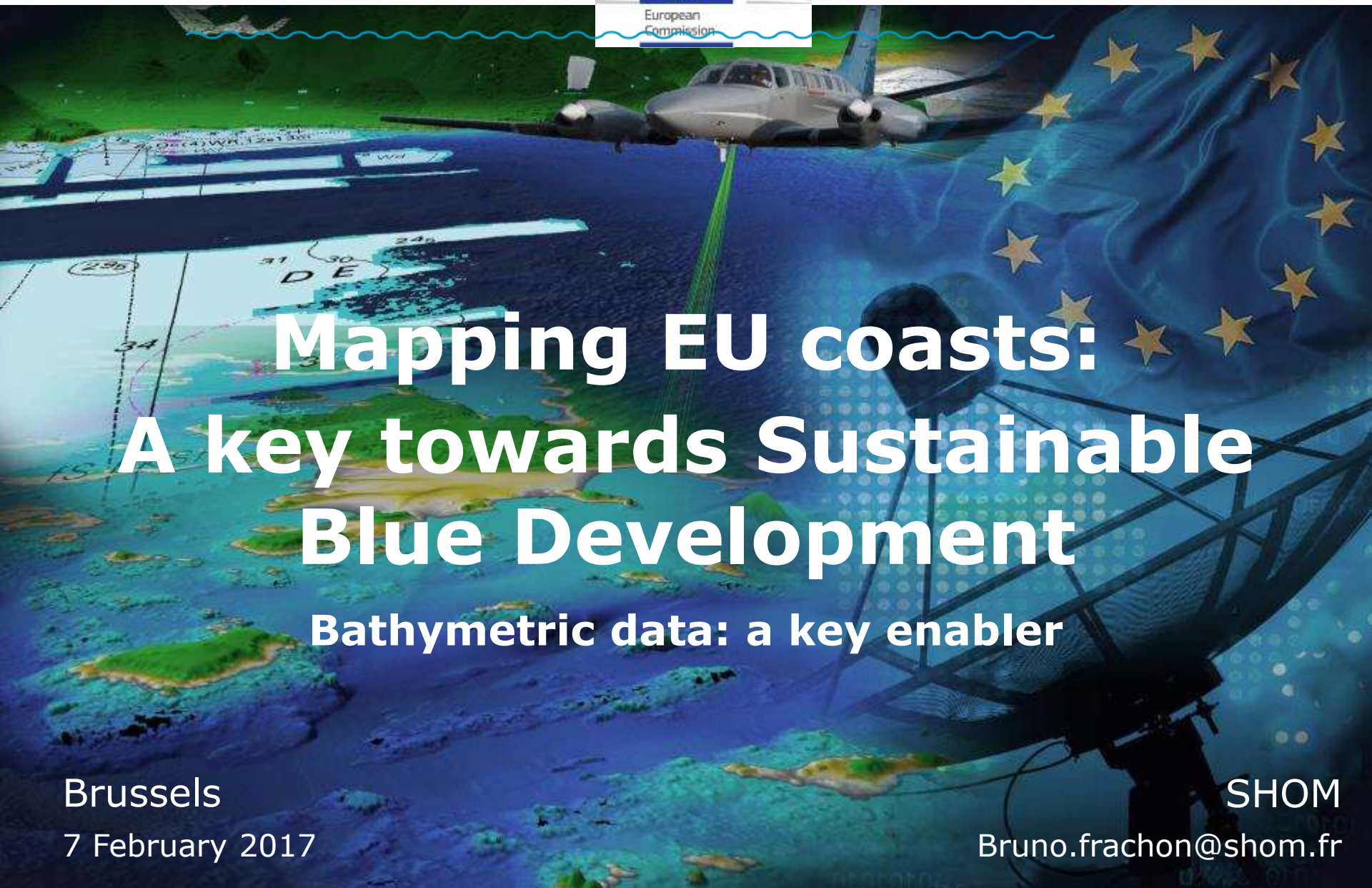
INTERGROUP
SEAS, RIVERS, ISLANDS
AND COASTAL AREAS

European Commission

EUROPEAN PARLIAMENT
INTERGROUP
Seas, Rivers, Islands & Coastal Areas



Mapping EU coasts: A key towards Sustainable Blue Development

Bathymetric data: a key enabler

Brussels
7 February 2017

SHOM
Bruno.frachon@shom.fr

Consortium

- ***Hydrographic offices :***

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

- ***Regions :***

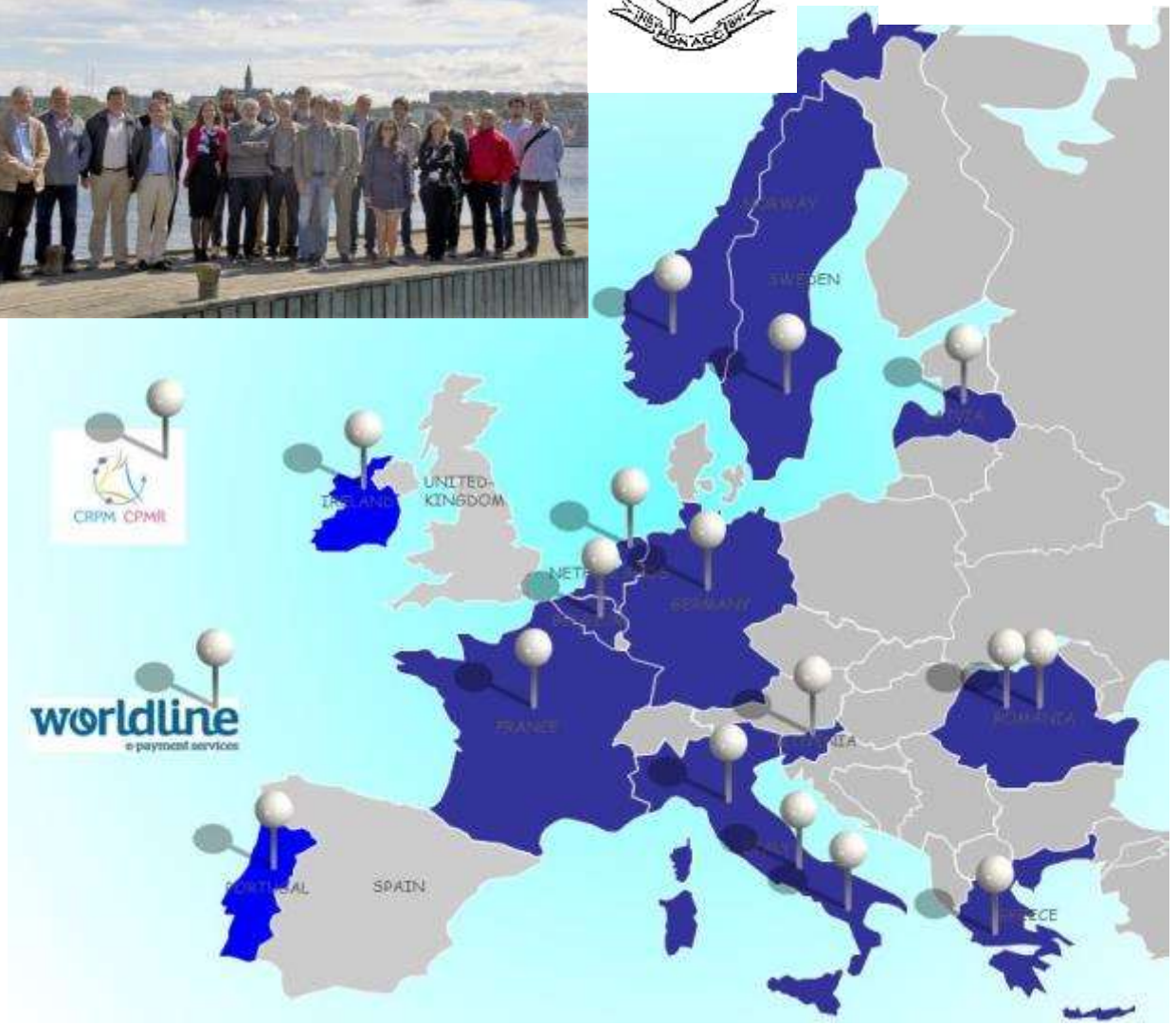
CPMR – Regione Lazio

- ***Public Bodies :***

ISPRA – RWS - GeoEcomar – DDNI

- ***IT company :***

Worldline



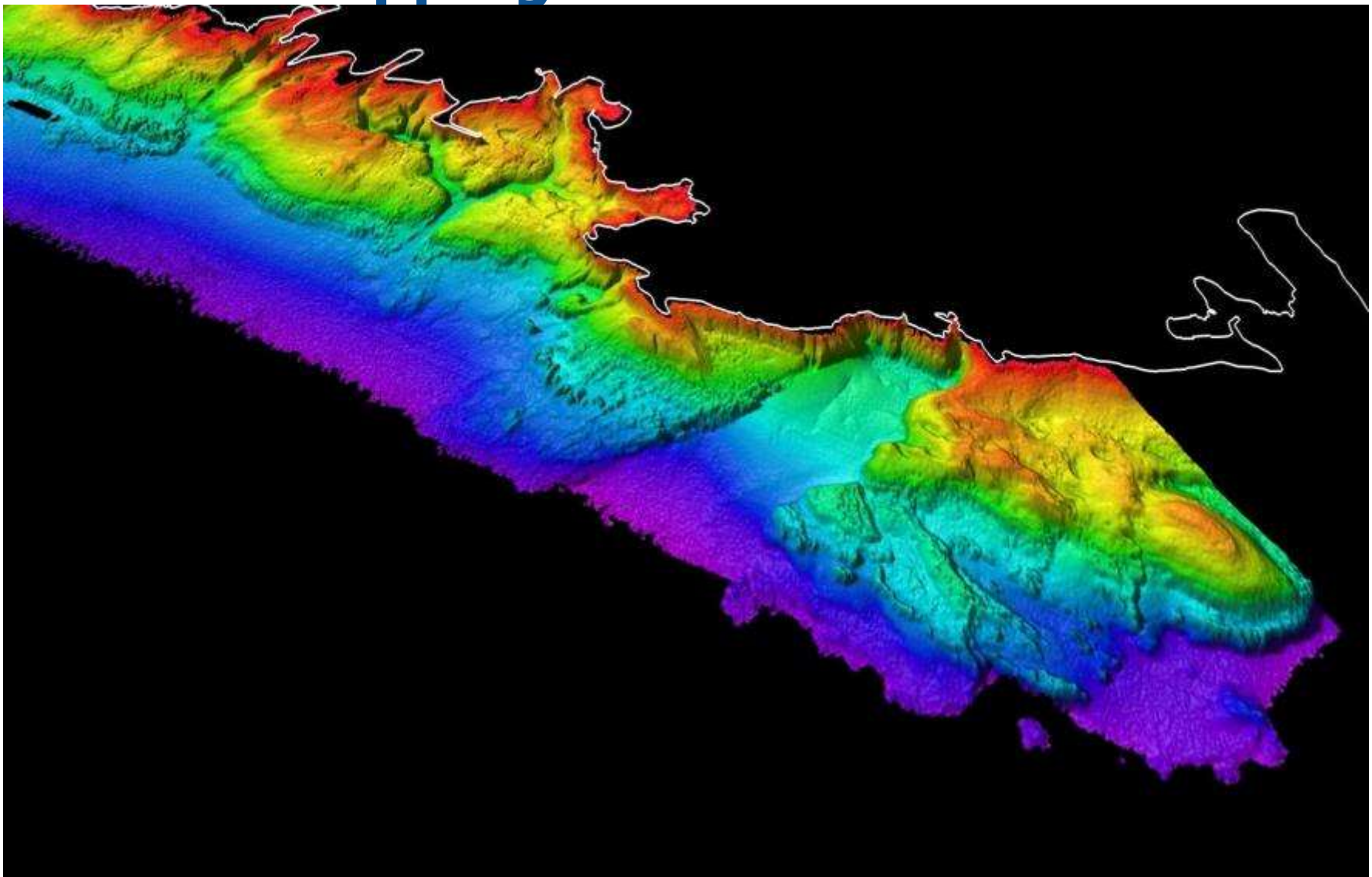
Coastal Mapping

Objectives

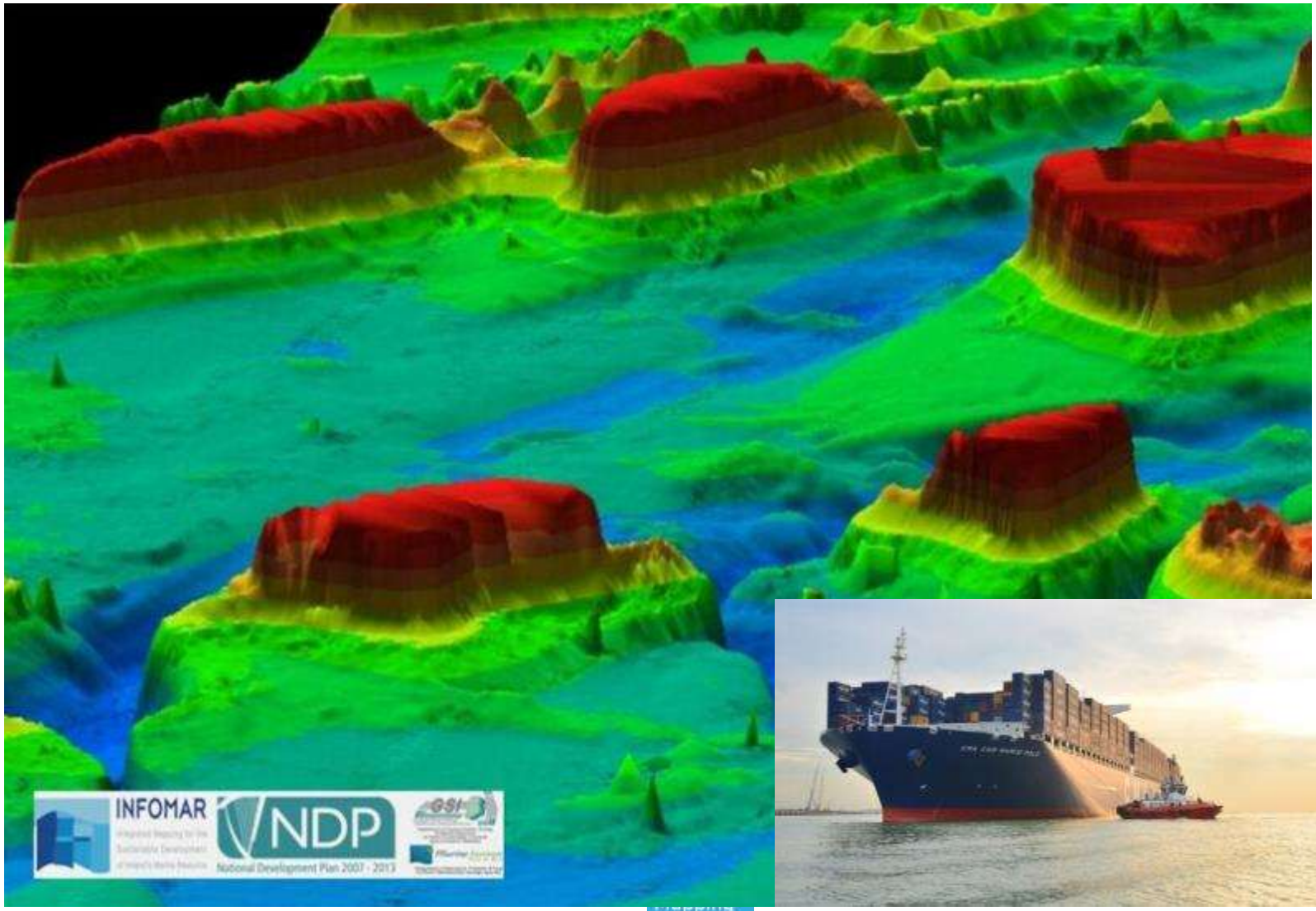
- Assess the current availability of digital coastal maps in the EU
- Disseminate this information by EMODnet
- Share experience of coastal mapping in the EU
- Develop standards for best practices
- Propose how a future JECMaP could operate

Coastal Mapping

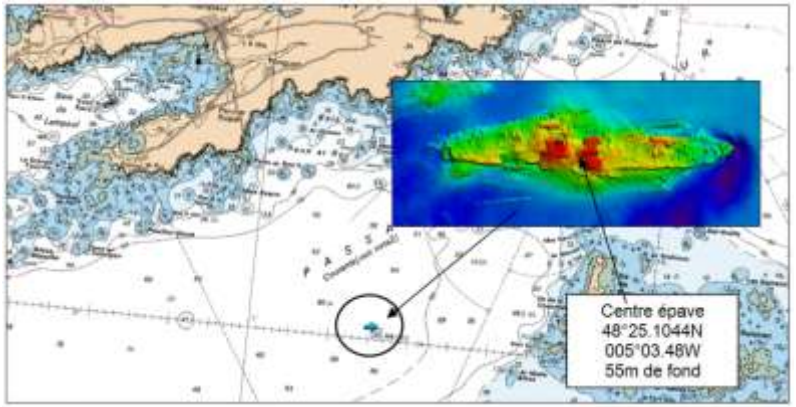
Coastal Mapping

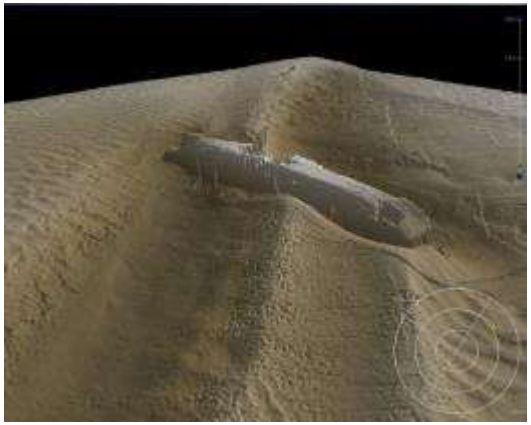


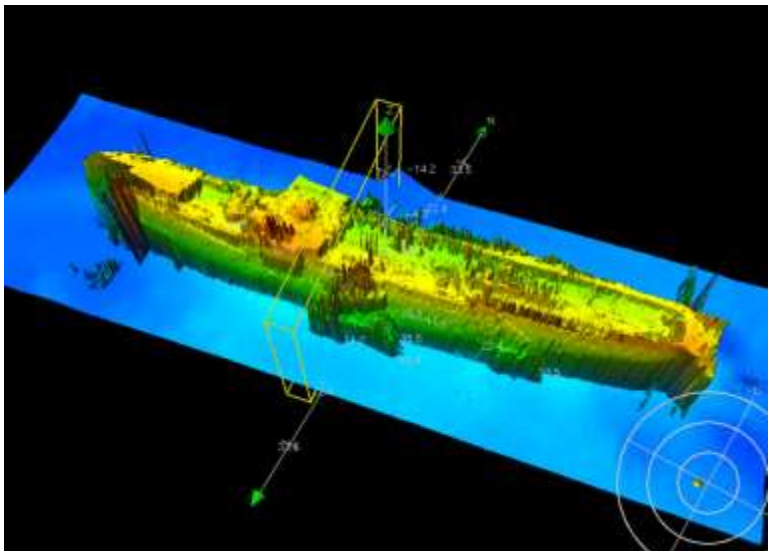
Safety of navigation in Ireland

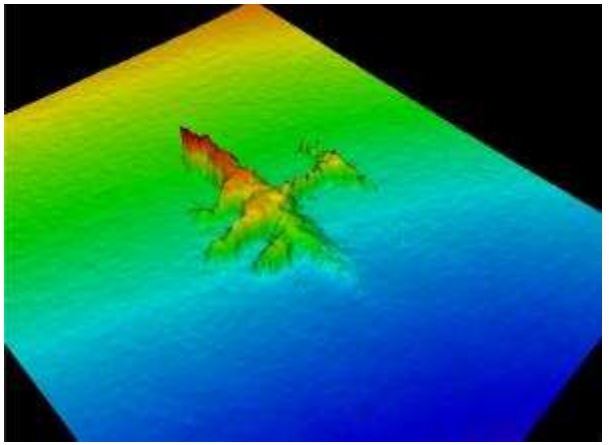


Manage the safety of navigation and the marine archeology



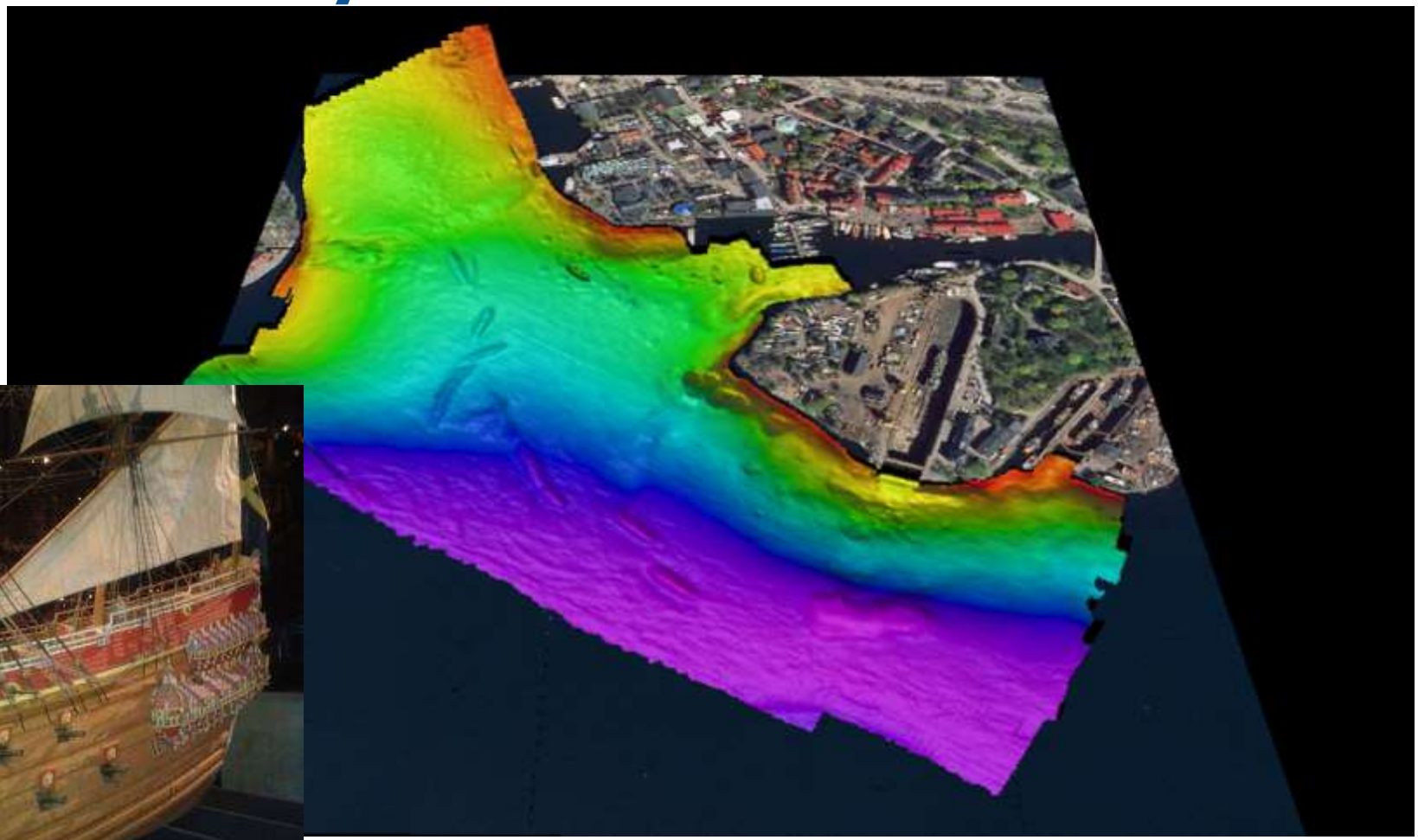






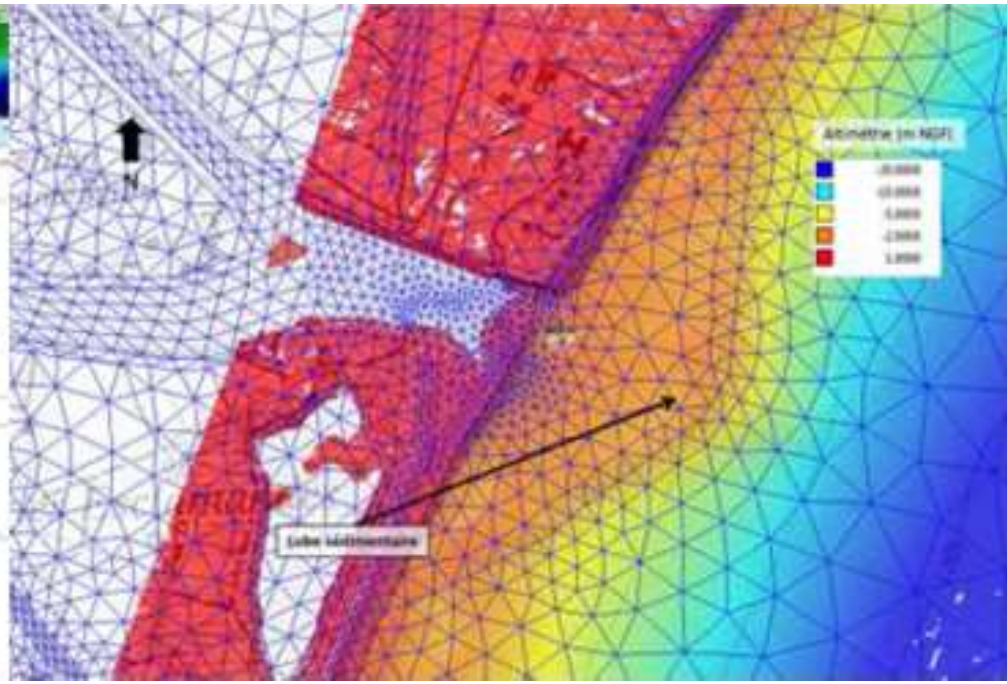
Coastal Mapping

Stockholm coastal management: the Vasa history



Coastal Mapping

Discovering a submarine dune in an estuary increasing flood risks

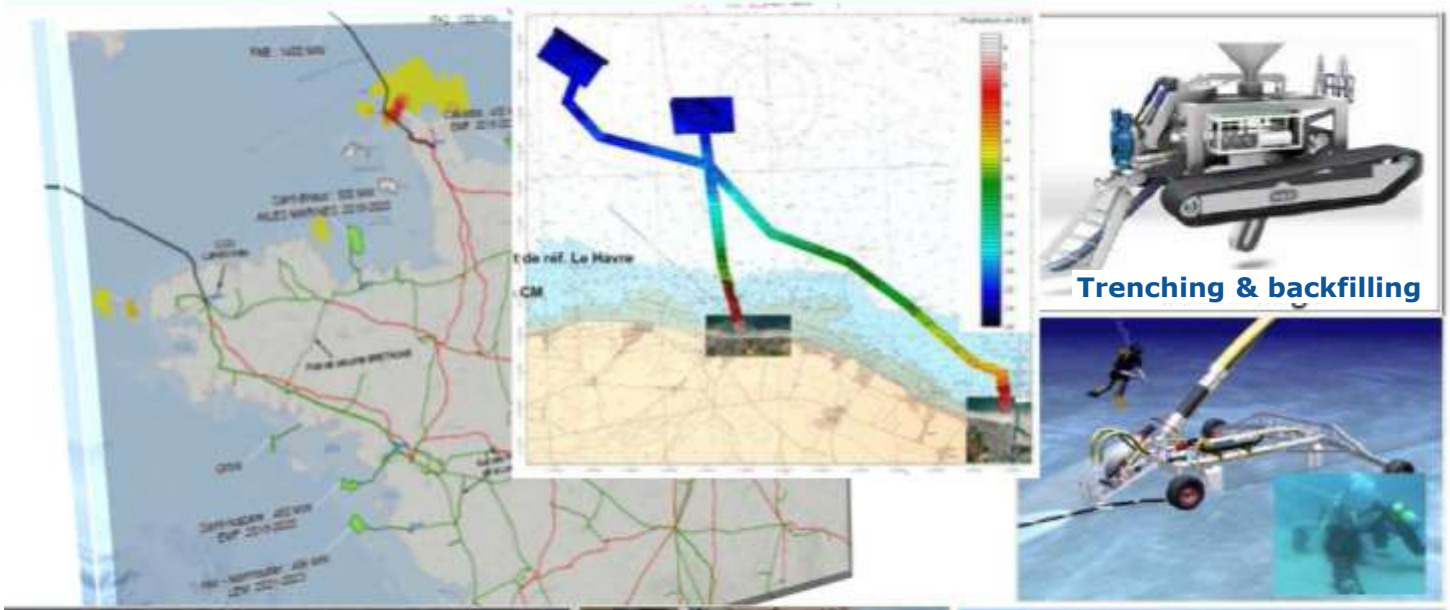


Coastal Mapping

Protection against erosion

Coastal Mapping

Laying of submarine cables



Trenching & backfilling

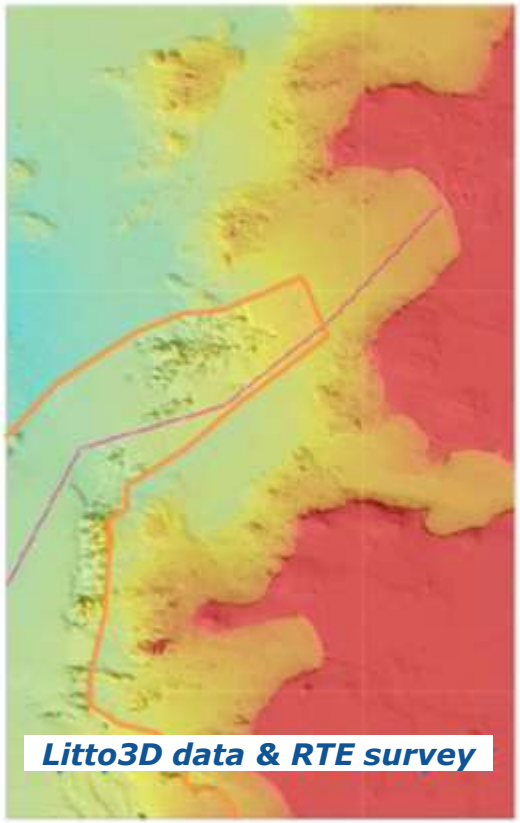
Cable ship

Cable loading & unloading at sea

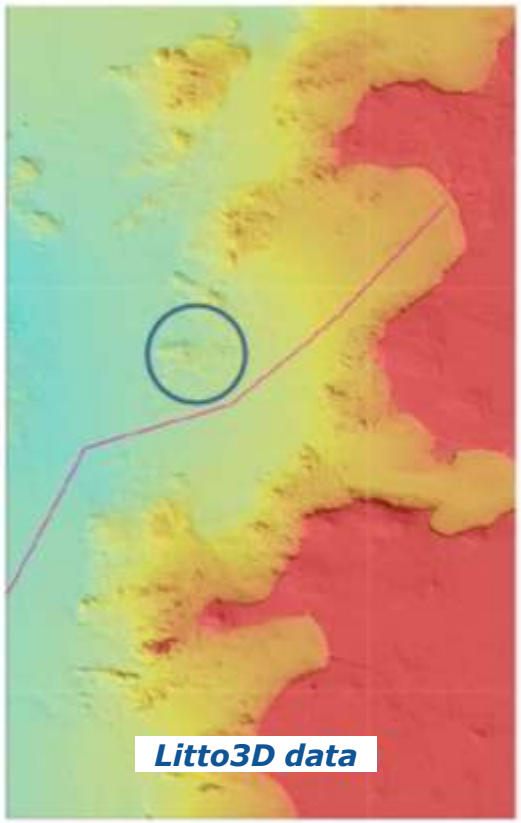
Coastal Mapping

Cables for energy: FR-IRL, FR-UK, FR-SP

Litto3D : use of data by RTE



Litto3D data & RTE survey

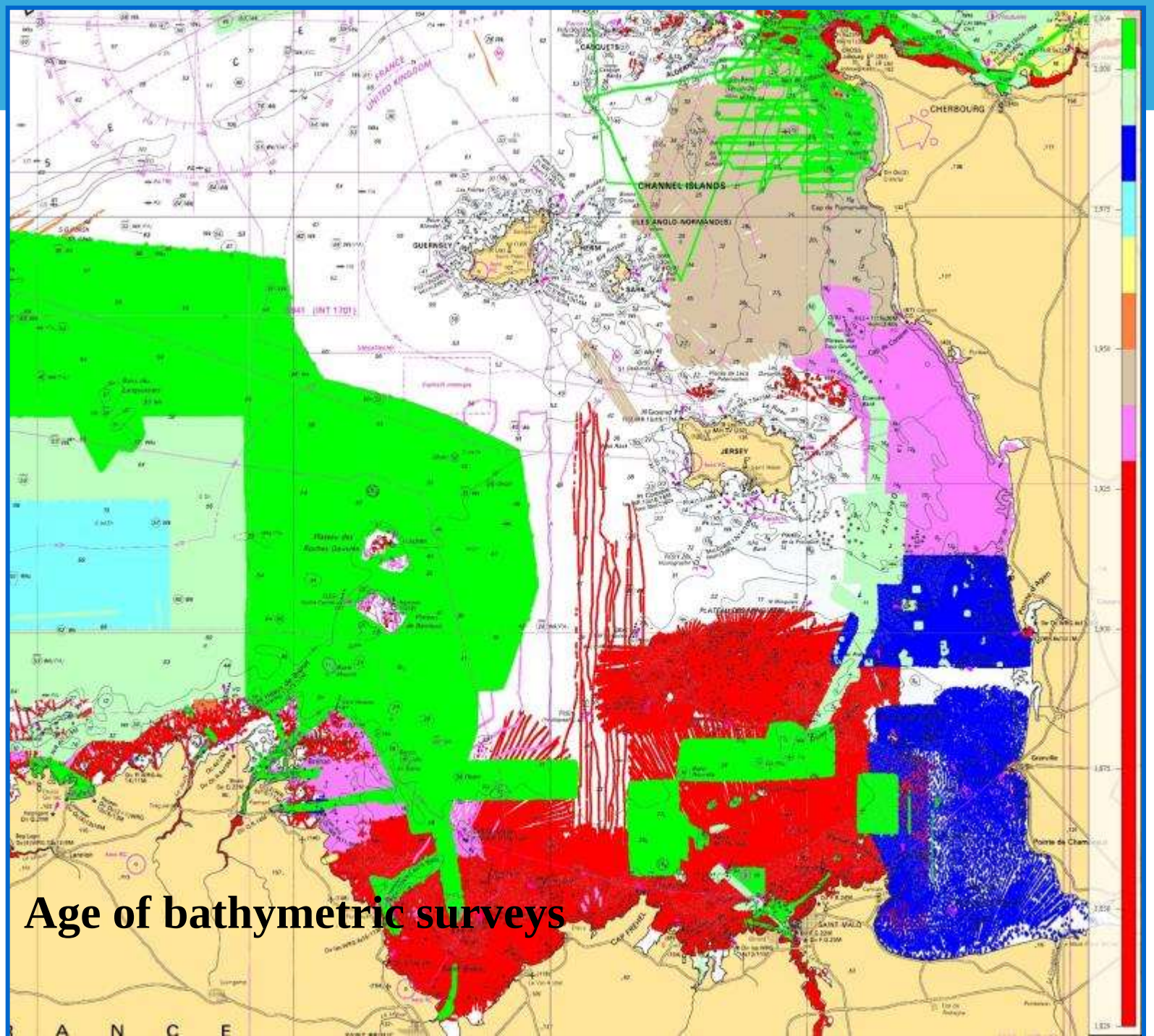


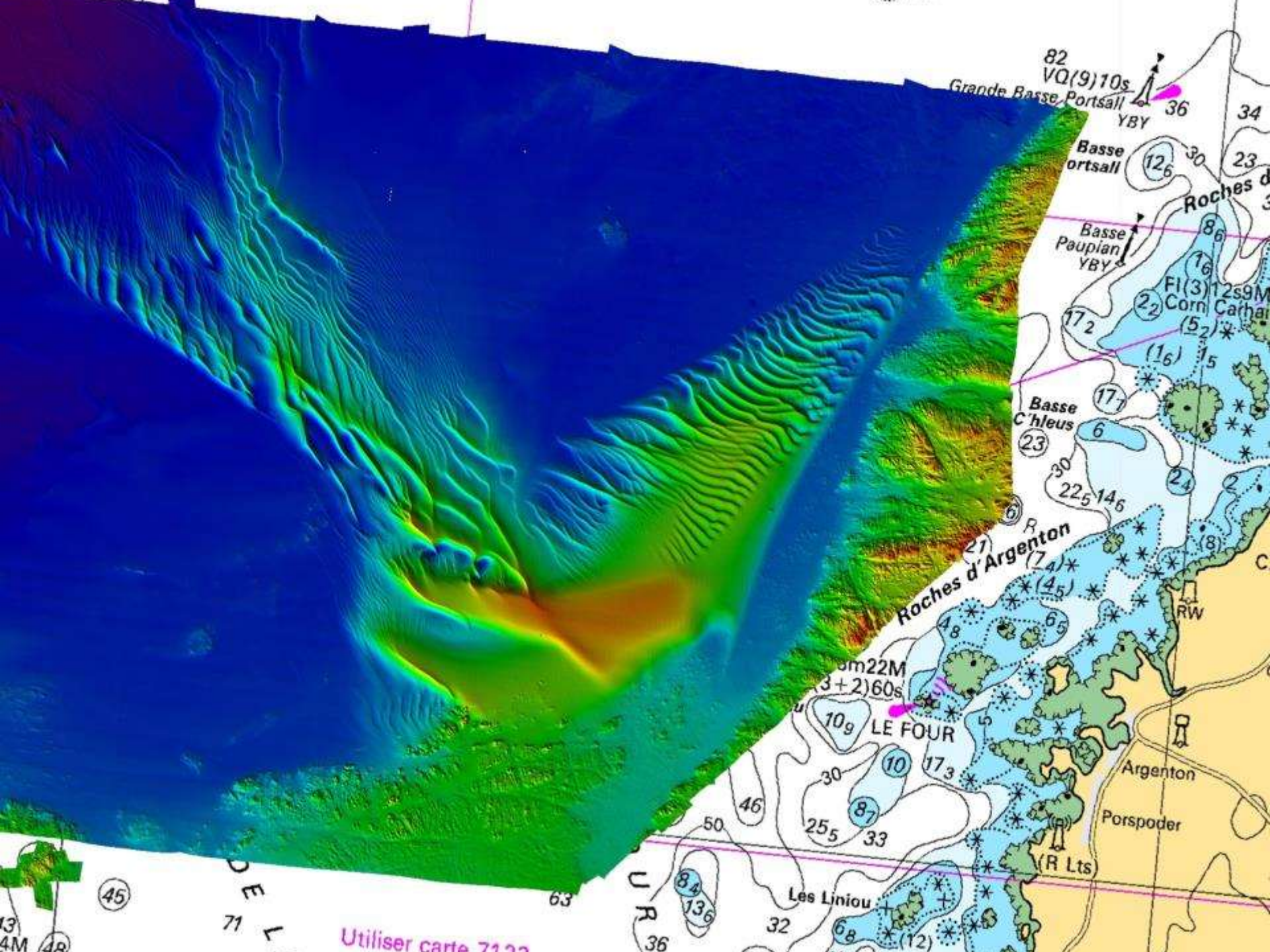
Litto3D data

Use of Litto3D data:

- **to identify rocky areas**
- **to optimize the survey road.**

Coastal management

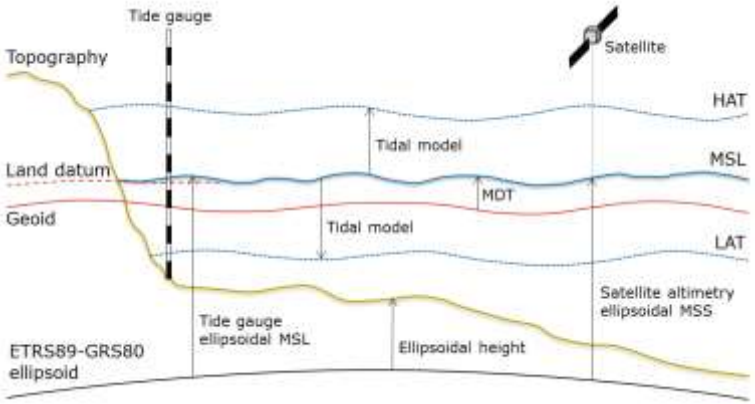

2000
1990
1980
1970
1960
1950
1940
1930
Age of bathymetric surveys


82
VQ(9)10s
Grande Basse Portsall
YBY
Basse Portsall
Basse Peupian
YBY
Roches d'
Basse C'hleus
Roches d'Argenton
RW
LE FOUR
Argenton
Porspoder
(R Lts)
Les Liniou
Utiliser carte 7122

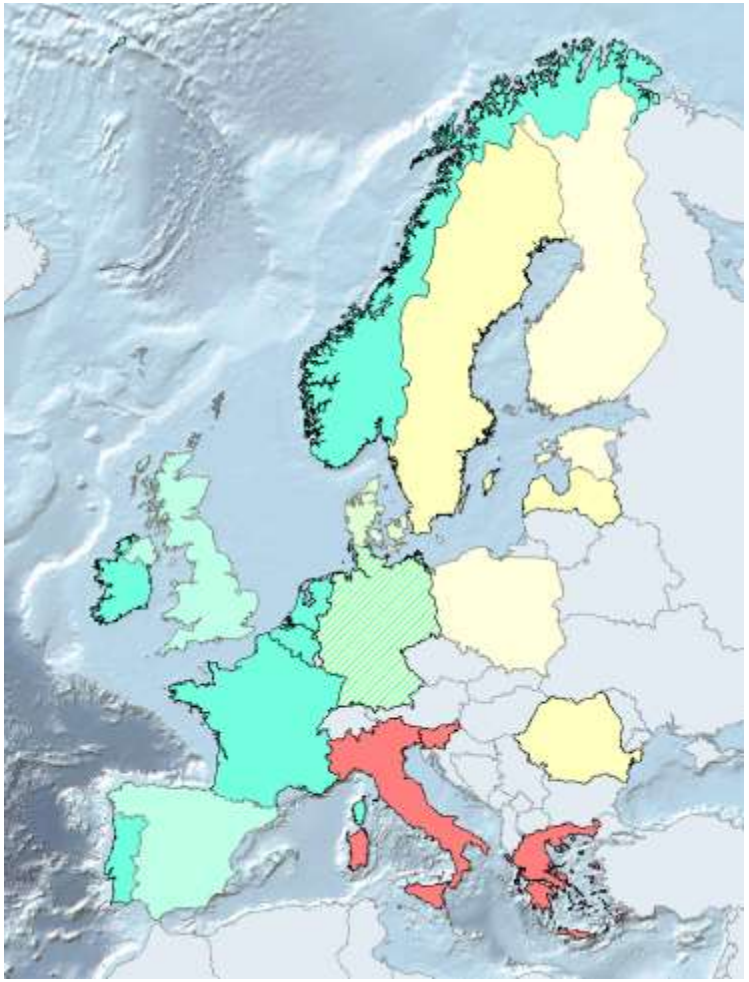
Consistency of vertical datum

- Questionnaire on VD:
  - Height systems on land
  - Tidal datums
  - Definition of Chart Datum
  - Relation of VD to ETRS89
  - Developments

- Chart Datum (reference level for nautical charts):



LAT (approx)
MSL
Low water



ACQUISITION OF *HIGH RESOLUTION* COASTAL BATHYMETRIC DATA

TOWARD A EUROPEAN STRATEGY?

The bathymetric data in coastal zones:

A common basis for the coastal and maritime policies (integrating land-sea interface)

A chance for innovation in blue growth

Coastal Mapping

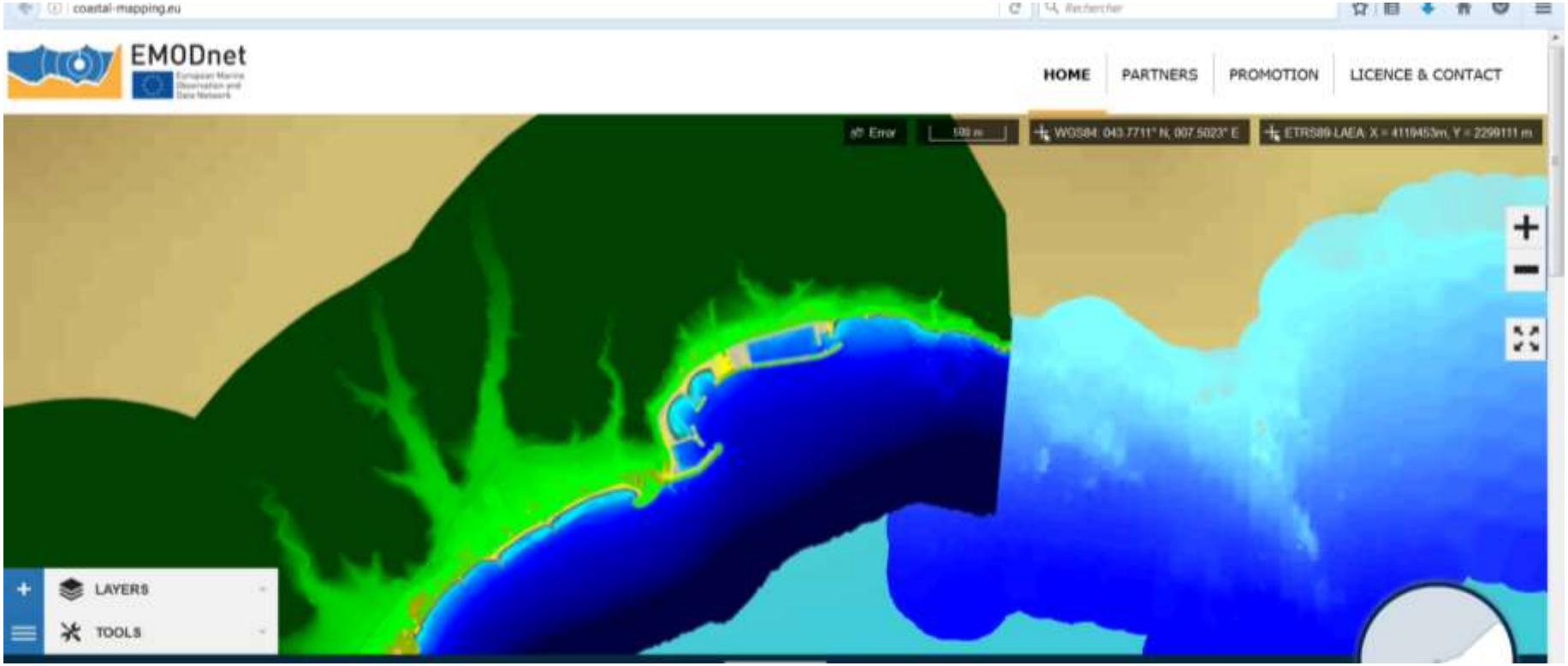
STUDY OF THE GAPS TO FILL HR BATHYMETRIC DATA IN COASTAL ZONES

- Representativeness 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.

Coastal Mapping

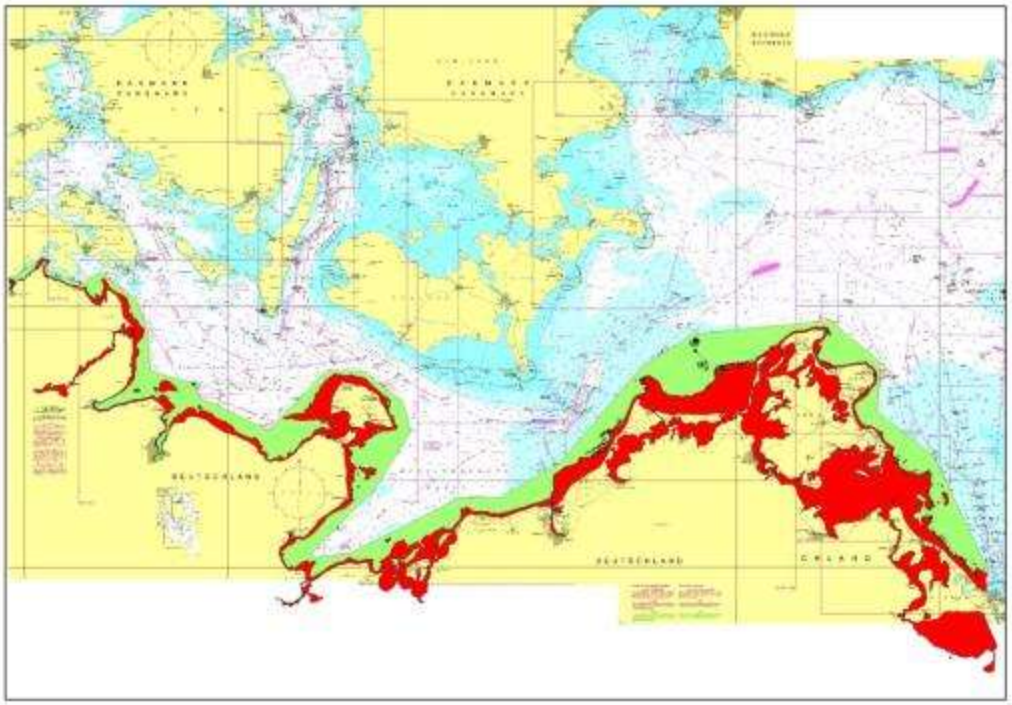
Experts in bathymetry should be involved in the preparation of EU programmes with maritime objectives. This would facilitate the use of standards; the IENWG can be associated.



Coastal Mapping

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

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



Coastal Mapping

How to fill the gaps with a European Strategy ?

- AXIS 1: Set up co-ordinated 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 2

Increase the possibilities for acquisition of coastal bathymetric data, in the framework 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)
- Developing campaigns in homogeneous areas, sharing platforms and funds from the EU programs, (*cf financial* CPMR tool)

AXIS 3

Community sourcing

- Promoting the production of usable bathymetric data for maritime policies, coming from different sources
- Organising training and dissemination of data acquisition standards, (HOs)
- 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
- Promoting the link between the EU and the IHO works

THREE PILLAR ACTIONS TO SUPPORT THE STRATEGY

- Establish a multilevel European structure to implement the Strategy
- Establish standards and hydrographic practices for all potential contributors acquiring these data
- Establish a partnership with coastal stakeholders using high resolution bathymetric data in Europe

QUESTIONS ?

Coastal Mapping