NAUTILOS

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New Approach To Underwater Technologies For Innovative, Low-cost Ocean Observation

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EuroGOOS
European Global Ocean

National Research Council of Italy

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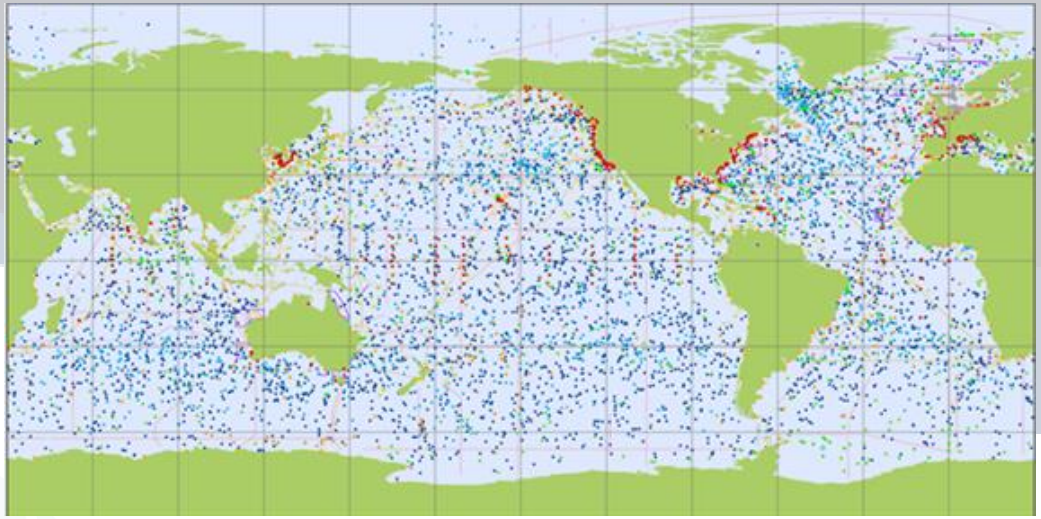
http://www.nautilos-h2020.eu/

Main objective



Strategic objectives:

- **filling in marine observation and modelling gaps for chemical, biological and deep ocean physics variables**
- By means of **a new generation of cost-effective sensors and samplers**
- To be **integrated within observing platforms**
- Long-term **deployment in large-scale demonstrations in European seas**

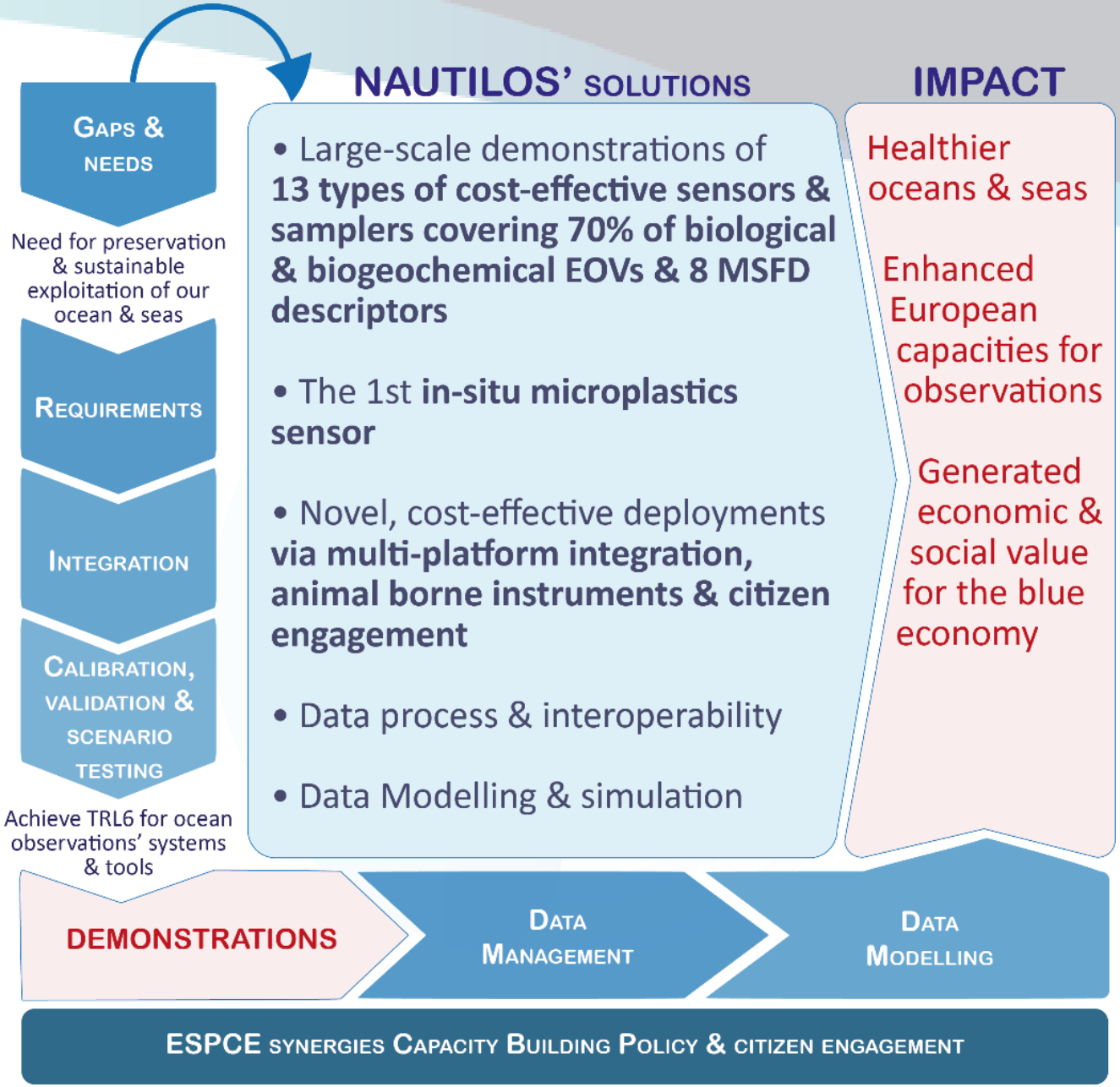
Goals & achievements:

✓**complement** and **expand current EU observation tools and services**

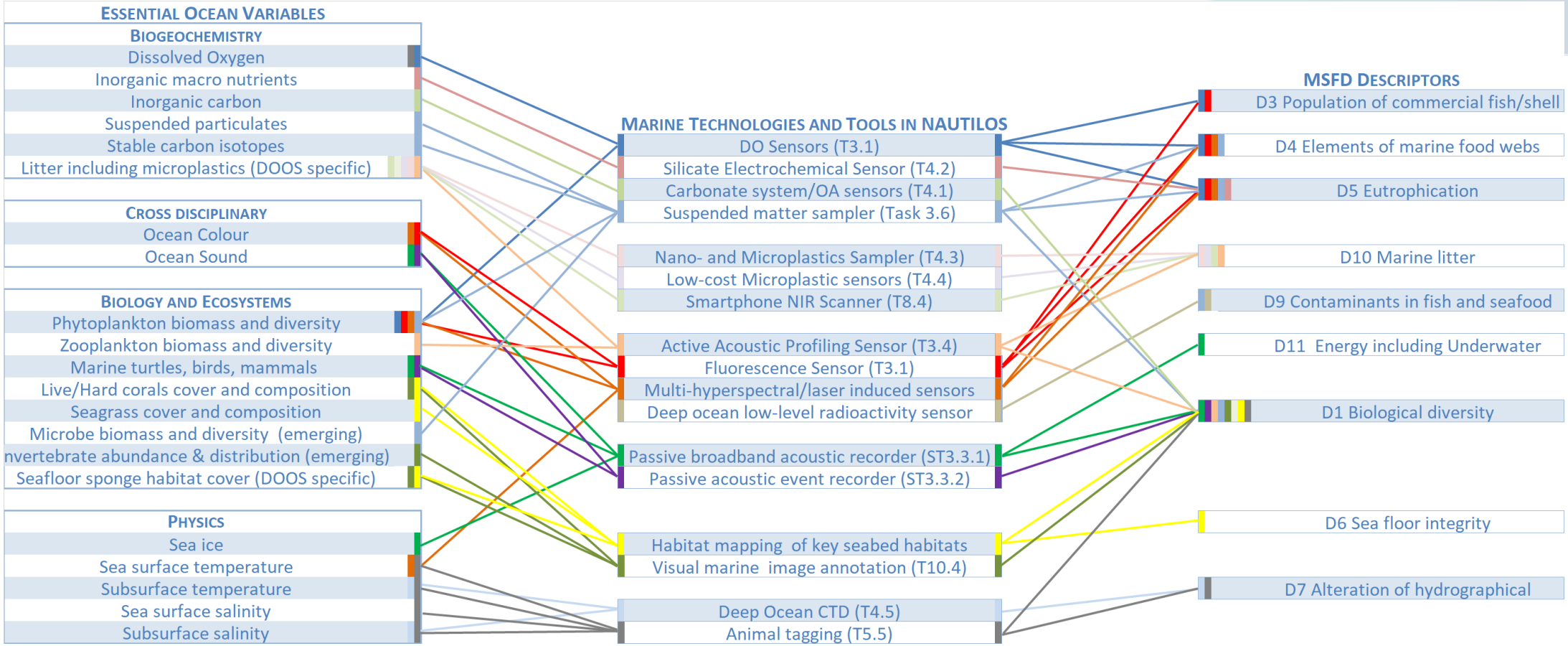
✓obtain a collection of data at a **much higher spatial resolution, temporal regularity and length** than currently available at the EU scale

✓to further enable and **democratise the monitoring of the marine environment to both traditional and non-traditional data users**

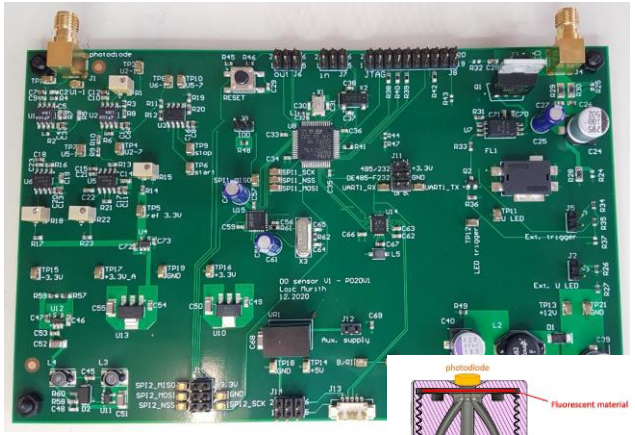
Concept

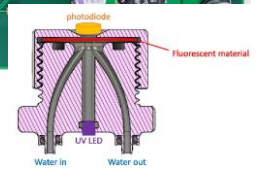

GAPS & NEEDS
Need for preservation & sustainable exploitation of our ocean & seas
REQUIREMENTS
INTEGRATION
CALIBRATION, VALIDATION & SCENARIO TESTING
Achieve TRL6 for ocean observations' systems & tools
NAUTILOS' SOLUTIONS
• Large-scale demonstrations of 13 types of cost-effective sensors & samplers covering 70% of biological & biogeochemical EOVs & 8 MSFD descriptors
• The 1st in-situ microplastics sensor
• Novel, cost-effective deployments via multi-platform integration, animal borne instruments & citizen engagement
• Data process & interoperability
• Data Modelling & simulation
IMPACT
Healthier oceans & seas
Enhanced European capacities for observations
Generated economic & social value for the blue economy
DEMONSTRATIONS
DATA MANAGEMENT
DATA MODELLING
ESPCE SYNERGIES CAPACITY BUILDING POLICY & CITIZEN ENGAGEMENT

Gaps and needs addressed

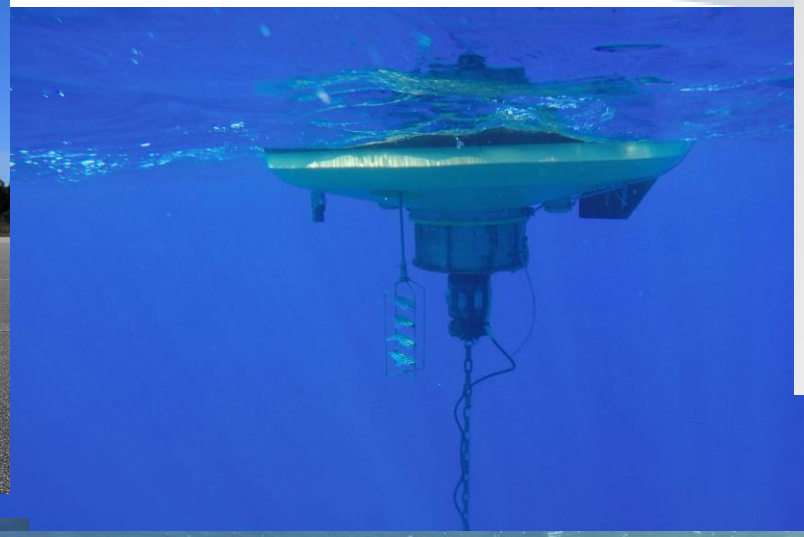


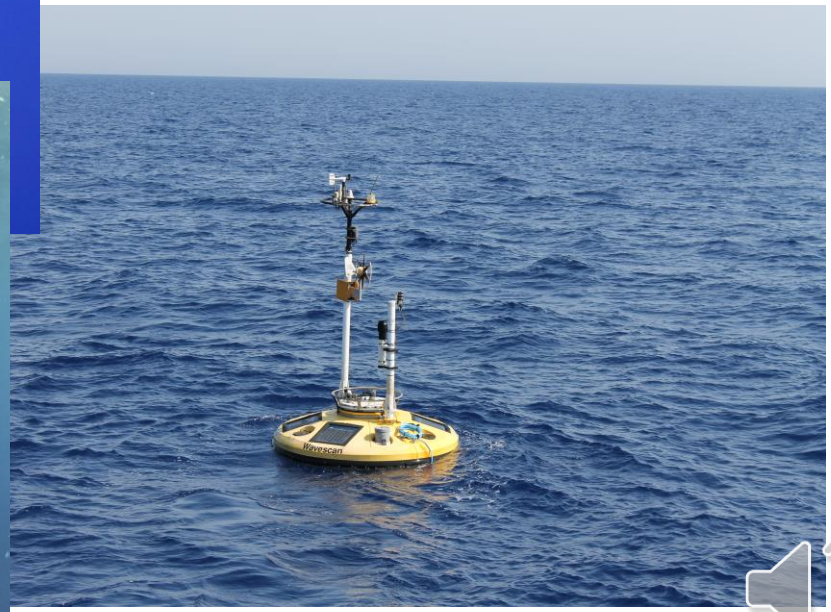
Technological development of sensing and sampling marine instrumentation



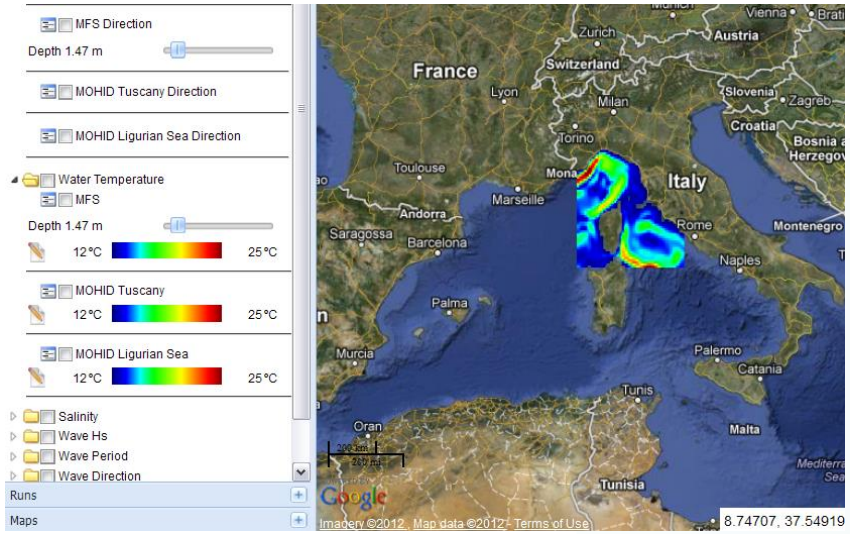


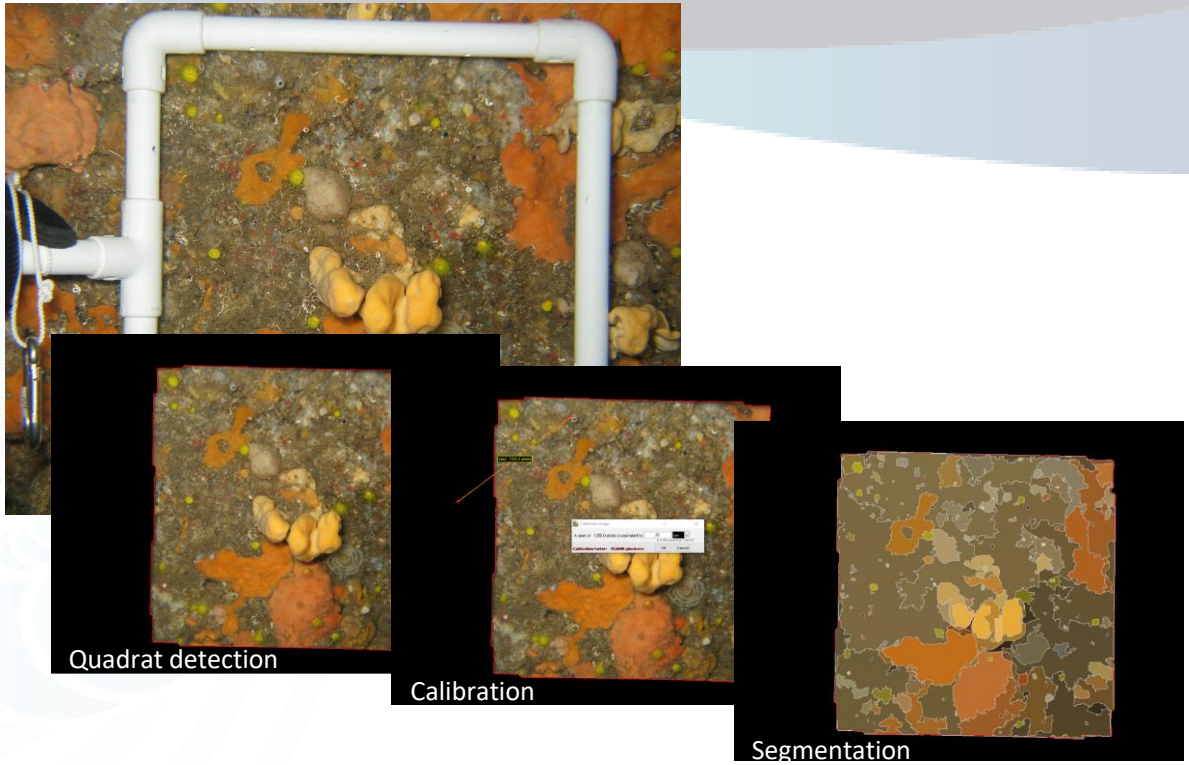
Integration of technologies into observation platforms

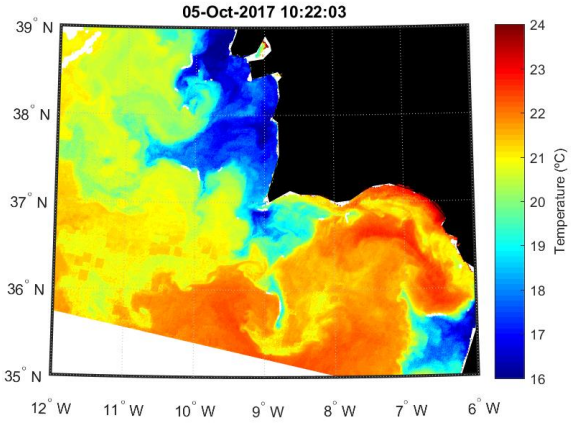




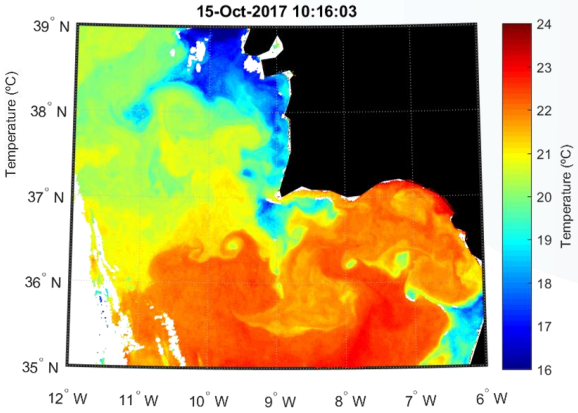
Data Processing and Modelling



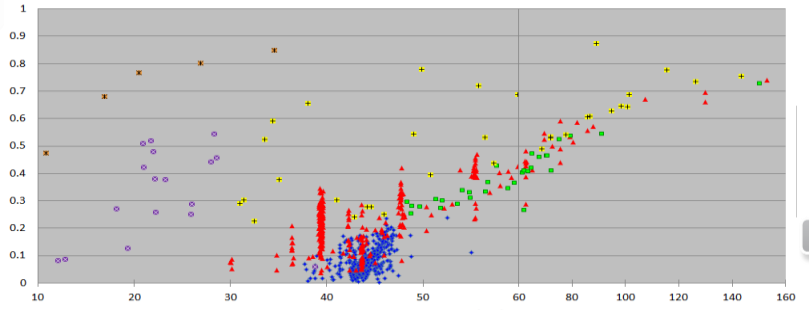




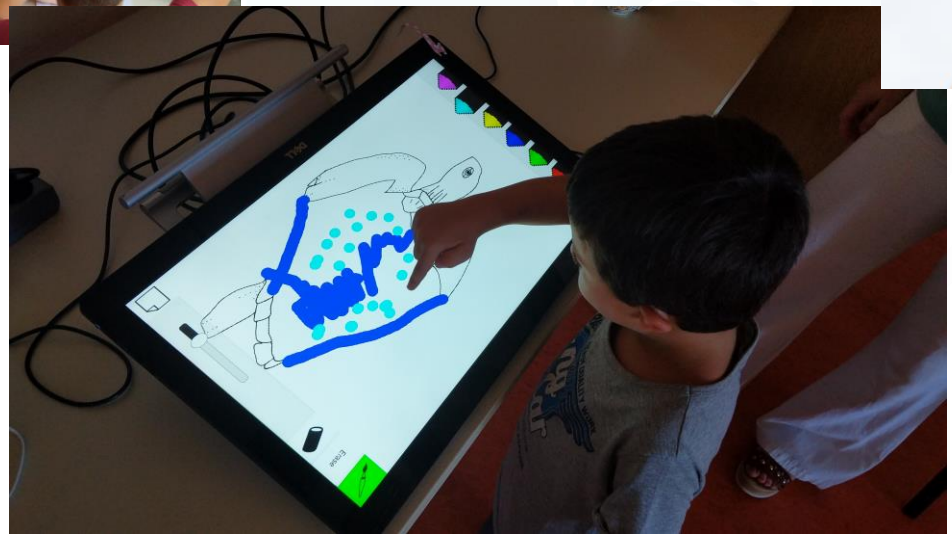
Upwelling Regime E1

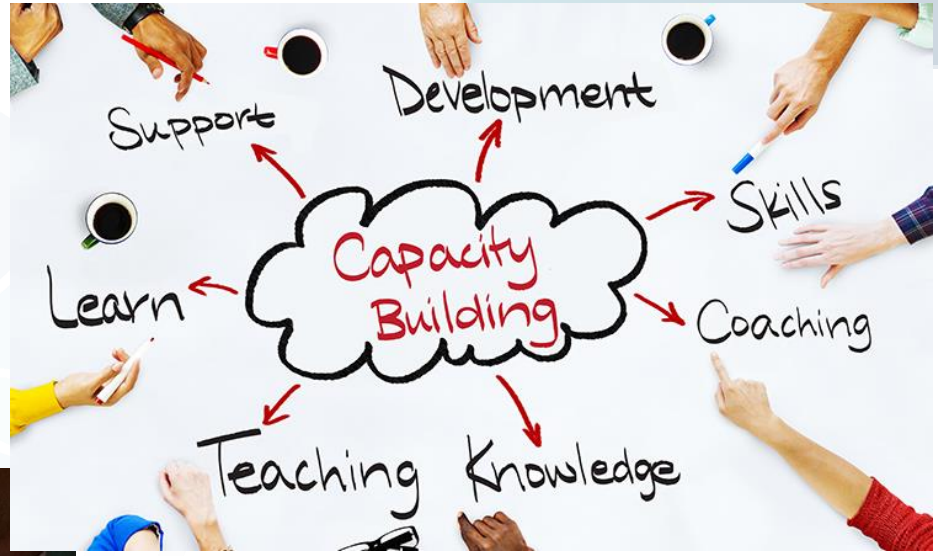


Upwelling Regime E4



Dissemination, awareness raising and knowledge-transfer





Exploitation and Impact

Citizen Science & Synergies with ESPCE