



New technology and data collection for improving our understanding of the marine environment

# NAUTILOS Project

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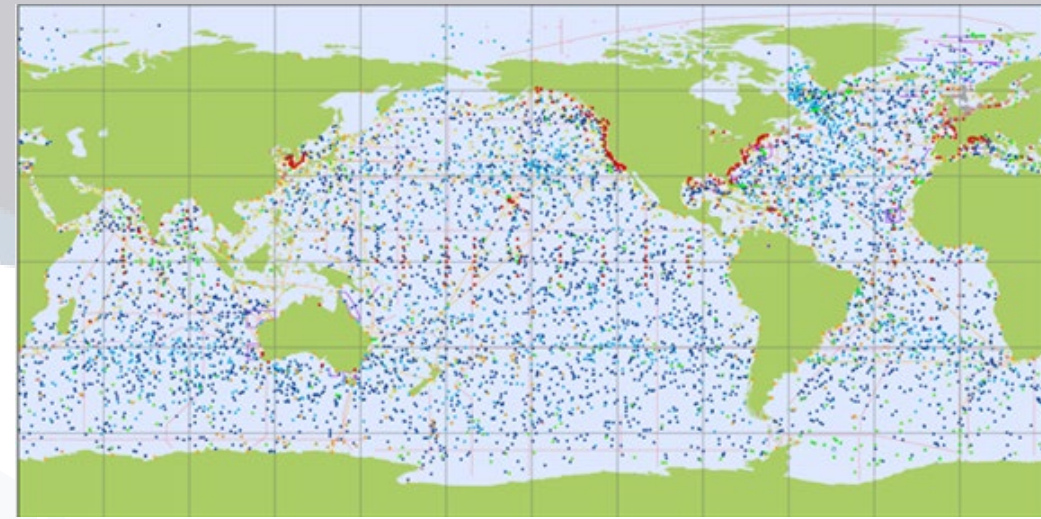
# Main objective

## 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**



<http://www.nautilus-h2020.eu/>

 Consiglio Nazionale delle Ricerche



University of Ljubljana  
Faculty of Electrical Engineering



  
ISTITUTO DI SCIENZA E TECNOLOGIE  
DELL'INFORMAZIONE "A. FAEDO"



**Hes·SO**

Haute Ecole Spécialisée  
de Suisse occidentale  
Fachhochschule Westschweiz  
University of Applied Sciences and Arts  
Western Switzerland

**nke**

INSTRUMENTATION



DIPARTIMENTO DI INGEGNERIA  
DELL'AMBIENTE



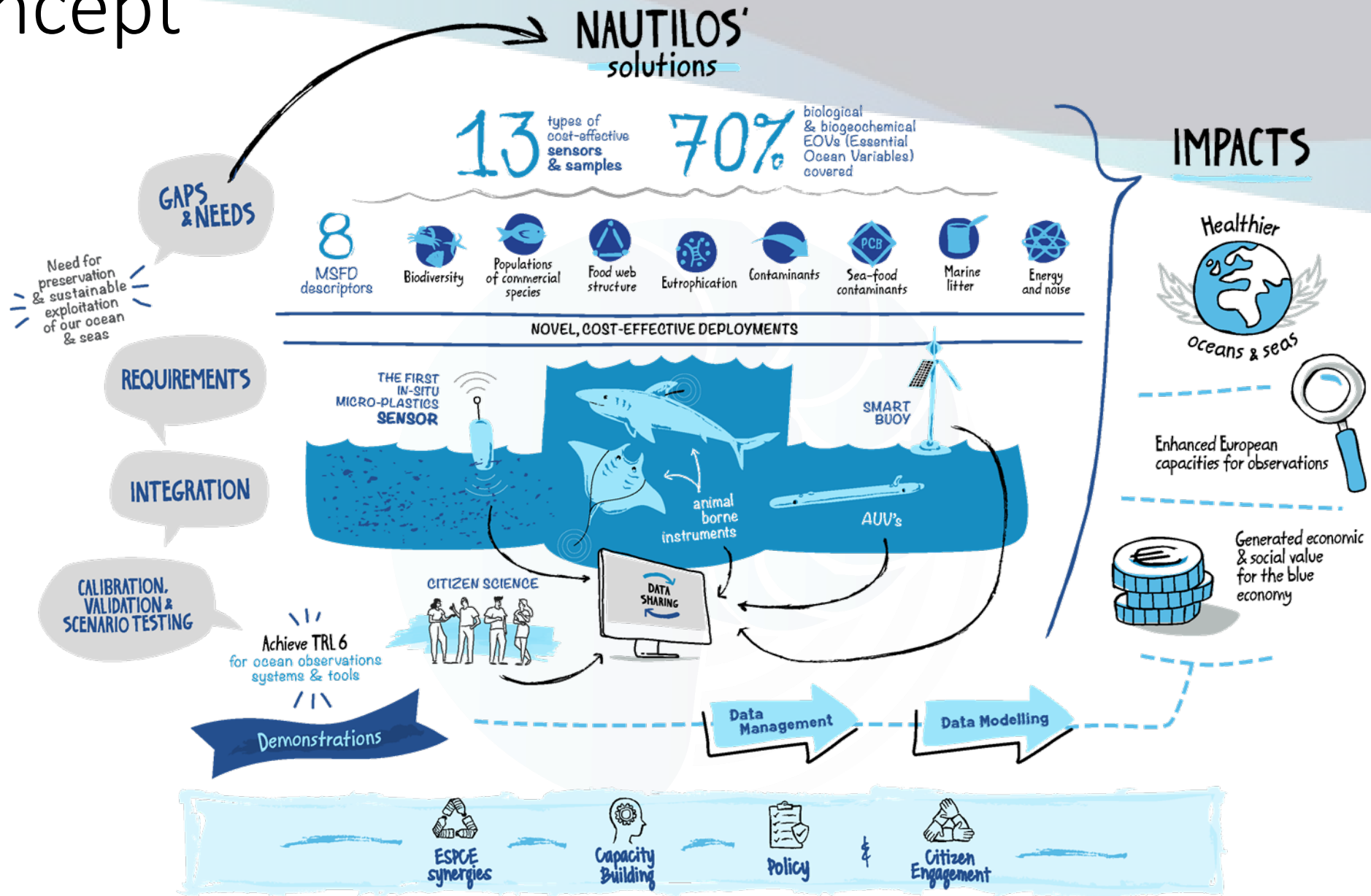
Finnish Environment Institute



Norwegian Institute for Water Research



# Concept



# Gaps and needs addressed

## MARINE TECHNOLOGIES AND TOOLS IN NAUTILOS

DO Sensors (T3.1)

Silicate Electrochemical Sensor (T4.2)

Carbonate system/OA sensors (T4.1)

Suspended matter sampler (Task 3.6)

Nano- and Microplastics Sampler (T4.3)

Low-cost Microplastic sensors (T4.4)

Smartphone NIR Scanner (T8.4)

Active Acoustic Profiling Sensor (T3.4)

Fluorescence Sensor (T3.1)

Multi-hyperspectral/laser induced sensors

Deep ocean low-level radioactivity sensor

Passive broadband acoustic recorder (ST3.3.1)

Passive acoustic event recorder (ST3.3.2)

Habitat mapping of key seabed habitats

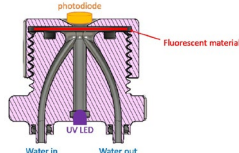
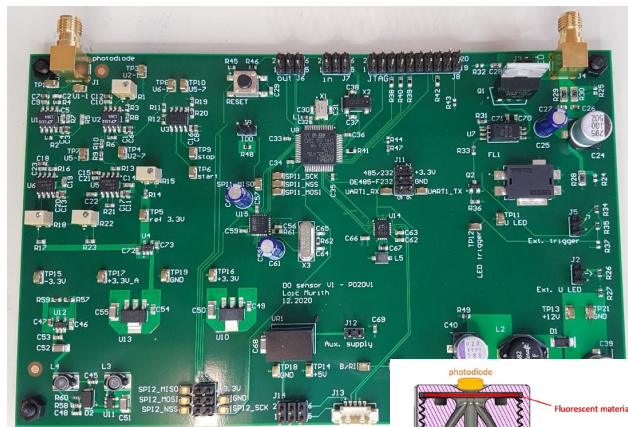
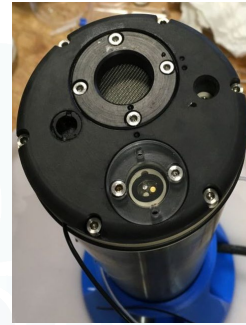
Visual marine image annotation (T10.4)

Deep Ocean CTD (T4.5)

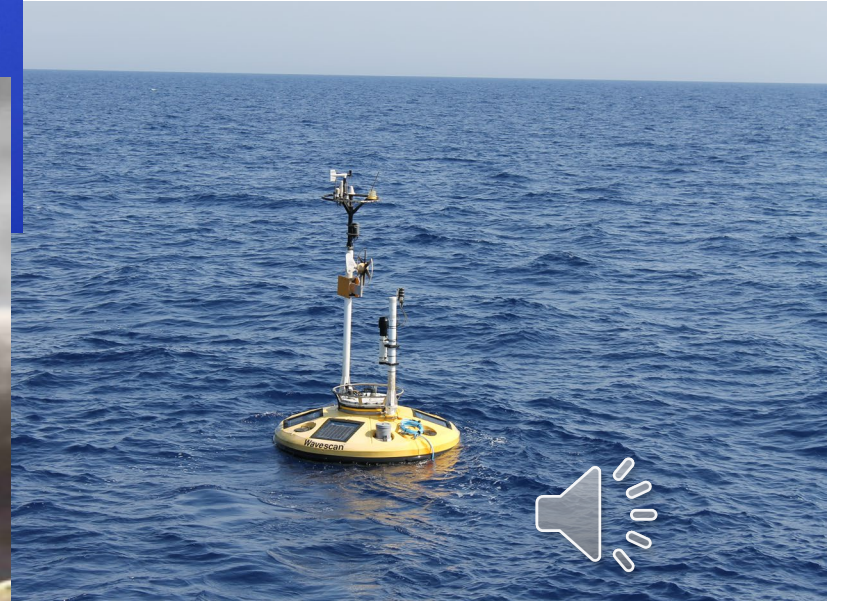
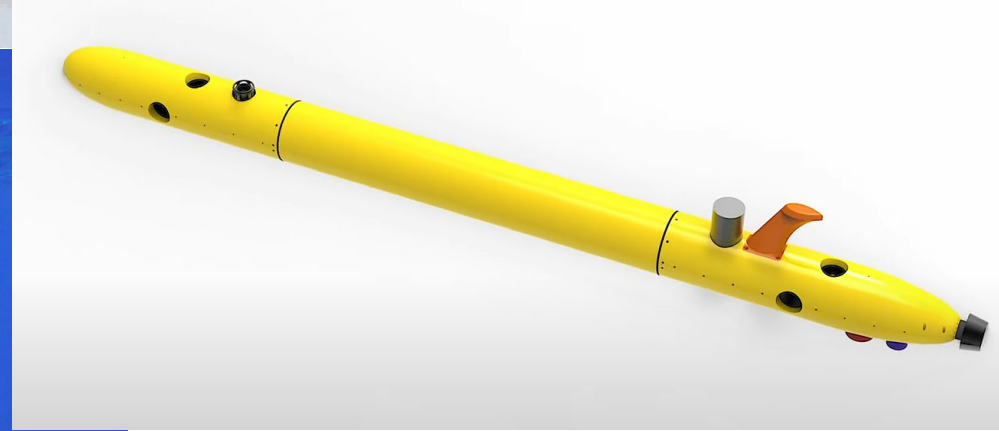
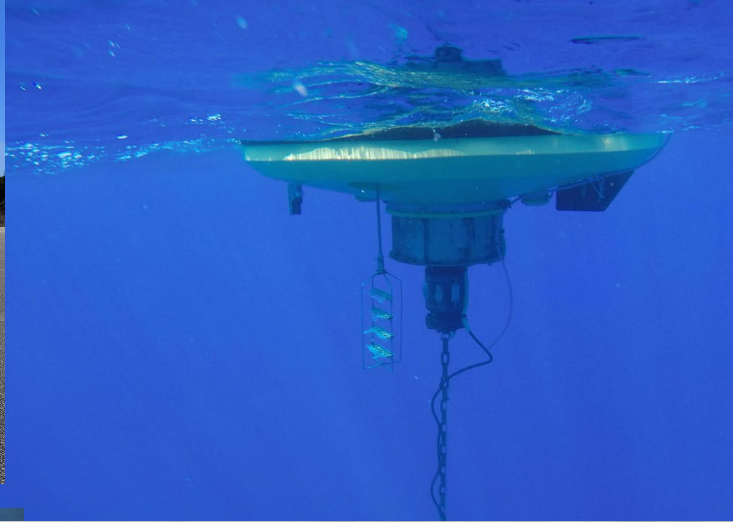
Animal tagging (T5.5)



# Technological development of sensing and sampling marine instrumentation



# Integration of technologies into observation platforms

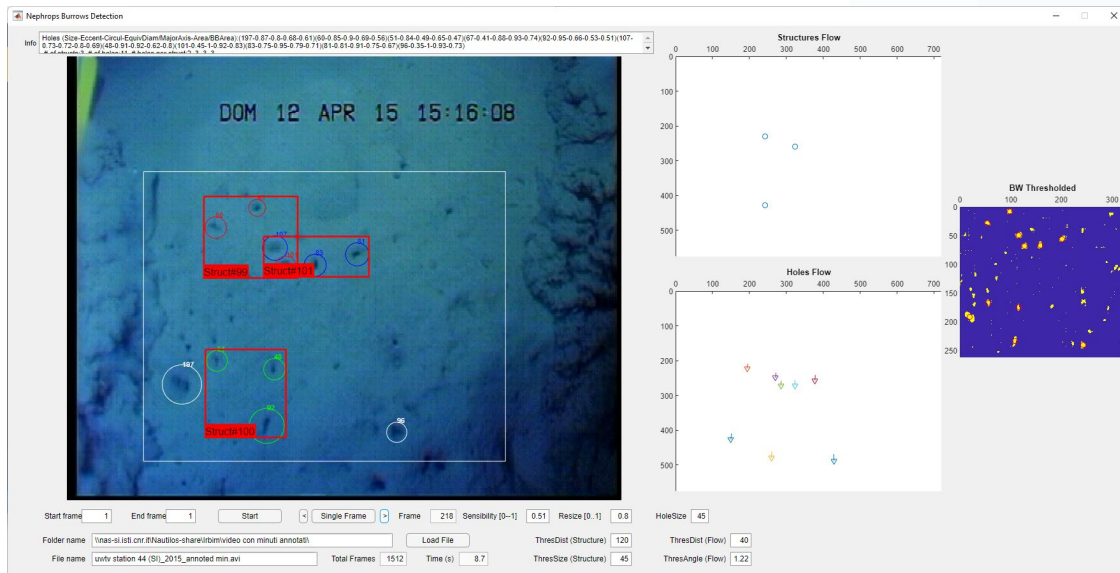
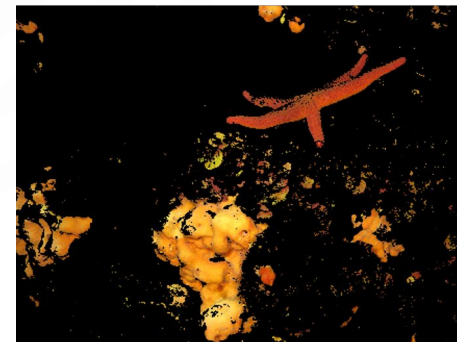
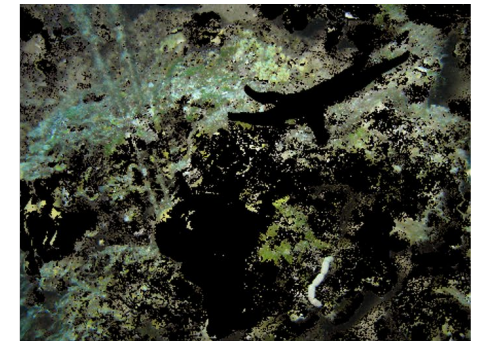
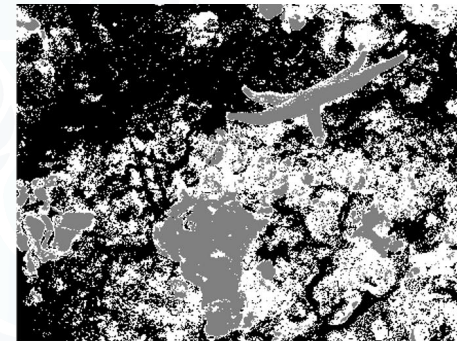
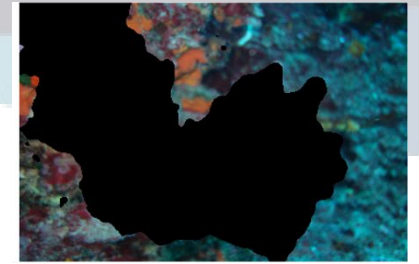
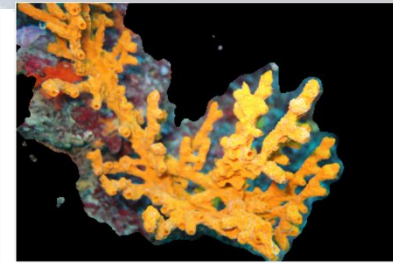
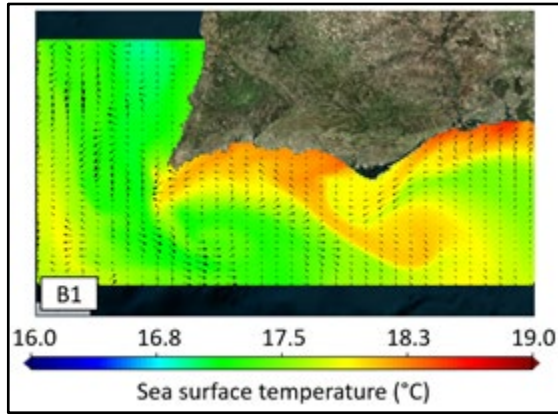
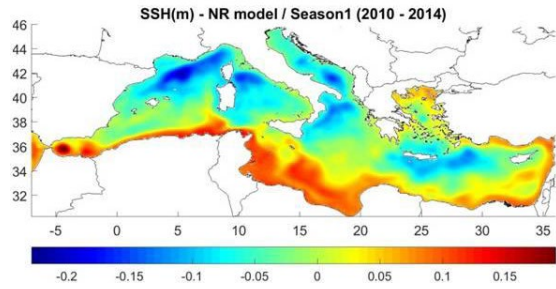


# Data Management and Sharing



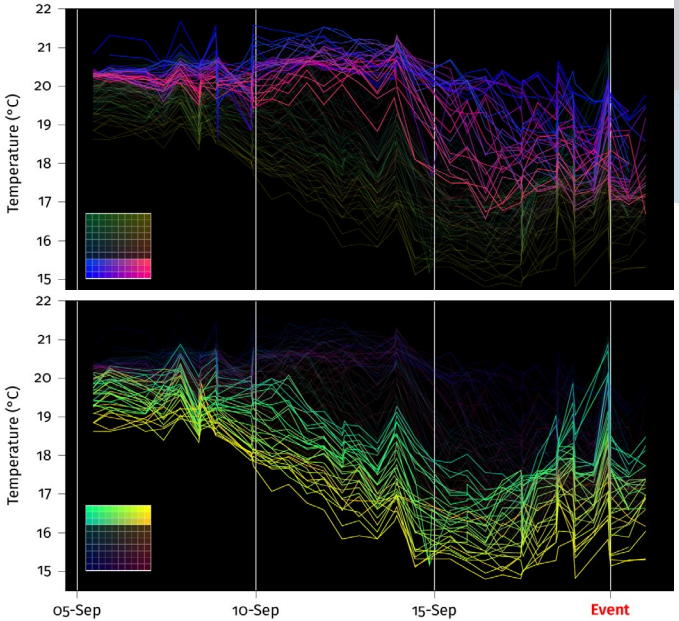
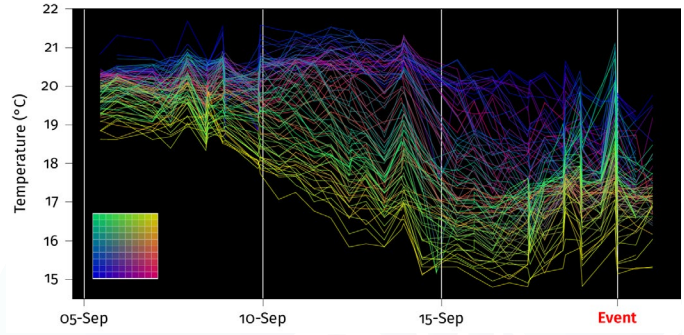
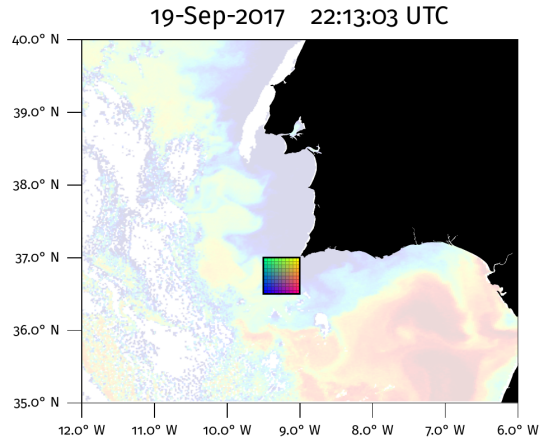


# Data Processing and Modelling

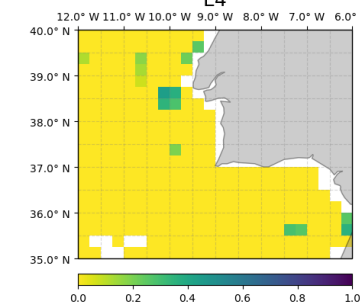
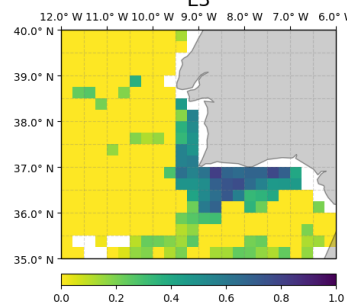
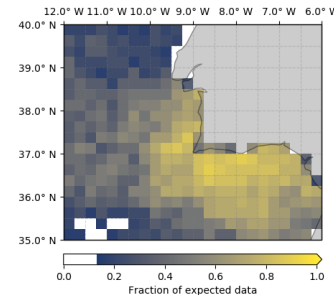
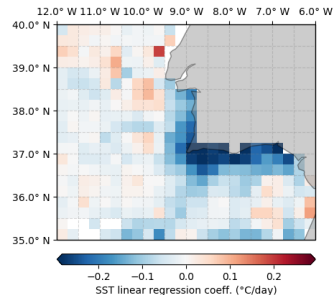
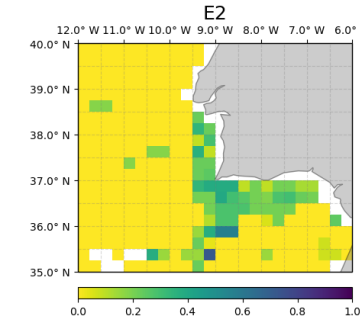
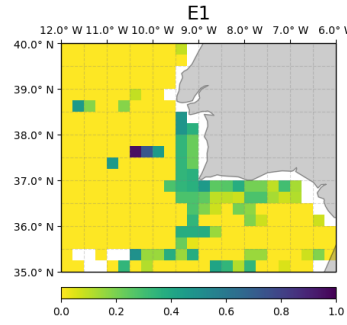
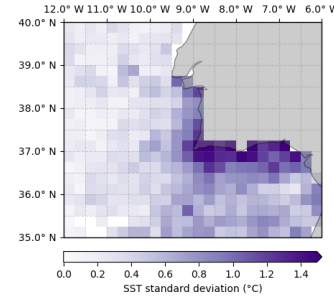
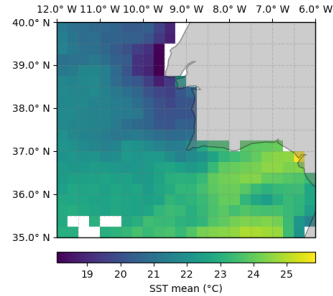


# Data Processing and Modelling

Upwelling Regimes

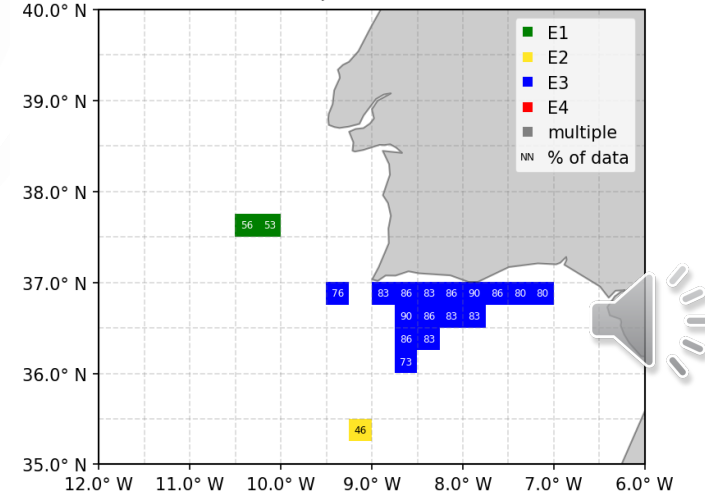


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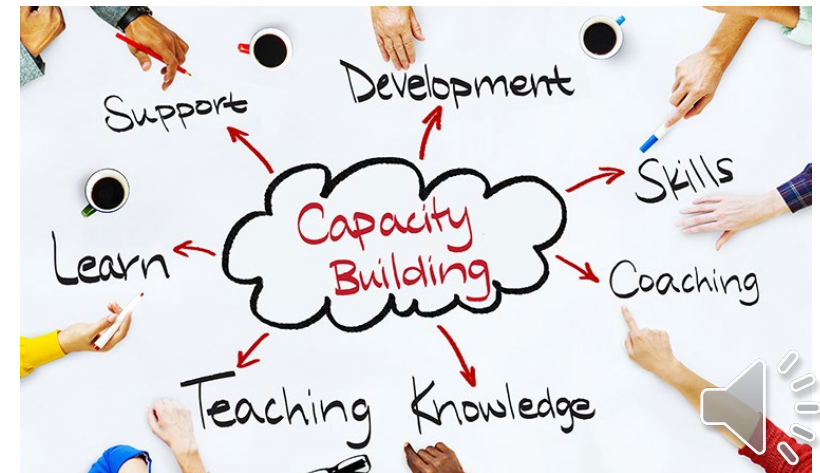


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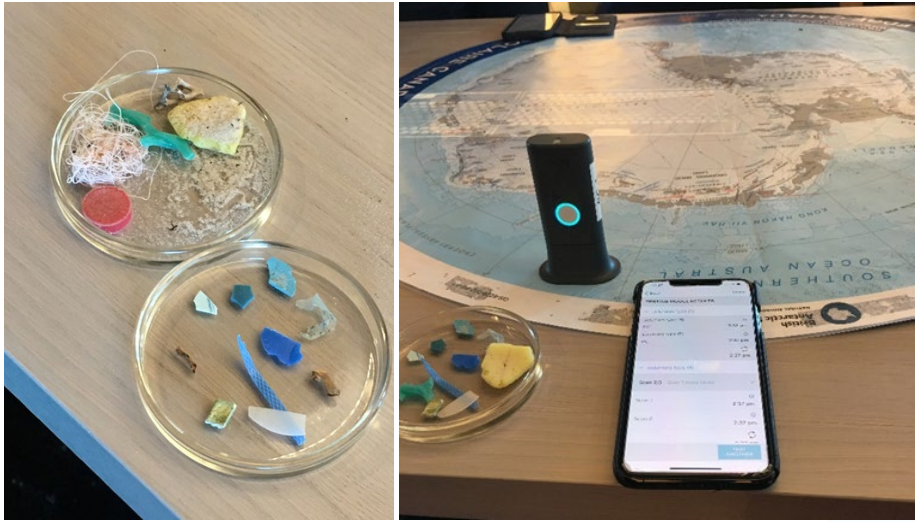
# Dissemination, awareness raising and knowledge-transfer



# Exploitation and Impact



# Citizen Science & Synergies with ESPCE



THANK YOU!



[www.nautilus-h2020.eu](http://www.nautilus-h2020.eu)