



SeaDataCloud

SeaDataNet in the European landscape: relation with other initiatives

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SDC Review, Brussels – Belgium, 6 December 2018
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SeaDataNet partners and involvement

- **SeaDataNet** core partners are the **National Oceanographic Data Centres (NODCs)**, **major marine research institutes** in Europe and **EU Joint Research Centre**.
- Members have institute and national tasks for marine data management, dealing with data as collected through scientific cruises with research vessels and collected by various other platforms. Emphasis is on-situ data (delayed mode) and providing validation and long term stewardship.
- NODC members are also participating in the **International Oceanographic Data and Information Exchange** programme of the **Intergovernmental Oceanographic Commission of UNESCO (IOC-IODE)** and in the Data Management Workgroup of the **International Council for the Exploration of the Sea (ICES)**, discussing marine data management topics on an international basis.





SeaDataNet partners in many projects

- SeaDataNet members are participating in many EU projects in which the SeaDataNet infrastructure and standards are adopted and further developed .





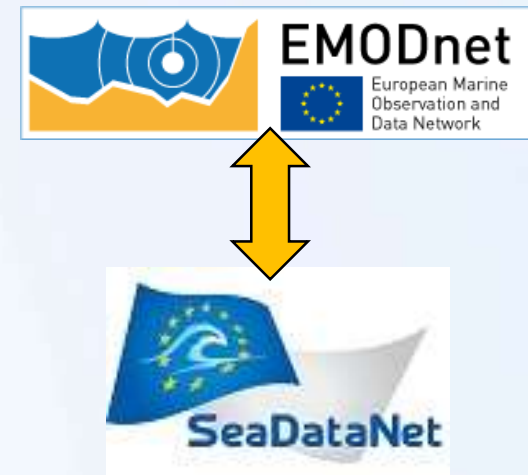
SeaDataNet cooperation

- **Copernicus Marine Environmental Monitoring Services (CMEMS):** providing long-term archives and dm standards. MoU describing cooperation and synergy options, in particular with **CMEMS-INSTAC**.
- **Marine Strategy Framework Directive (MSFD):** providing infrastructure, standards and data collections for several indicators
- **Large ocean monitoring systems (EuroGOOS, AtlantOS, Euro-ARGO, JERICO-Next, ..):** providing standards and validation + long-term archiving services as integrator
- **Ocean Data Interoperability Platform (ODIP):** exploring and demonstrating common standards and interoperability with leading data management infrastructures in USA and Australia
- **GEOSS - EuroGEOSS:** Serving the GEOSS portal with SeaDataNet in-situ data collections from large community of European data holders (> 100 data centres; >600 data originators)
- **European Open Science Cloud (EOSC):** shaping the pilot Blue Cloud

SeaDataNet and EMODnet

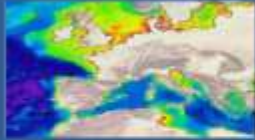
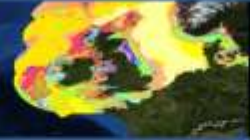

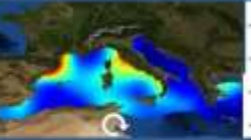
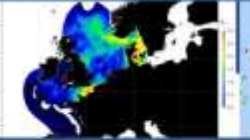


- EU initiative for an overarching **European Marine Observation and Data Network (EMODNet)** driven by Marine Knowledge 2020 and Blue Growth
- SeaDataNet qualified as a leading infrastructure for the EMODnet data management component and is driving several thematic portals from the start in 2008

- *‘Bottom-up meets top-down’*



- This synergy has resulted in many more data centres adopting SeaDataNet standards and connecting to the CDI Data Discovery and Access service while it gave a flying start to EMODnet

EMODnet thematic portals

Bathymetry	Geology	Seabed Habitats	Chemistry	Biology	Physics	Human activities
						
<p>Minimum cell water depth</p> <p>Maximum cell water depth</p> <p>Average cell water depth</p> <p>Standard deviation of cell water depth</p> <p>Number of values used for interpolation of cell water depth</p> <p>Horizontal coordinate reference system</p> <p>Depth reference system</p> <p>Lowest Astronomical Tide</p>	<p>Seabed substrate</p> <p>Sediment accumulation rate</p> <p>Sea-floor geology</p> <p>Seabed lithology</p> <p>Stratigraphy</p> <p>Coastline migration</p> <p>Aggregate resources</p> <p>Geological events</p>	<p>Data on modelled seabed habitats (depth, seabed substrate, broad scale biological zone, T, S, light, oxygen, energy due to waves & current)</p> <p>Broad-scale physical habitat map</p> <p>Detailed habitat maps from surveys</p> <p>Individual habitat modelling outputs</p> <p>Habitat point data</p>	<p>Pesticides & Biocides</p> <p>Antifoulants</p> <p>Pharmaceuticals</p> <p>Heavy Metals</p> <p>Hydrocarbons</p> <p>Radionuclides</p> <p>Fertilizers</p> <p>Acidity</p> <p>Dissolved Gasses</p> <p>Plastics</p> <p>Marine Litter Beach litter Seafloor litter Micro litter</p> <p>Chlorophyll Silicates Organic Matter</p>	<p>Biomass</p> <p>Abundance</p> <p>Gridded Abundance maps</p> <p><i>species groups:</i></p> <ul style="list-style-type: none"> • phytoplankton • zooplankton • angiosperms • macro-algae • invertebrate bottom fauna • birds • mammals • reptiles • Fish 	<p>Waves</p> <p>Water temperature</p> <p>Water salinity/conductivity/density</p> <p>Currents</p> <p>Light attenuation/fluorescence</p> <p>Sea level</p> <p>Atmospheric parameters</p> <p>Wind</p> <p>Underwater noise</p> <p>Rivers</p> <p>Ice</p>	<p>Aggregate Extraction Dredging</p> <p>Fisheries</p> <p>Hydrocarbon Extraction Main Ports</p> <p>Mariculture</p> <p>Ocean Energy Facilities</p> <p>Pipelines and Cables</p> <p>Protected Areas</p> <p>Waste Disposal</p> <p>Wind Farms</p> <p>Other Forms of Area Management / Designation</p>

EMODnet Bathymetry portal



The screenshot shows the EMODnet Bathymetry portal. At the top left is the EMODnet logo, which includes a stylized blue and yellow wave icon and the text 'EMODnet'. To its right is the word 'BATHYMETRY' in large blue letters, followed by the tagline 'Understanding the topography of the European seas' in a smaller, italicized font. On the top right, there is a search bar with the placeholder text 'Free search' and a magnifying glass icon, and two links: 'CONTACT' and 'SUBMIT DATA'. Below the header is a dark blue navigation bar with white text links: 'APPROACH', 'METADATA & DATA', 'DATA PRODUCTS', 'NEWS', 'PROMOTION', 'PARTNERS', and 'HELPDESK'. The main content area features a large background image of a yellow autonomous underwater vehicle (AUV) operating in the ocean. Overlaid on this image is the text 'Developing and providing a harmonised Digital Terrain Model (DTM) for the European sea regions'. Below this main image are three white boxes with blue borders. The first box is titled 'SURVEY DATA SETS' and contains the text 'CDI Data Discovery and Access service' and a 'READ MORE' button. The second box is titled 'EMODnet DTM' and contains the text 'Bathymetry Viewing and Download service' and a 'READ MORE' button. The third box is titled 'COMPOSITE DTM' and contains the text 'Sextant Catalogue service' and a 'READ MORE' button. Each box also includes a small illustrative image: a magnifying glass for the first, a map of Europe for the second, and a globe for the third.

EMODnet

BATHYMETRY
Understanding the topography of the European seas

Free search 

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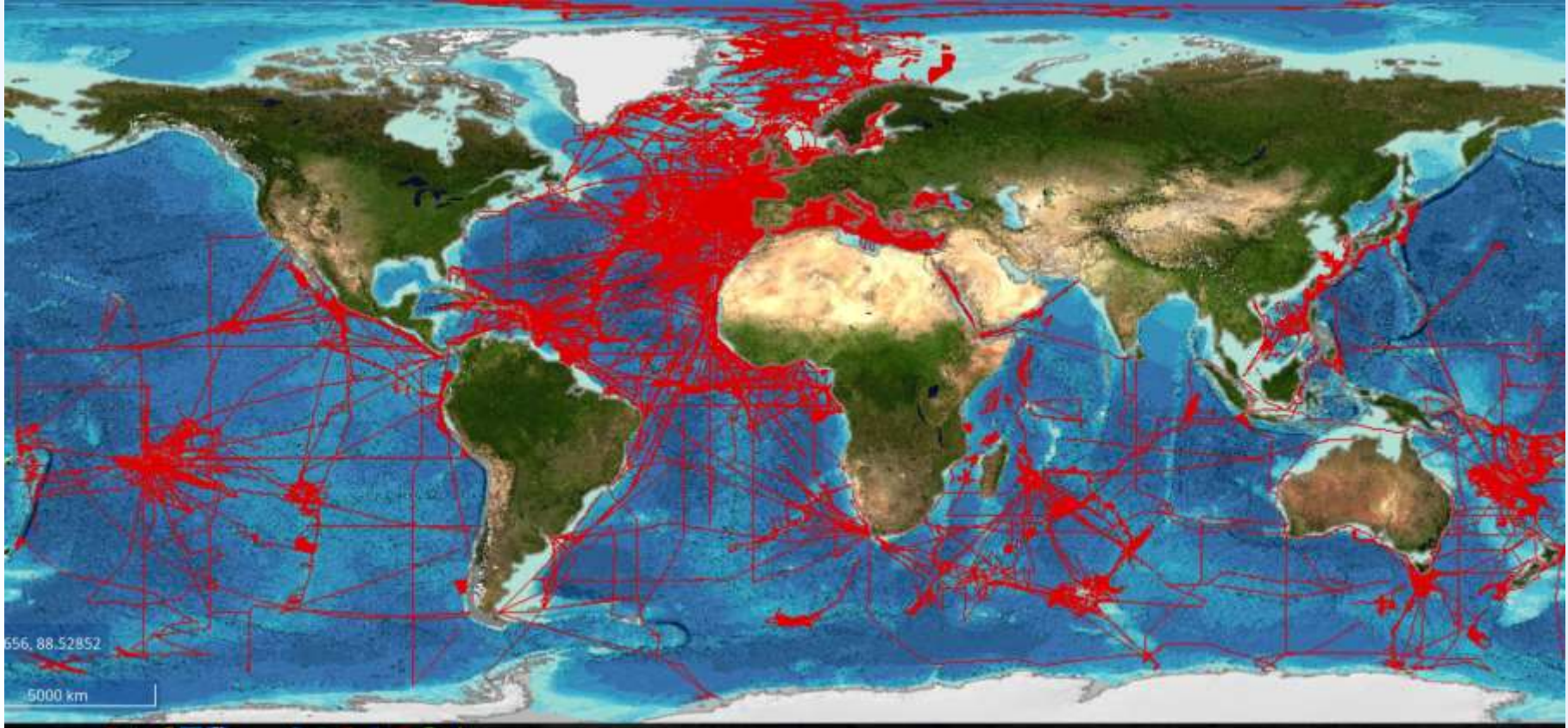
Developing and providing a harmonised Digital Terrain Model (DTM) for the European sea regions

SURVEY DATA SETS
CDI Data Discovery and Access service
[READ MORE](#)

EMODnet DTM
Bathymetry Viewing and Download service
[READ MORE](#)

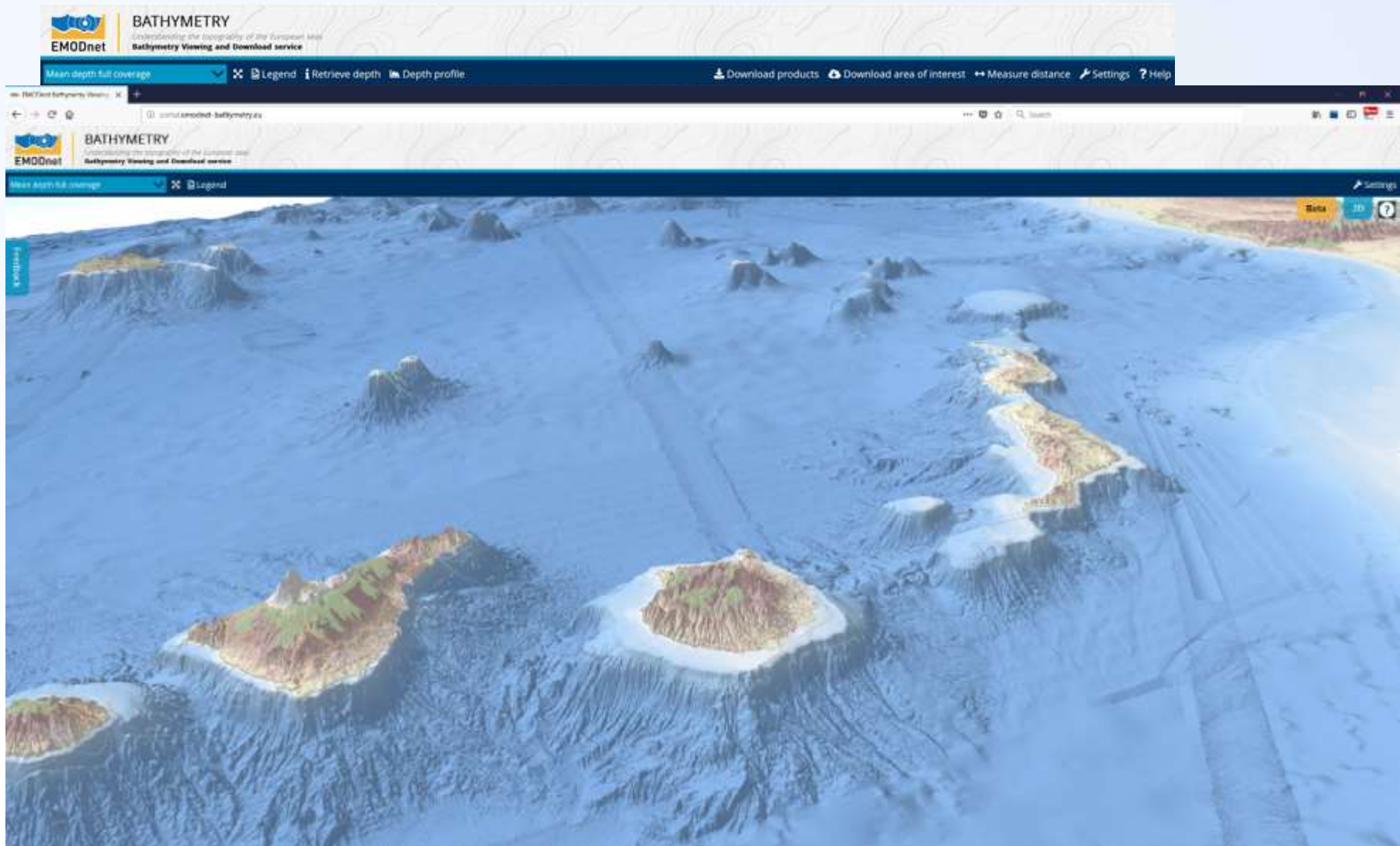
COMPOSITE DTM
Sextant Catalogue service
[READ MORE](#)

Bathymetry – gathered data



> 27.000 survey data sets from >50 European data providers indexed in the CDI data discovery and access service

Bathymetry – New DTM (115 * 115 m)





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Pillars under EMODnet Physics



The European Global Ocean Observing System, association and its regional components (ROOSs)



Copernicus Marine Environment Monitoring System (CMEMS)



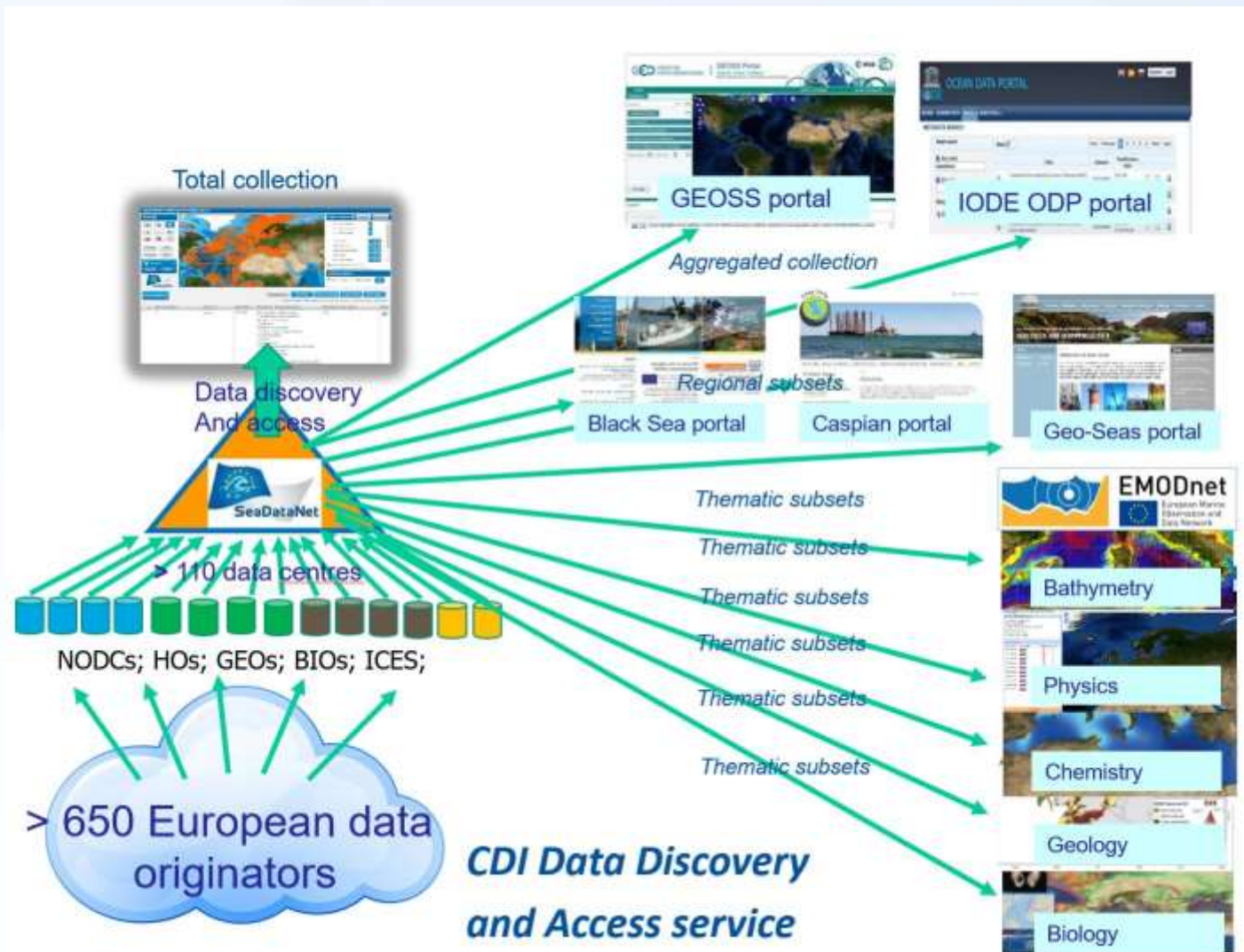
SeaDataNet, pan-European marine data management infrastructure and network of NODCs

EMODnet Chemistry

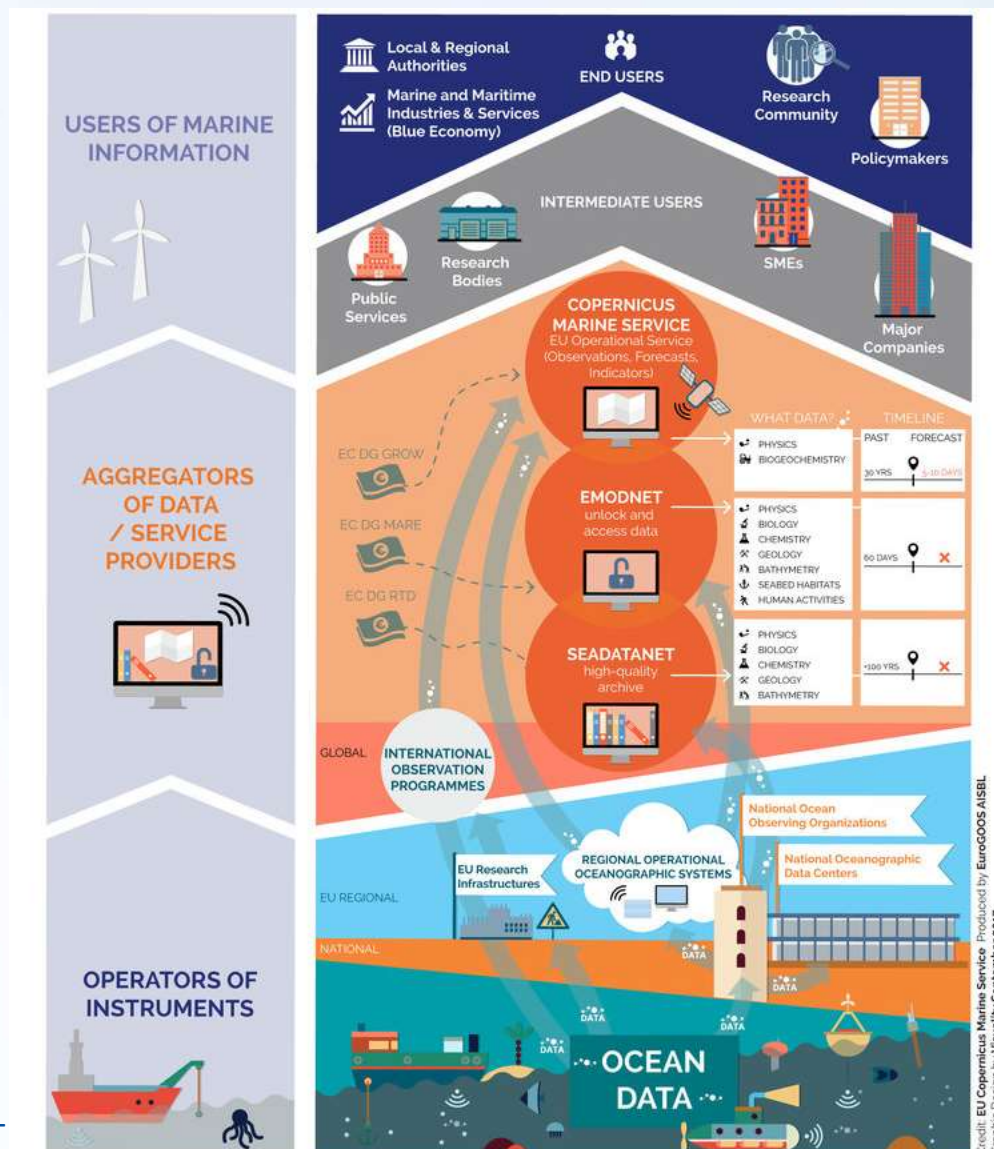


Portal with data and products for eutrophication, contaminants and marine litter (*Alessandra*)

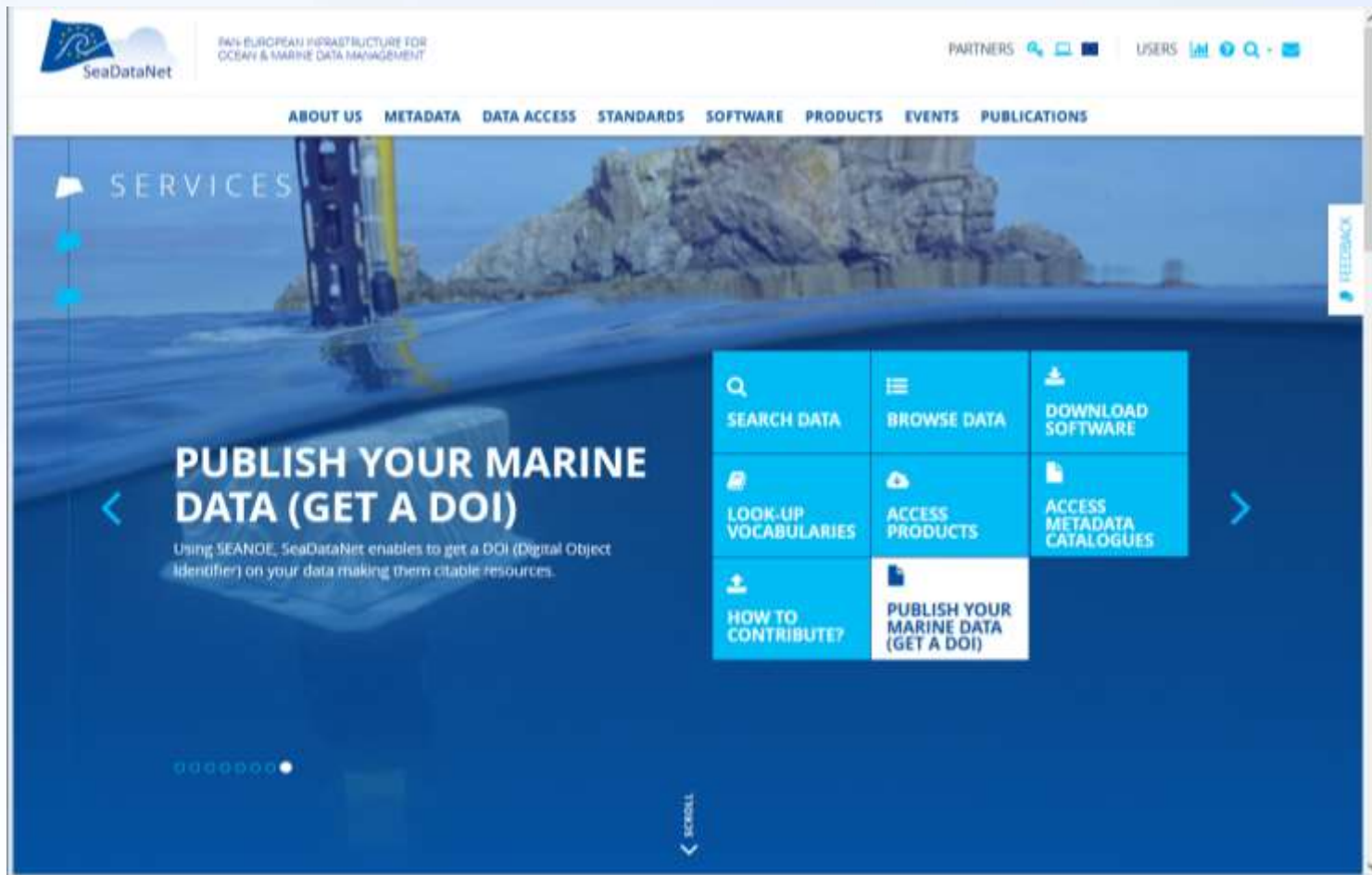
CDI service as driver for portals



European marine landscape



- Cooperation with other projects and networks has many benefits:
 - SeaDataNet standards are adopted and adapted which makes them richer and fit for many purposes
 - SeaDataNet vocabularies are further populated by community experts in order to fit other disciplines
 - SeaDataNet services are put to the test and upgraded to serve different portals, functions, and user communities
 - SeaDataNet network of connected marine data centres is expanding, which motivates even more data centres to get on board
 - SeaDataNet metadata and data resources are expanding in volumes and in disciplines, covering the marine environment
 - SeaDataNet becomes an essential building block in the value chain from data observation to wisdom, contributing to sustainability



www.seadatanet.org