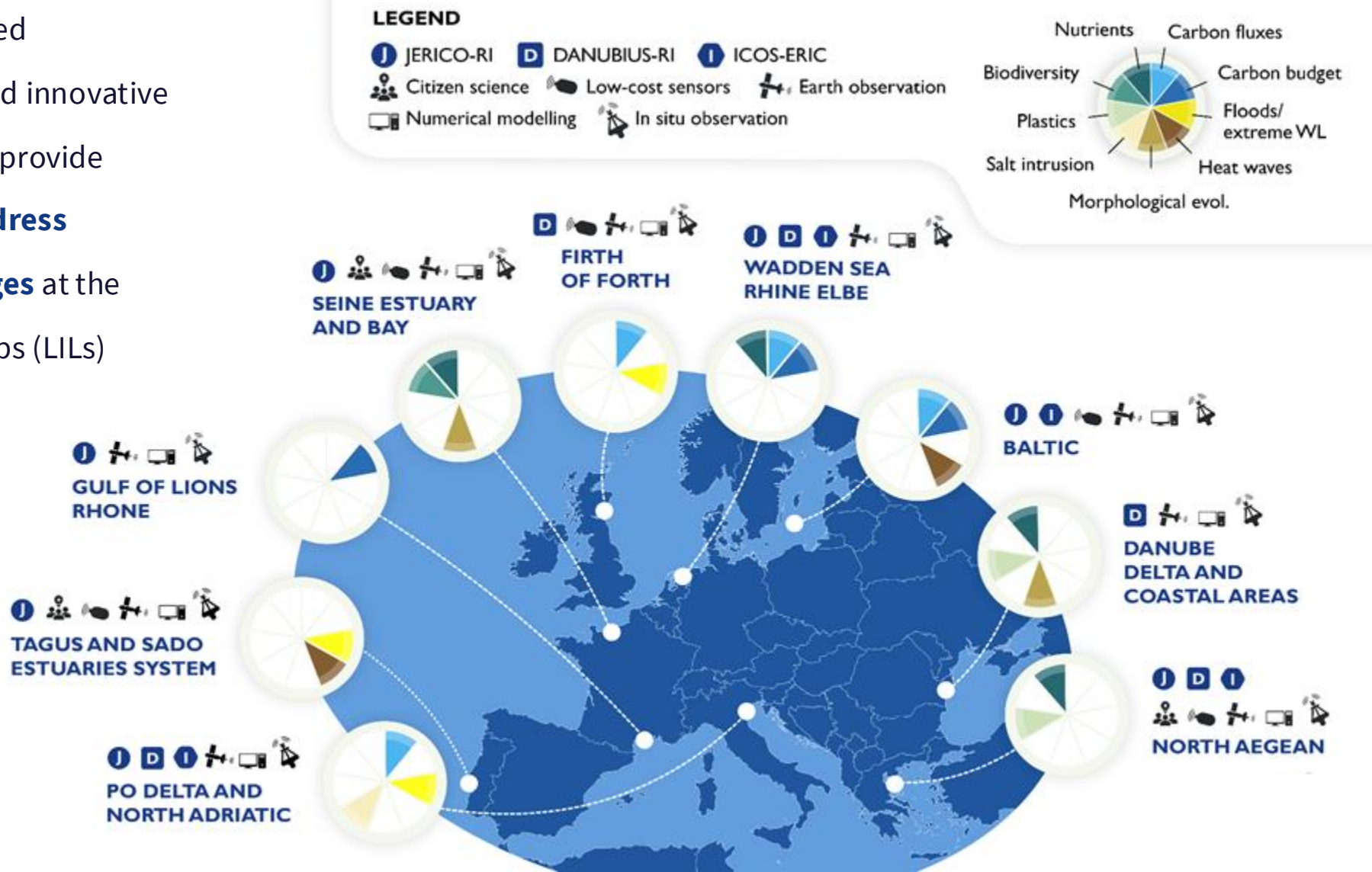
“LandSeaLot will help define how the land-sea interface can be better observed and **how the new observations will be easily integrated as new inputs into our suite of models**”

EDITO ModelLab

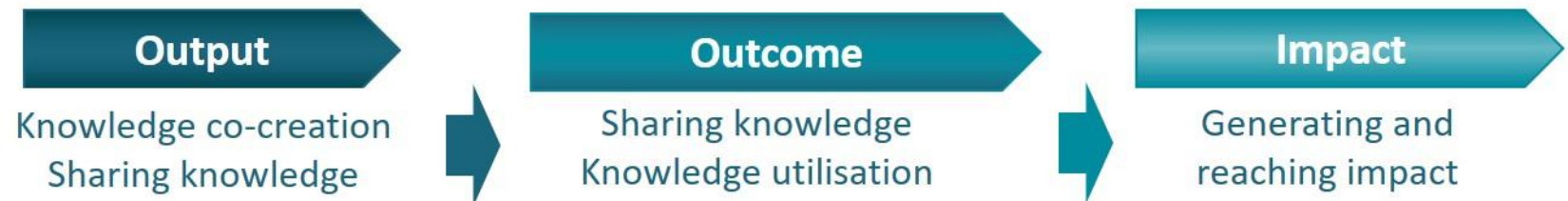
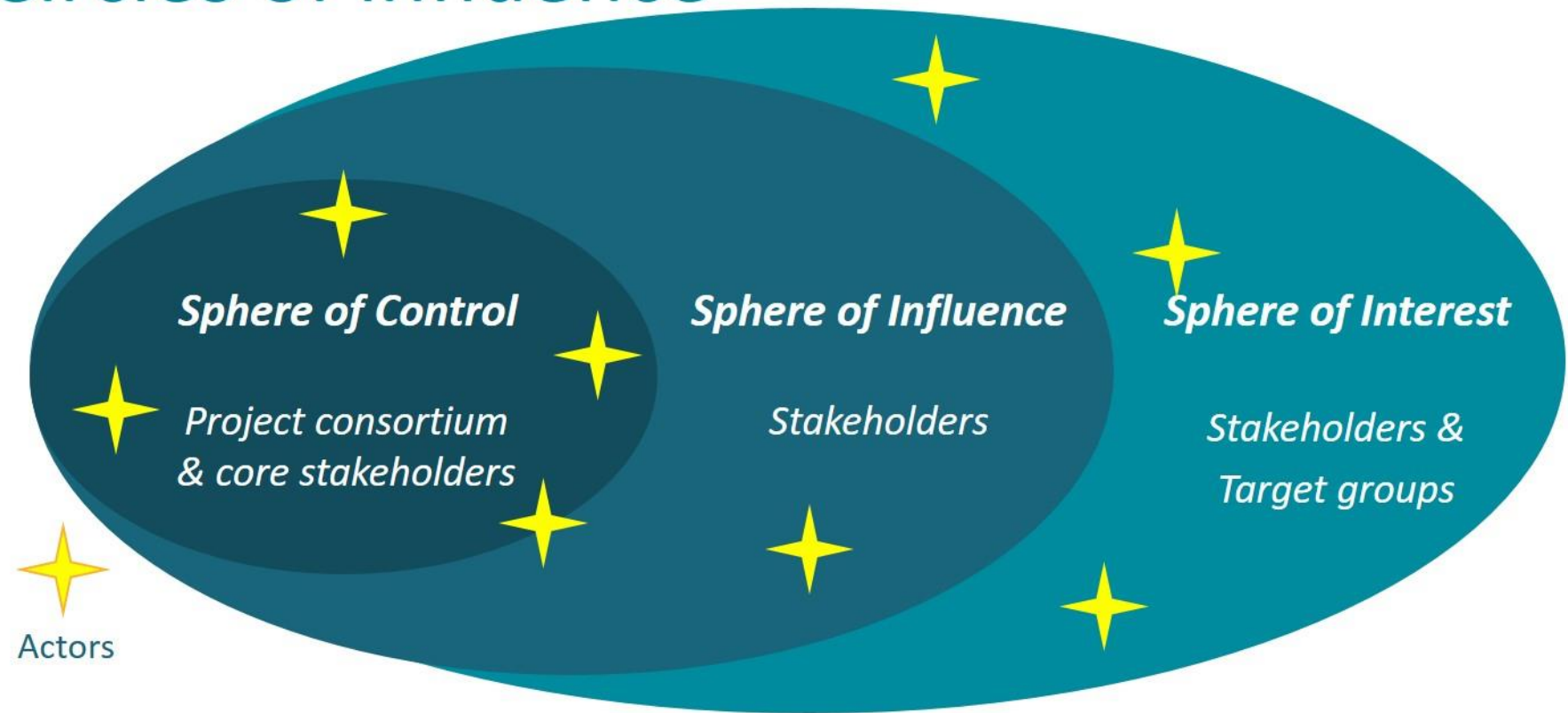
Piloting & Testing LandSeaLot Integration Labs



Demonstrate how increased observation capabilities and innovative integrative methodologies provide essential knowledge to **address** **nine key societal challenges** at the LandSeaLot Integration Labs (LILs)



Circles of influence



anticipated
LandSeaLot
impact pathway



**Specific WP
output already
achieved?**

**Who and how to best
utilise and apply this
outcome?**

**What impact does it
then help to reach?**



Common Vision!



By 2040 ecosystems in European Land-Sea Interface areas are healthy, diverse and resilient, thus optimally supporting the sustainable growth of coastal communities.

This is the case because by 2040:

- Environmental processes controlling ecosystems in the land-sea interface area, as well as the anthropogenic and climate changes affecting it, are continuously observed and understood through an array of consistent and interoperable in-situ and satellite observations and integrated application of numerical models.
- Observations are done in a coherent way by interoperable pan-European, national, regional and local specific research and monitoring infrastructures and facilities, covering a large variety of space and time scales, which allow the proper understanding of phenomena.



Common Vision!



This is the case because by 2040 (continued):

- Plans for the development of the observation systems are co-designed together with all categories of stakeholders, global best practice approaches being supported by local knowledge, via indigenous wisdom and active citizen science observations.
- Resulting data are collected, quality controlled and shared in a FAIR manner and supporting the Digital Twins of the Land-Sea Interface areas of Europe.
- The knowledge thus obtained informs policy and management scenarios aimed to maintain healthy, diverse and resilient ecosystems in the Land-Sea Interface area.
- The network of interoperable *in-situ* and satellite observations and integrated application of numerical models is developed in a sustainable manner, offering best practice and aiming to grow and expand from the coasts of Europe to other continents.



Output already achieved

Publicly available at LandSeaLot website:



Deliverable 3.1 | Preliminary report on inconsistencies, interoperability methods and alignment of observations and models

DOWNLOAD

Deliverable 4.2 | Comparisons and recommendations to LILs on low-cost technologies and potential and existing citizen science communities

DOWNLOAD

Deliverable 4.1 | Summary of the technical and community needs of LILs

DOWNLOAD

Deliverable 6.1 | Data landscapes report

DOWNLOAD

Let's observe together!



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