

LandSeaLot Conference LAND-SEA 2026

The LandSeaLot Common Observing Strategy - **LCOS**

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Why a Common Observing Strategy for the LSI?



The land–sea interface (LSI) is characterised by a paramoung potential for the blue economy, and significant resilience challenges

Europe's LSI **Observation capacity is fragmented** —the dynamic continuum where terrestrial, freshwater, coastal, and marine systems interact.

Defragmenting: Transition from fragmented community-based observations and modelling to a **common governance strategy** and its subsequent implementation plan.

A shared vision

by 2040, European LSI ecosystems are healthy, resilient, and sustainably managed because they are consistently and interoperably observed through integrated in-situ, Earth Observation (EO), citizen science, and modelling systems.

Co-Construction for Commitment of parties and the long-lasting legacy
Communities of practice: identify observation gaps to be jointly filled in.



World café 'tables' during the LSC/LCD workshop in Lisbon on 23 January 2025 (Photos: Jos Brils)



LandSeaLot Common Observation Strategy

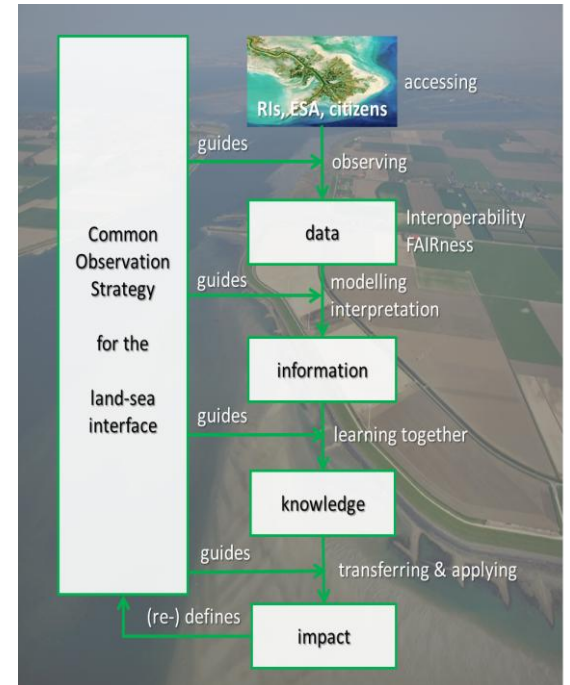


Objectives & Approach:

- Common observation strategy for the LSI
- Piloting the feasibility via LandSeaLot Integration Labs (LILs)

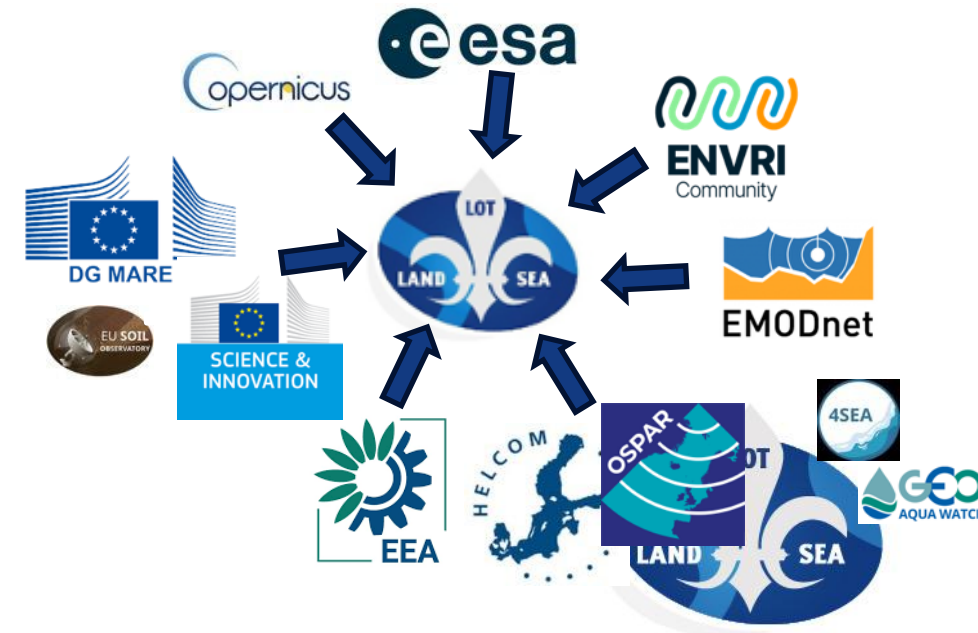
From observation to impact

- Collecting LSI **Data**: *in-situ* and Earth Observation interoperability, and complementarity
- Data Management
- From Data to **Information** (and back): via Modelling and Interpretation
- From Understanding to **Impact**: via **Knowledge** Transfer and Application

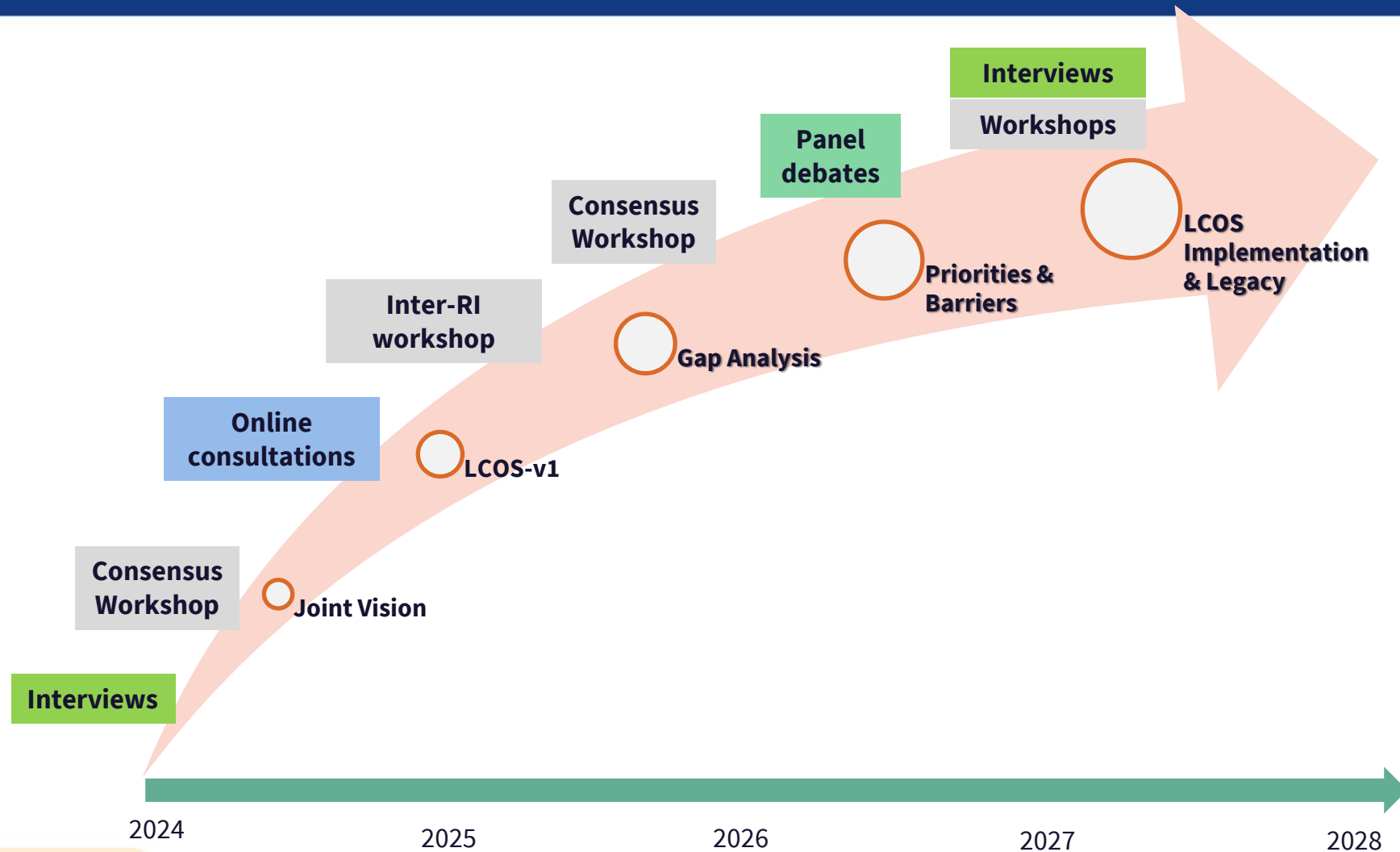


Gathering communities

- **LandSeaLot Science Community forum**
 - 15 experts covering all domains (geographical, scientific, technical)
- **LandSeaLot Co-Designer forum**
 - 20 representatives from European organisations
 - Regional and Local Stakeholders
- **LandSeaLot Citizen Science Hub**

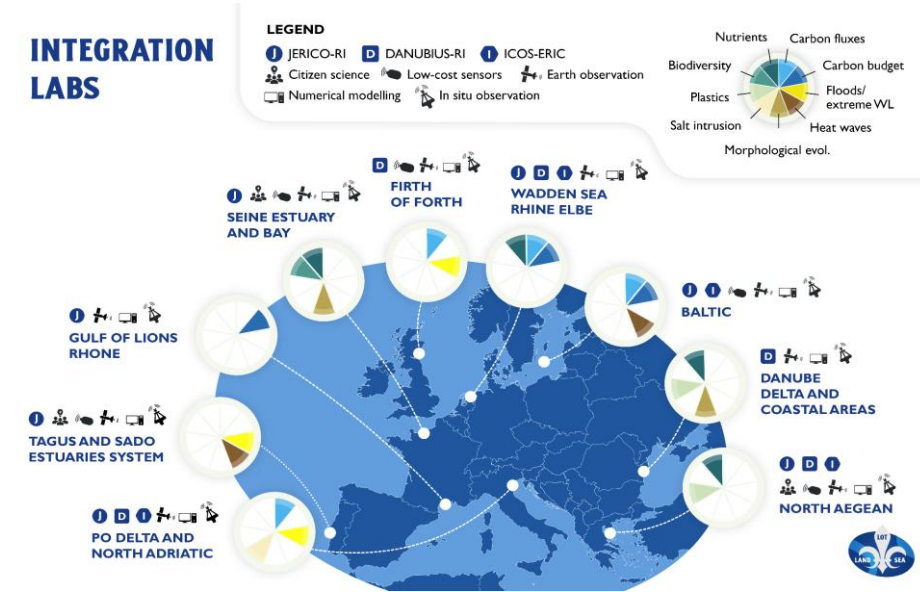


Co-construction process



The role of the LILs

- **Pilot and demonstrate** the effectiveness of the LandSeaLot approach
- **Diversity** of European LSI systems societal challenges
- **Dedicated integration actions** and proposed improvements
- Co-design with **local stakeholders**



Strategic priorities identified so far

In-situ and Earth Observation

High Priority

- Cross-Domain **Harmonisation & Interoperability** of in-situ data
- Sustainable Funding for Baseline Monitoring
- EO-*In-situ* Integration (incl. Validation of EO-data)

Medium Priority

- **Technical Innovation** - *Atmospheric correction/mixed pixel, new EO products, sensor metrology*
- **Citizen Science Interoperability**
- Adoption of **Best Practices**

From Data to Information

High Priority

- a European **framework for land-based data**
- Enhance interoperability and **uncertainty quantification**
- Strengthen **operational modelling** capabilities

Medium Priority

- Address **complexity of coastal modelling**
- Foster **collaboration** and **governance**

Data management

High Priority

- A unified **FAIR** data framework
- Improve **data flow to EU aggregators**
- Develop QA/QC and **uncertainty protocols**

Medium Priority

- **Close observation gaps** (incl. *cost-efficient sensor and Citizen science*)
- Create a central **LSI data repository** or catalogue



(Photo: Shareicon.net)

From Understanding to Impact

High Priority

- **Break Down Thematic Silos** - *Between freshwater and marine communities*
- Develop a **Common Ontology**
- Secure **Sustainable Funding** for long-term observations and RI collaboration
- **Policy Overview & Alignment** related to observation requirements
- **Optimise Observation Capacity** - *Conduct redundancy analysis among RIs and streamline efforts*

Medium Priority

- Close observation gaps - *Through cost-efficient sensor and Citizen science*
- Create a central LSI data platform or catalogue - *Built on EMODnet but expanded to LSI data*

EC-ESA Earth System Science Initiative

Towards project Alliances



EC (Horizon Europe)

HORIZON-CL6-2023-GOVERNANCE-01-11: Reducing observation gaps in the land-sea interface area:
[LandSeaLot](#)

ESA (Future EO)

CAREHeat – Marine Heatwaves

- Land-Ocean Interactions:
 - Coastal carbon [COOL]
 - Coastal dynamics [CoastDyn]



Expectations from the next two sessions



How to jointly ensure the implementation and impact of the Common Observing Strategy

Session 4 - Towards a common observation strategy: European and regional policy

Exchanging on the **place of the LSI in the European and regional policy context**

Reflecting on today's presentations to **formulate recommendations on impactful policy outcomes** from LandSeaLot

- **Panel:**

- Franz Immler - DG-RTD
- Alessandra Cacciari - DG-DEFIS/Copernicus services
- Massimiliano Rossi - EEA/ Copernicus LMS
- Lisette Enserink - OSPAR
- Lars Sonesten - HELCOM

Session 5 - Implementing a common strategy throughout the value chain

Towards a consolidated LCOS: opportunities and barriers
Reflecting on today's presentations to **formulate recommendations on impactful practical outcomes**

- **Panel:**

- Roberto Sabia - European Space Agency
- Kate Larkin - EMODnet
- Stephanie Guinehut - Mercator Ocean International, Copernicus Marine Service
- Holger Brix - Chair of EuroGOOS
- Bernadette Ní Chonghaile - Marine Institute, AQUARIUS



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