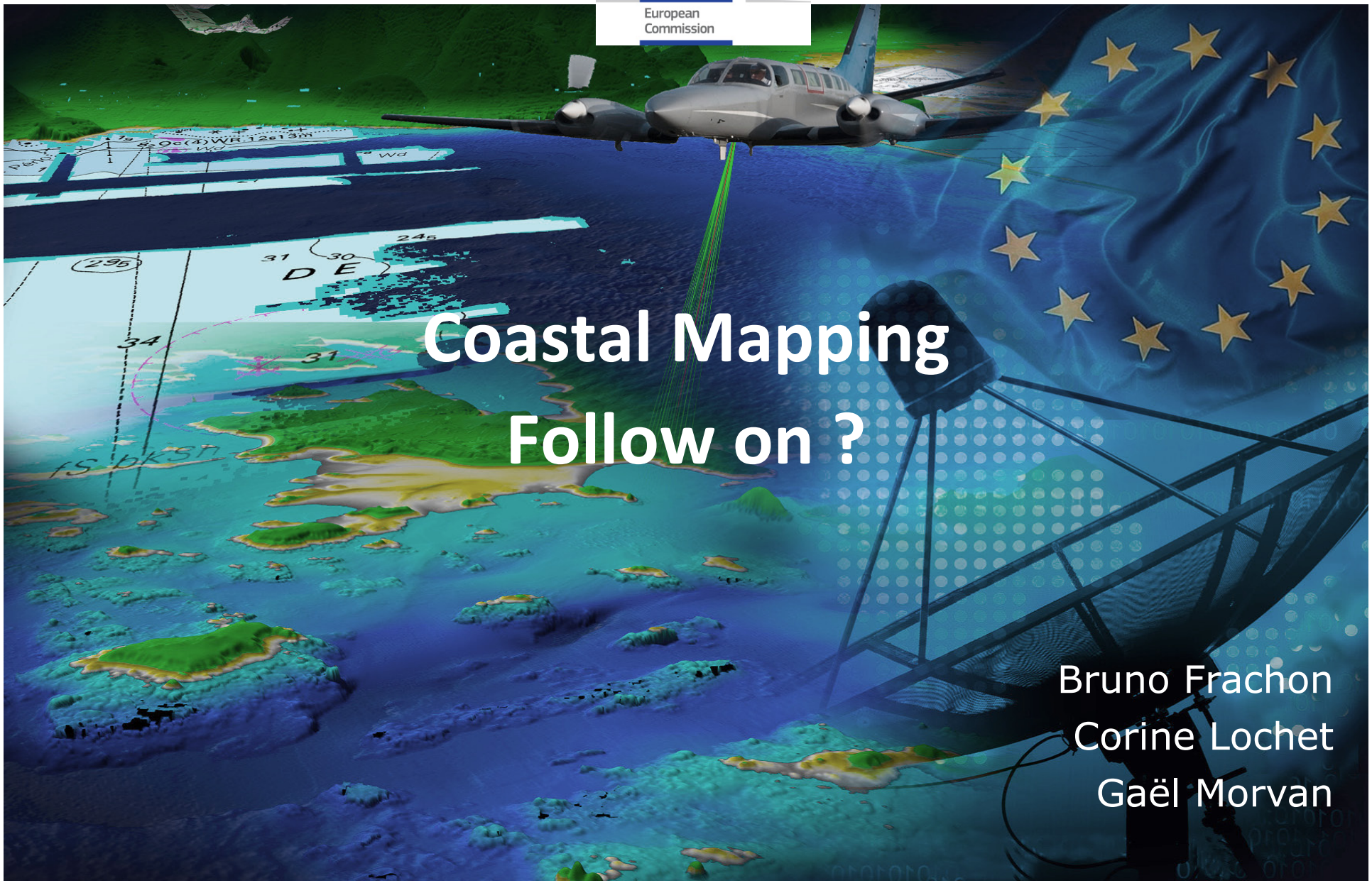


Coastal Mapping
Follow on ?

Bruno Frachon
Corine Lochet
Gaël Morvan

Shared objectives; IHO-DG MARE-CPMR

- Development of a Joint European Coastal Mapping Programme (JECMaP) within the IHO EU network with the DG MARE,
- *Bathymetric data is considered as the first data to acquire for all the communities*
- Concurrently, CPMR and its regions work since a lot of years on data knowledge for the integrated management of coastal areas
- 2015-Development of a project financed by the DG MARE (EMFF funds) – « Coastal Mapping » project to
  - Assess the current availability of digital coastal maps in the EU
  - Disseminate this information by EMODnet
  - Share experience of coastal mapping in the EU
  - Develop standards for best practices
  - Propose how a future JECMaP could operate

Coastal Mapping

Consortium

- ***Hydrographic offices :***

FRANCE – BELGIUM – GERMANY – GREECE – IRELAND – ITALY – LATVIA – NORWAY – PORTUGAL – SLOVENIA – SWEDEN

- ***Regions :***

CPMR – Regione Lazio

- ***Public Bodies :***

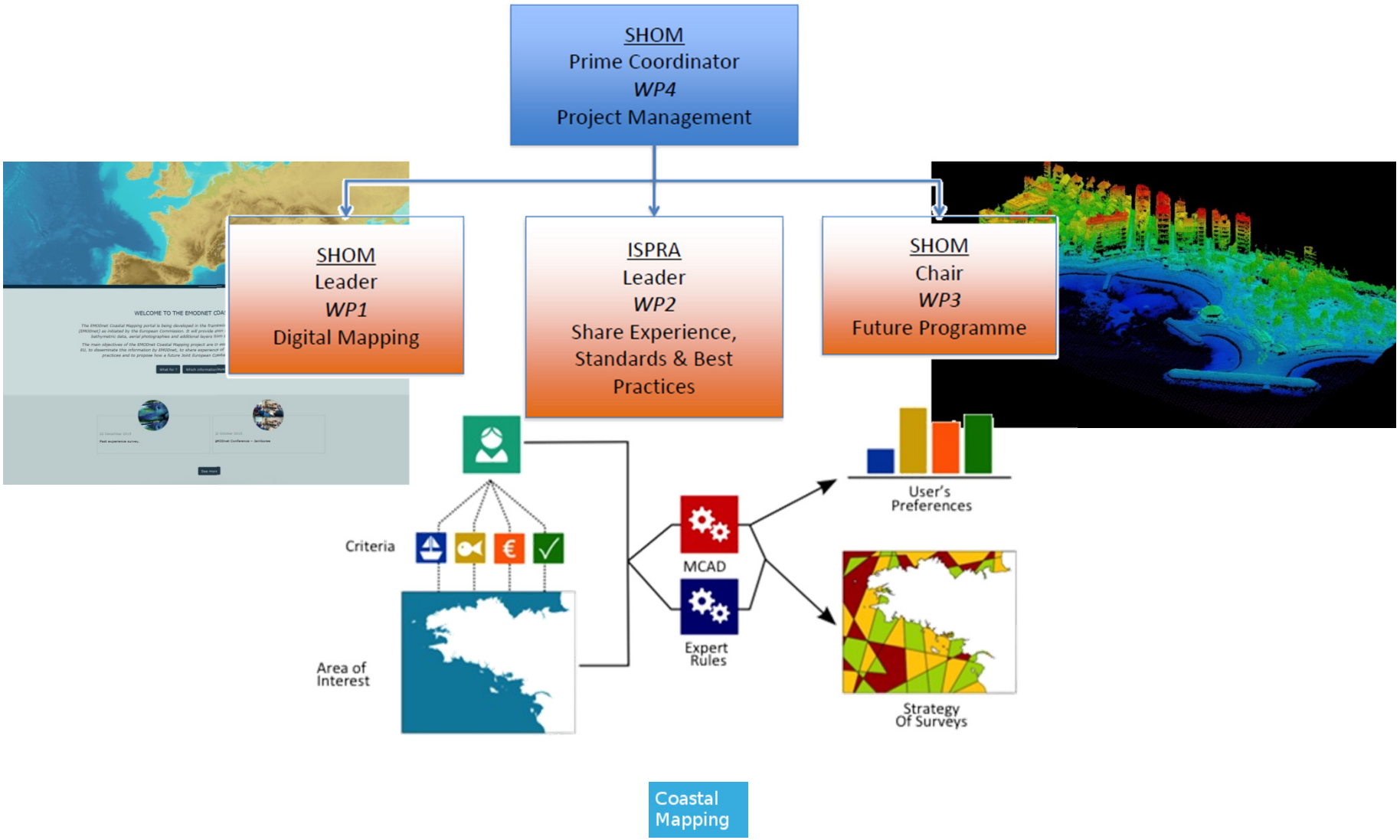
ISPRA – RWS - GeoEcomar – DDNI

- ***IT company :***

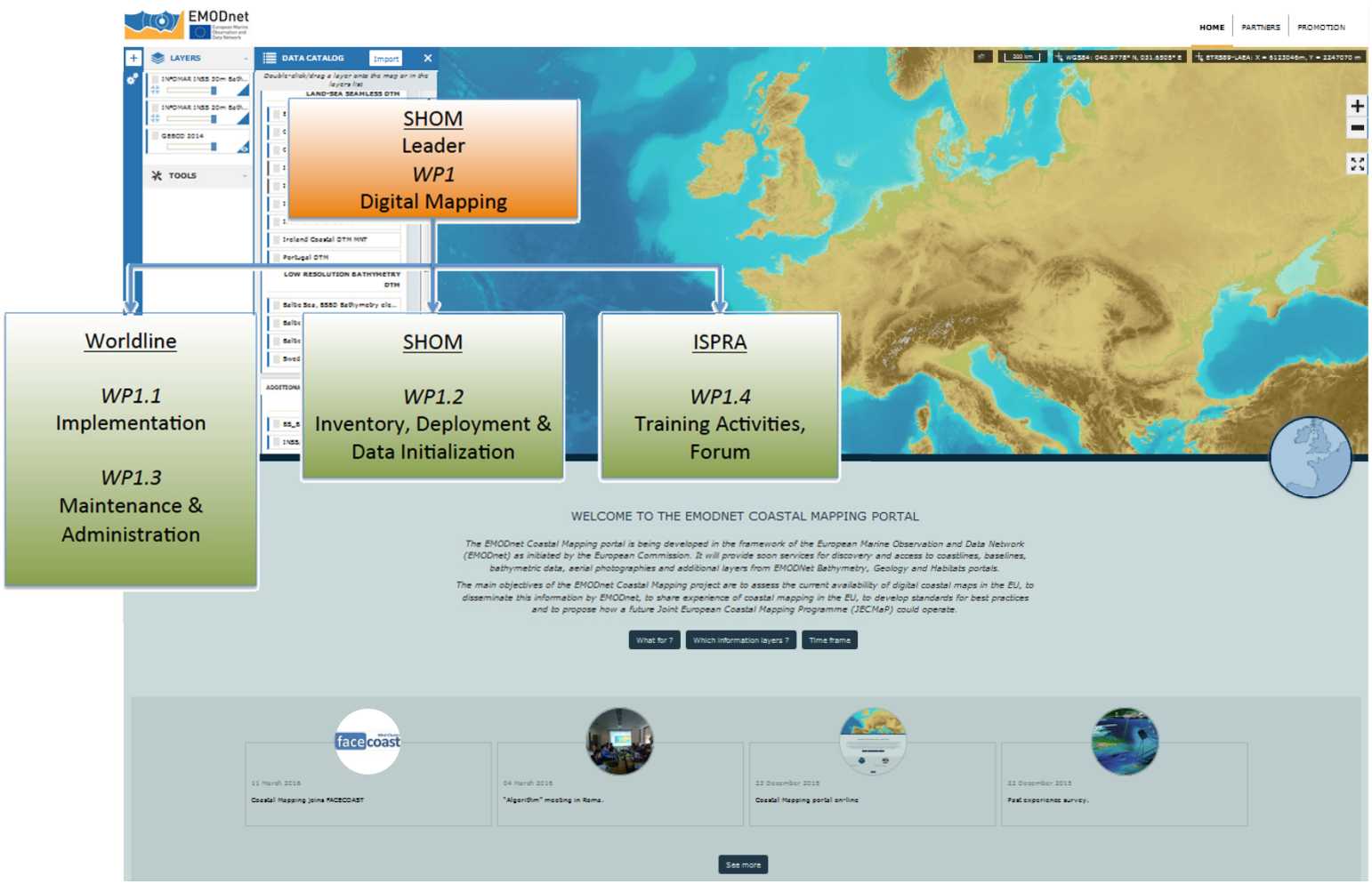
Worldline

Coastal Mapping

Organisation



WP1: Digital Mapping



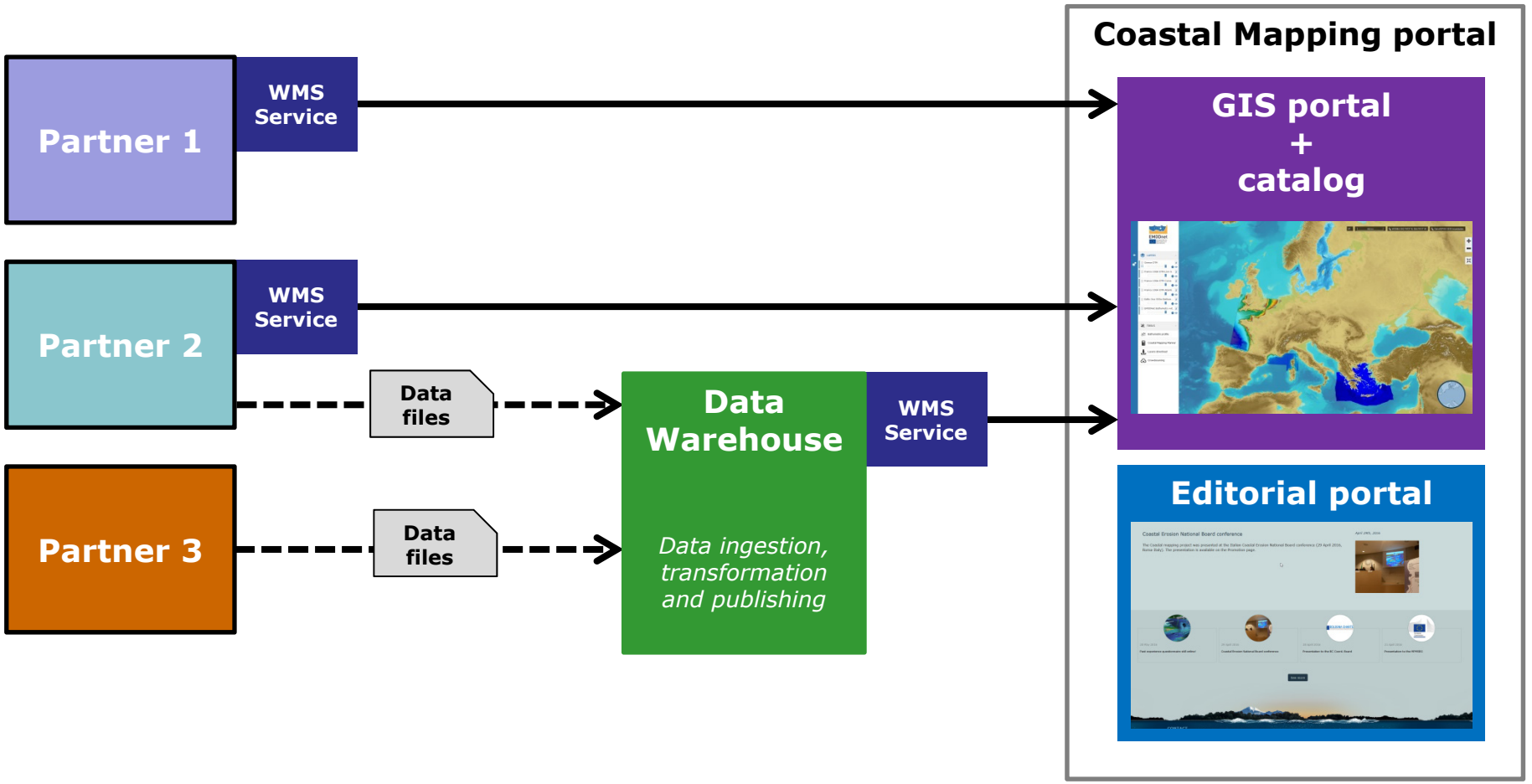
Coastal Mapping

Internet Portal

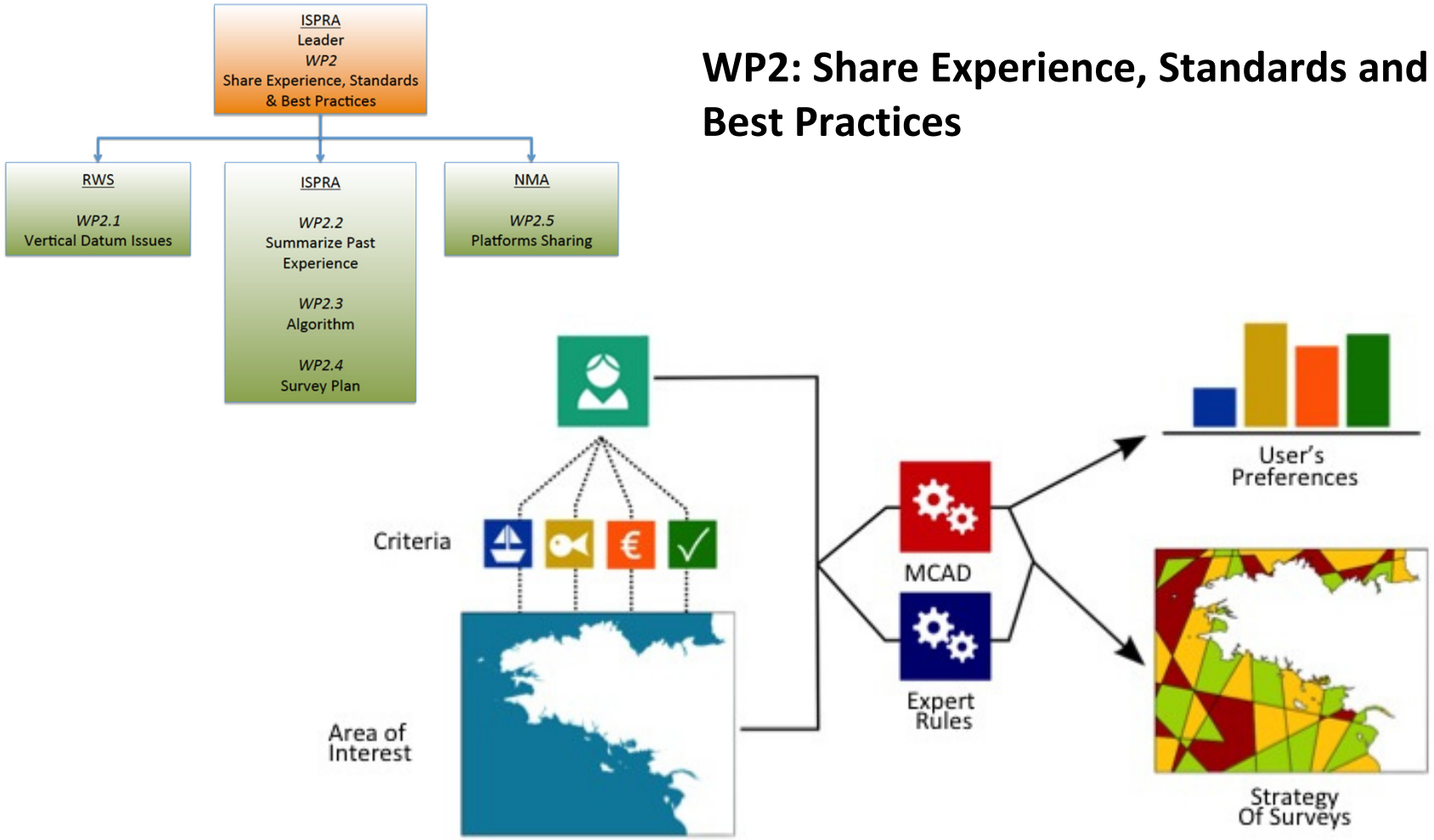
- Portal
  - EMODnet look and feel
  - Simple and modern design
  - Catalog of digital maps
  - Tools
    - Bathymetric profile
    - Data and metadata download
    - Coastal Mapping Planner Algorithm
    - Data ingestion of GPS points

- Data Warehouse
  - Data ingestion of Digital Terrain Models and surveys
  - Upload of images and data files, and publishing as WMS
  - ***AT THE END OF THE PROJECT – END OF THE PORTAL***

Portal architecture and data origins



WP2: Share Experience, Standards and Best Practices

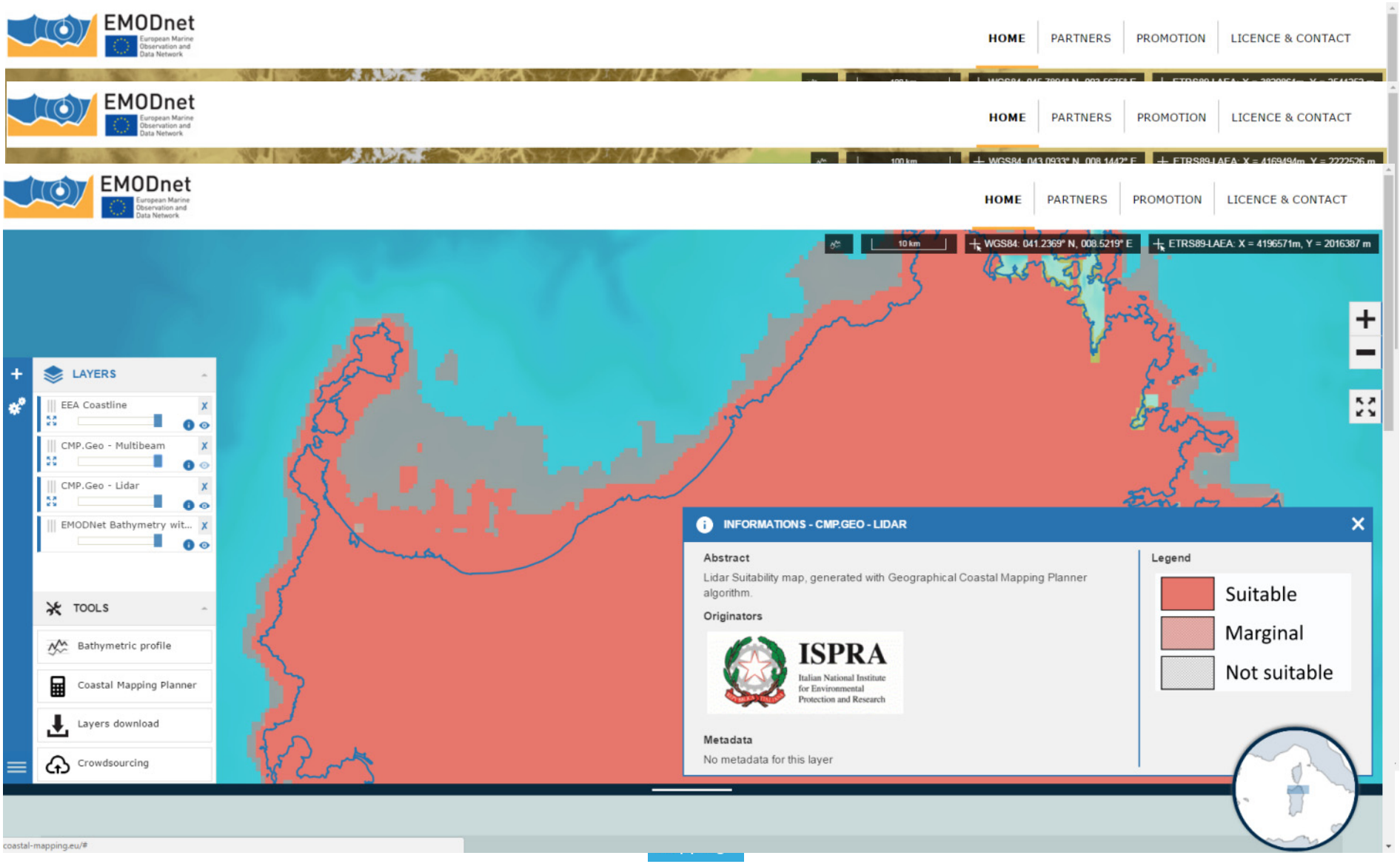


WP2.3: Develop and test an algorithm for choosing most appropriate surveying method

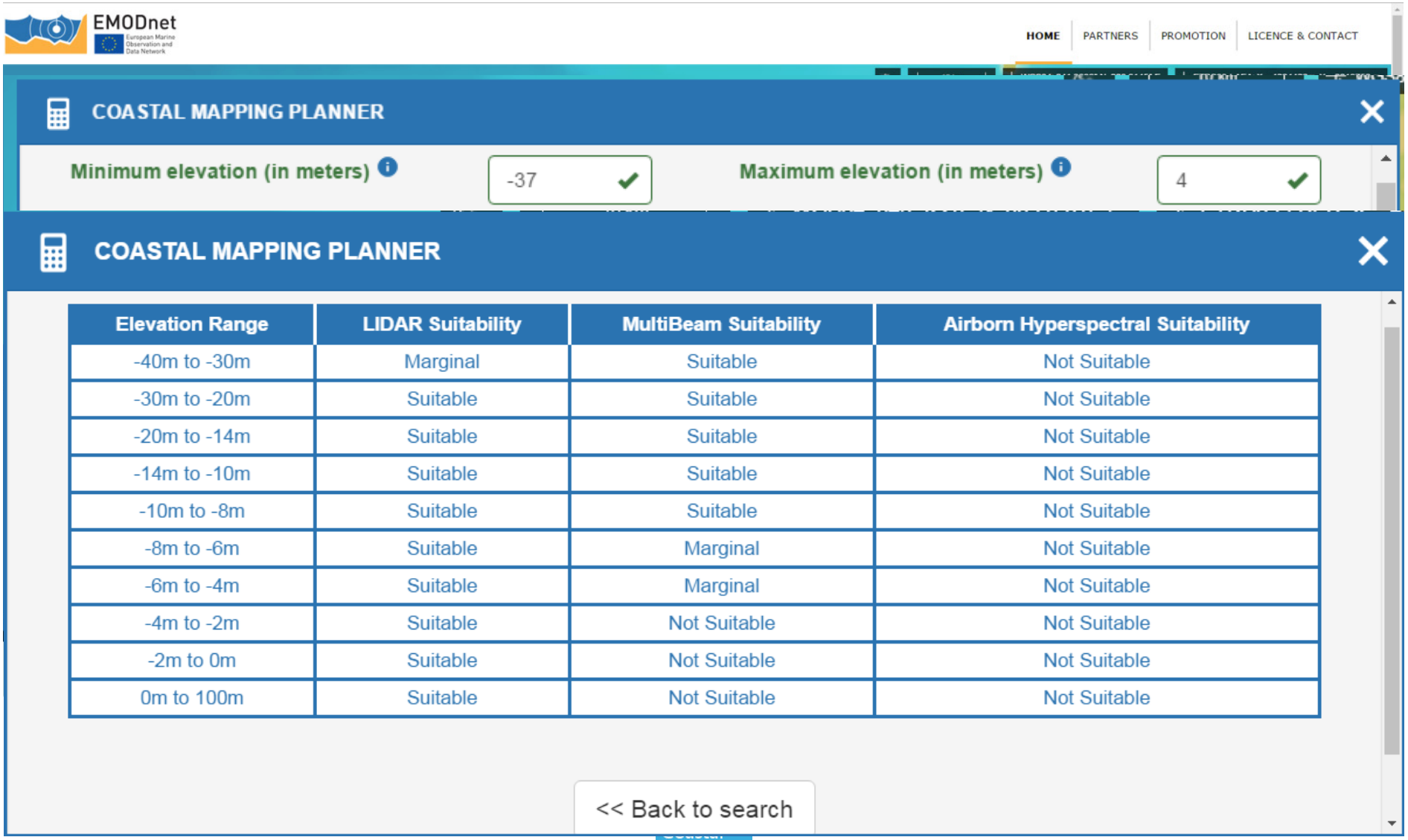
- The CMP (Coastal Mapping Planner) is designed to help the coastal mapping planning at regional and transnational scale
- It will help the EU planners giving indication about optimal survey techniques for different mapping scenarios
- Different detection technologies can be compared in relation to their ability to obtain the desired products, currently :
  - 3 technologies (MBES, LIDAR & HYPERSPECTRAL)
  - 9 selectable products

European Commission

Geographical Coastal Mapping Planner



Interactive Coastal Mapping Planner



Elevation Range	LIDAR Suitability	MultiBeam Suitability	Airborn Hyperspectral Suitability
-40m to -30m	Marginal	Suitable	Not Suitable
-30m to -20m	Suitable	Suitable	Not Suitable
-20m to -14m	Suitable	Suitable	Not Suitable
-14m to -10m	Suitable	Suitable	Not Suitable
-10m to -8m	Suitable	Suitable	Not Suitable
-8m to -6m	Suitable	Marginal	Not Suitable
-6m to -4m	Suitable	Marginal	Not Suitable
-4m to -2m	Suitable	Not Suitable	Not Suitable
-2m to 0m	Suitable	Not Suitable	Not Suitable
0m to 100m	Suitable	Not Suitable	Not Suitable

WP 2.5 – Sharing platforms

- Research of the main platform categories in order to evaluate the possible technical synergy effects

- Review sharing platforms through cooperation, and combining efforts in order to maximize the survey potential

Conclusions

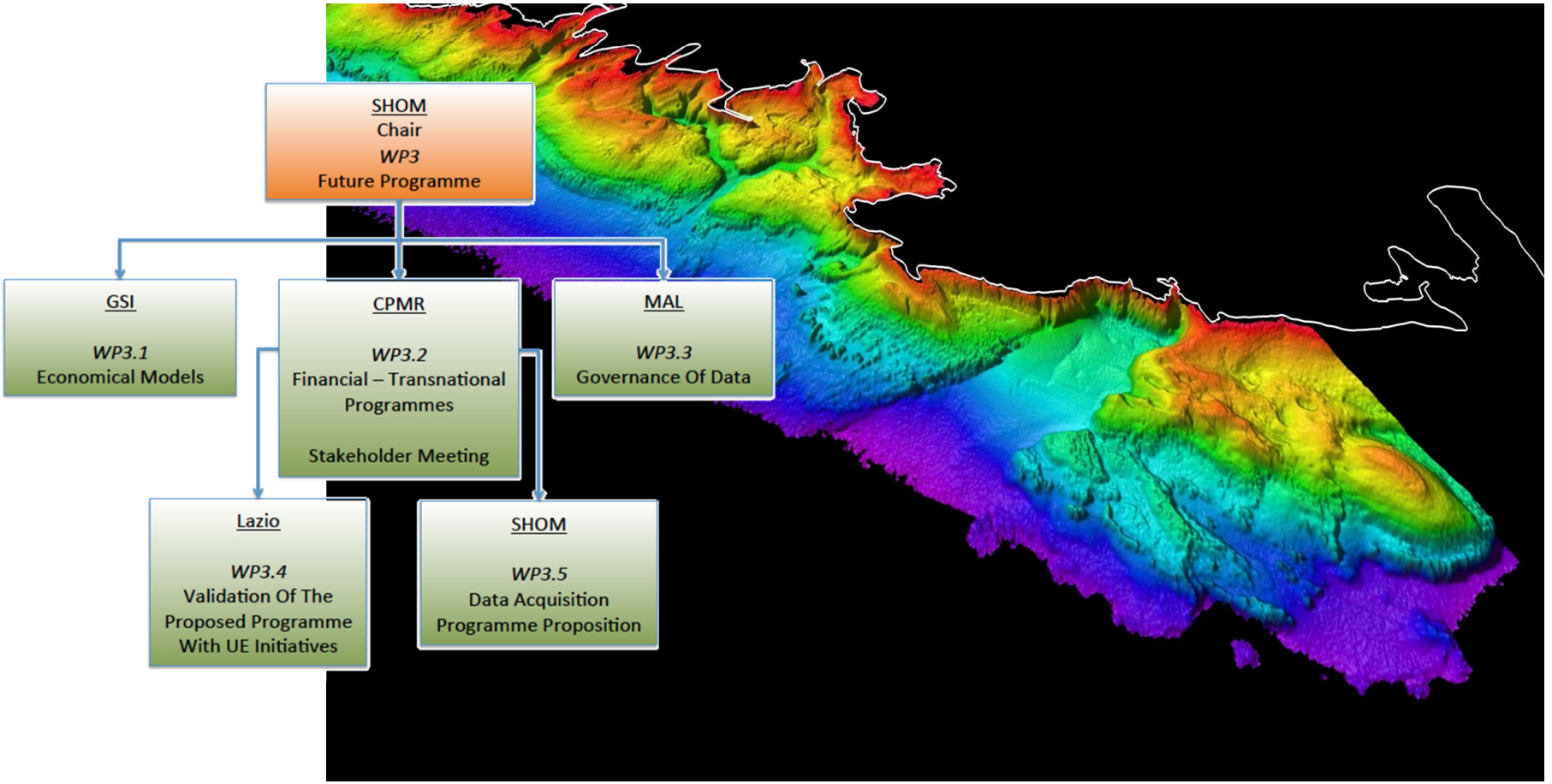
- Survey platform can be shared surface vessels, planes
- Varying national restrictions does limit shared efforts
- Combined tenders is still desirable
- BUT it is mandatory to combine the disponibility of the mean and the budget means

- *National restrictions on data acquisition and management needs to be addressed ; open data or not*

Remember the necessity of precision, Ex Protection against erosion

Coastal Mapping

Strategic WP: Organisation



The promotion of the use of Coastal Mapping pro[illegible]

BOLOGNA CHARTER.eu
European regional Charter for the promotion of a common framework for strategic actions aimed at the protection and sustainable development of the Mediterranean coastal area

TAVOLO nazionale EROSIONE COSTIERA

Promotion of Coastal Mapping Portal during Bologna Charter Coordination board in Rome
April 2016

BOLOGNA CHARTER.eu
http://bolognacharter.facecoast.eu/

CRPM CPMR

Bologna Charter Coordination Board meeting
in collaboration with the Intermediterranean Commission Working Group
on "Transport & Integrated Maritime Policy"

28 April 2016 (14.30-18.00) - Roma (Italy)

Venue of the meeting:
Ministero Italiano
dell'Ambiente e della Tutela del Territorio e del Mare
Sala Europa
Via Cristoforo Colombo, 44 - Roma

REGIONE LAZIO

Coastal Mapping

Study results for governance

- The first result is an heterogeneity in perception and definition of the coastal area (depth or distance, not the same..), coastal population (municipalities, regions..), coastline, lack of integrated vision?
- But an homogeneity in the definition of coastal activities and of the sustainable coastal management, that is a major result.
- The responsibility of acquisition of bathymetric data for security of navigation is a State competence, the organizations in charge are opening their responsibilities to provide bathymetric data to all the stakeholders for coastal management, the Ministries responsibles, generally: Defence, Environment, Transport.
- In some countries, the Regions are responsible of the coastal management and do acquisition of data at sea.
- Our definition of coastal area and shallow waters to fill the objectives of the call that are our's too; *give the more appropriate definition in your country to give useful data to develop sustainable coastal management.*

Results for economic models

The obvious trends are that there are one of three categories that each partner falls under.

-Freely available data with no restrictions and no cost to the user. (Where publically funded)

-Data is available but there is a cost.

-Data is restricted under national security limitations with degraded data available either at cost or for free.

WP3.2: Financial – Transnational Programmes ERDF ONLY

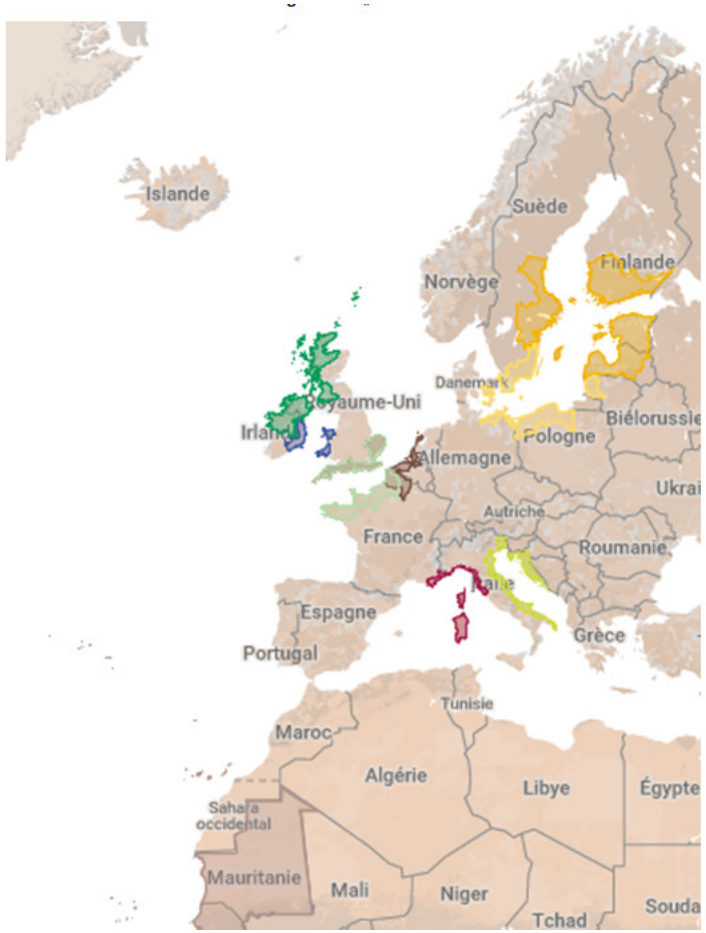
Method:

- **Collection of the available documents**:
  - Transnational Operational programmes
  - Cross-Border Operational Programmes
- **Identification of the opportunities for** coastal data and mapping. 2 categories:
  - Priorities directly related to coastal data and mapping (risk monitoring, erosion, seabed mapping, coastal mapping, ecosystem mapping, etc.)
  - Maritime priorities potentially implying a coastal mapping dimension.

Result

- **Development of 2 maps:**
  - **Map of Transnational Programmes**
  - **Map of Cross-border Programmes**
- What does the analysis show?
  - Several Programmes offer opportunities for coastal mapping;
  - Various OPs cover the same coastal area;
  - Different administrative bodies are involved in the same coastal areas depending on the eligibility of the Programme.

Transnational programmes



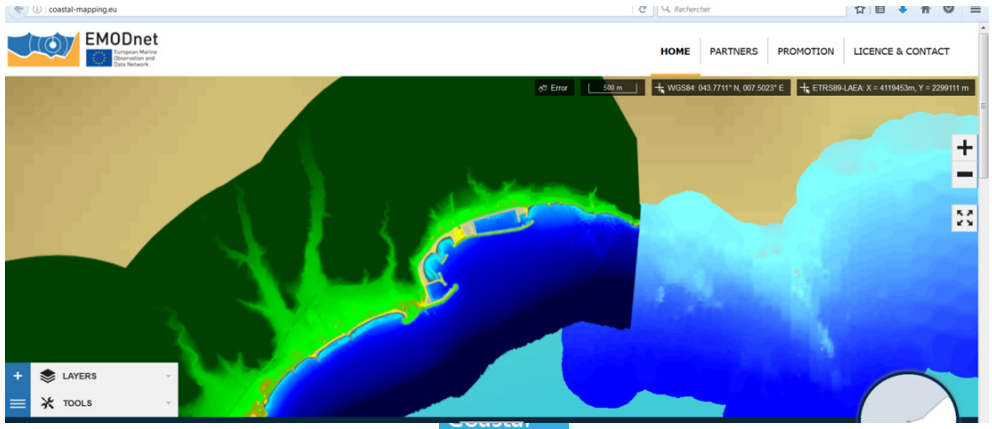
Cross-border programmes

Coastal Mapping

Elaboration of a strategy:
STUDY OF THE GAPS TO FILL
HR BATHYMETRIC DATA IN COASTAL ZONES

- Representability of the partnership; all the EU maritime basins were considered, more than 50% of the maritime EU Countries
- Result; **more than 175 000 km2** of acquisition to do, *only for the panel countries*

It is necessary to take into account the specificities of the maritime basins in the future acquisition strategy for coastal data (depth) and not take only one definition for coastal zone, coast line, coastal population. Transnational interoperability is mandatory



STUDY OF THE GAPS TO FILL
HR BATHYMETRIC DATA IN COASTAL ZONES

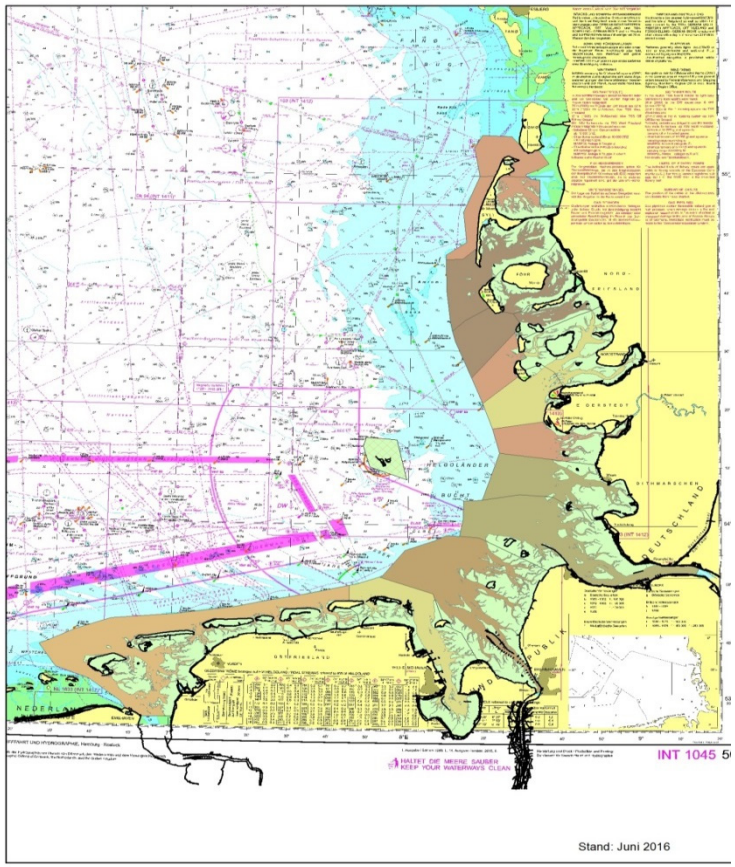
- The maximum resolution useful for the evaluation of activities is 0.50m, the actual MBES can deliver 0.20m in good conditions.
- *Standardized and high resolution data are the conditions of re-usability of data by the* national and local authorities and *stakeholders for the maritime policies; precision for decisions, activities and juridical situations.*
- Using standard procedures would allow to give to the data a quality assurance. *The IHO rules must be used, no data should be gathered without an assessment about their uncertainty*.

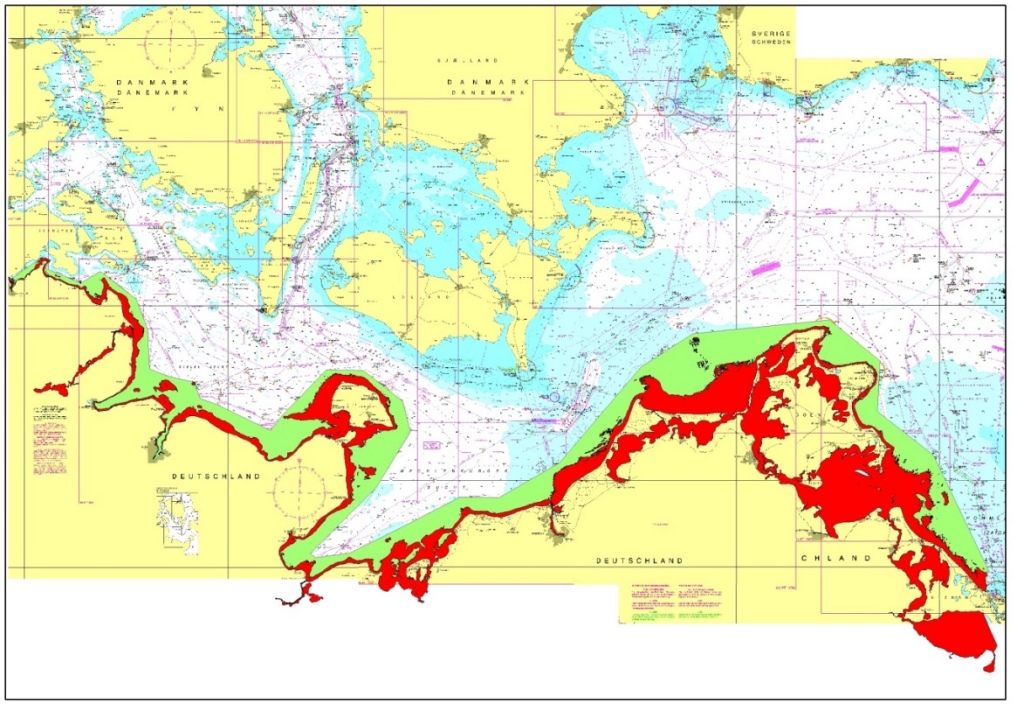
We should climb a step with the use of these standards in EU funded projects.

Coastal Mapping

Analysis of the needs and means in Europe for the acquisition of bathymetric data in coastal areas

Ex; German coastal zone: North Sea (intertidal zone in light green) & Baltic Sea (Bathymetric Lidar in red)





Coastal Mapping

European Commission

MAPPING EU'S COASTS

A KEY TOWARDS SUSTAINABLE BLUE DEVELOPMENT

7 FEB 2017 / 14:00–16:00 H

EUROPEAN PARLIAMENT / ASP 5G1

GESINE MEISSNER PRESIDENT OF THE INTERGROUP
RICARDO SERRAO SANTOS VICE-PRESIDENT FOR MARINE KNOWLE

WWW.SEARICA.EU

ORGANISED WITH THE SUPPORT OF CPMR – SECRETARIAT OF THE INTERGROUP

FOR REGISTRATION AND ACCESS BADGE PLEASE CONTACT LUCAS.BOSSER@CRPM.ORG / +33 (0)2 99 35 46 31

European Union
European Maritime and Fisheries Fund

Seas, Rivers, Islands & Coastal Areas

Coastal Mapping

How to fill the gaps with a European Strategy ? Three axes proposed

- AXIS 1: Set up coordinated programmes for data acquisition at maritime basin scale;
- AXIS 2: Increase the opportunities for bathymetric data acquisition in the framework of the EU operational programmes and funds;
- AXIS 3: Promote the production of bathymetric data from multiple sources, usable by different categories of coastal users for maritime policies.

AXIS 1

Cooperation programmes for data acquisition

Organised at the scale of maritime basins, taking into account the scale of IHO geographical commissions

Co-financed by the states, the Regions and EU's relevant funds (EMFF, ERDF, H2020)

- Proposition to design programmes both at the scale of maritime basins AND by technology/platform with the algorithm teachings and the knowledge developed by the relevant organizations

- Governance of these programmes; by EU public organization, *considering bathymetric data as a public service* at EU Scale for the global strategy and at basin scale for the acquisition

AXIS 1

Cooperation programmes for data acquisition

=> Coastal Mapping 2 ? DG MARE ANSWERED NEGATIVELY -NO MEANS TO FOLLOW ON

2 Scenarii:

- An existing structure is modified EOOS new possibility?
- A new organisation is built: with what means?

- *In parallel, design of acquisition programs at the maritime basins level to be approved by the different DGs and the Member States, Regions..,*
- *By basin who is voluntary to coordinate the propositions in its basin?*

AXIS 2

rease the possibilities for coastal bathymetric data aquisition in the mework of the Interreg programs, H2020, EMFF, LIFE

Promoting the legitimacy of coastal bathymetric data production as necessary condition to develop every maritime policies, covered by the 5 first EU funding priorities (of 11 ones),

Reaffirming that the coastal zone is a high-risk strategic zone for climate change issues and that it requires a lot of knowledge and data to deal with extreme climatic events;

Explaining that a lot of marine bathymetric data produced in the EU projects suffers a lack of visibility, common standards and mutualisation (EMODNET). Therefore, this data is lost *leading to a waste of energy, finances and data*

Promoting the use of international standards for data production funded by EU funds (link with the HOs)

Promoting the need of pooling these data in the EMODNET database

Promoting the need for the competent offices of the Member States to validate the data before they are pooled in EMODNET (link with IENWG)

AXIS 2 Lobby

rease the possibilities for coastal bathymetric data aquisition in the framework of e Interreg programmes

astal Mapping 2 (?) and 2017-2021 period

romoting coastal bathymetric data acquisition in the context of the next mid-term orientation (2017-2018) in the EU or regional programs and preparing the next ancial period (2021-2027)**:**

- in order to comply with the EU priorities, highlight the need to do EU nded acquisition of bathymetric data on coastal zone, involving the public ganisations responsible in Member States;

-undertake the necessary modifications inside the operational programs for

AXIS 3

mmunity sourcing

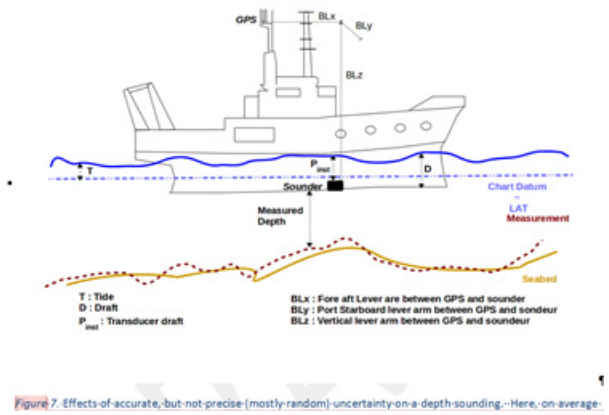
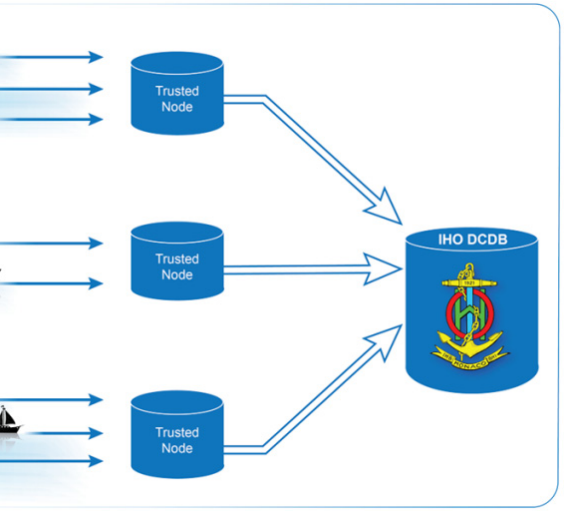


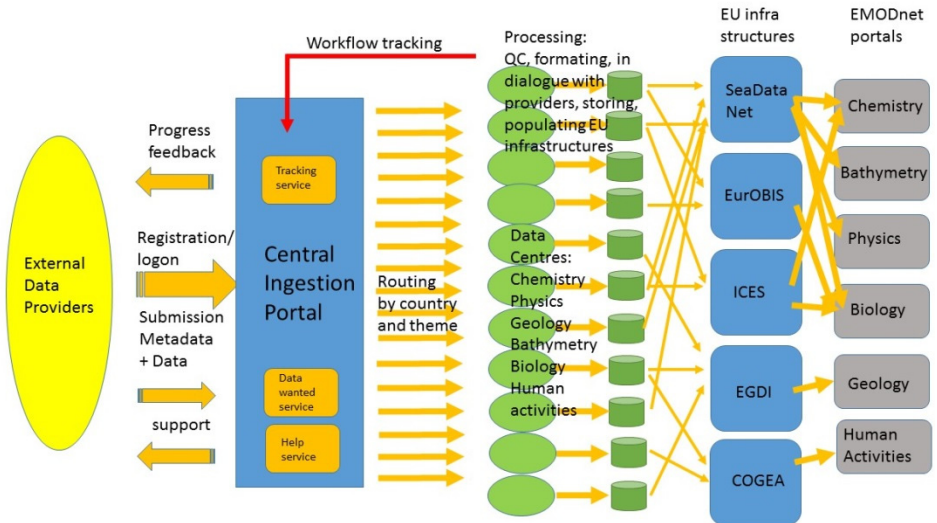
Figure 7. Effects of accurate, but not precise (mostly random) uncertainty on a depth sounding. Here, on average

- Promoting the production of usable bathymetric data for maritime policies, coming from different sources
- Organising training and dissemination of data acquisition standards, (HOs) *CSBSWG DOCUMENT*
- Organising the validation of these data by the HOs of EU Member States (link with EMODNET “ingestion and safe keeping of marine data)
- Evaluation of the gaps in the EU coastal seabed mapping, in order to address them via community sourcing

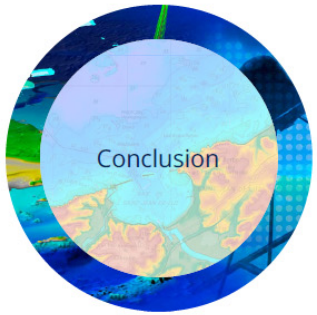
to manage the IHO Objectives and EU ones?



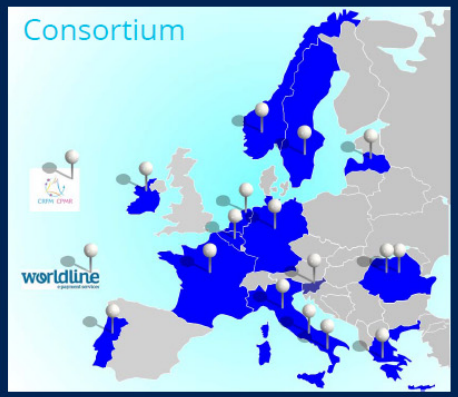
EMODnet Data Ingestion project



NEXT STEPS?



n conclusion, since an integrated maritime policy needs an integrated vision, and given coastal areas are a major factor for blue growth, but also highly sensitive from an environmental point of view, strong action must be taken to greatly improve knowledge of these areas.
For that reason, the coastal mapping project strongly recommends that a ***European Strategy with the above 3 axis and 3 pillars actions*** *be implemented. For the sake of efficiency, the project team also recommends platform sharing and/or organising common campaigns for data acquisition and a systematic requirement that any EU funded project including data acquisition, must respect standards and ensure data capitalisation and promotion of good practice to maximize the benefits of community/crowd sourced data.*



www.coastal-mapping.eu

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