



JOINT EUROPEAN RESEARCH INFRASTRUCTURE NETWORK FOR COASTAL OBSERVATORIES

# WP4

## *HARMONIZING OPERATION AND MAINTENANCE METHODS*

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# OBJECTIVES:



*Based on the experience of infrastructure operators and relevant regional activities, this WP will:*

- ✓ *gather elements of best practice in conducting operations and maintaining coastal observatories*
- ✓ *identify the successes in terms of systems autonomy and reliability*
- ✓ *propose common procedures to be followed by all operators.*

**Therefore, the overall objective of WP4 is to increase the performance and efficiency of the JERICO observatories and improve the overall quality of delivered products.**

# TASK 4.1 CALIBRATION

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- Harmonization of calibration practices through documentation and assessment of existing calibration methodologies
- Sharing of calibration facilities
- Best practices, dissemination of know-how

# TASK 4.2 BIOFOULING

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- To describe all different methods used across the network with reference to the cost (implementation, maintenance) and adaptability (different sensors and areas)
- To share best practices and methodologies
- To evaluate new methods used by the community external to JERICO

# TASK 4.3 END-TO-END QA

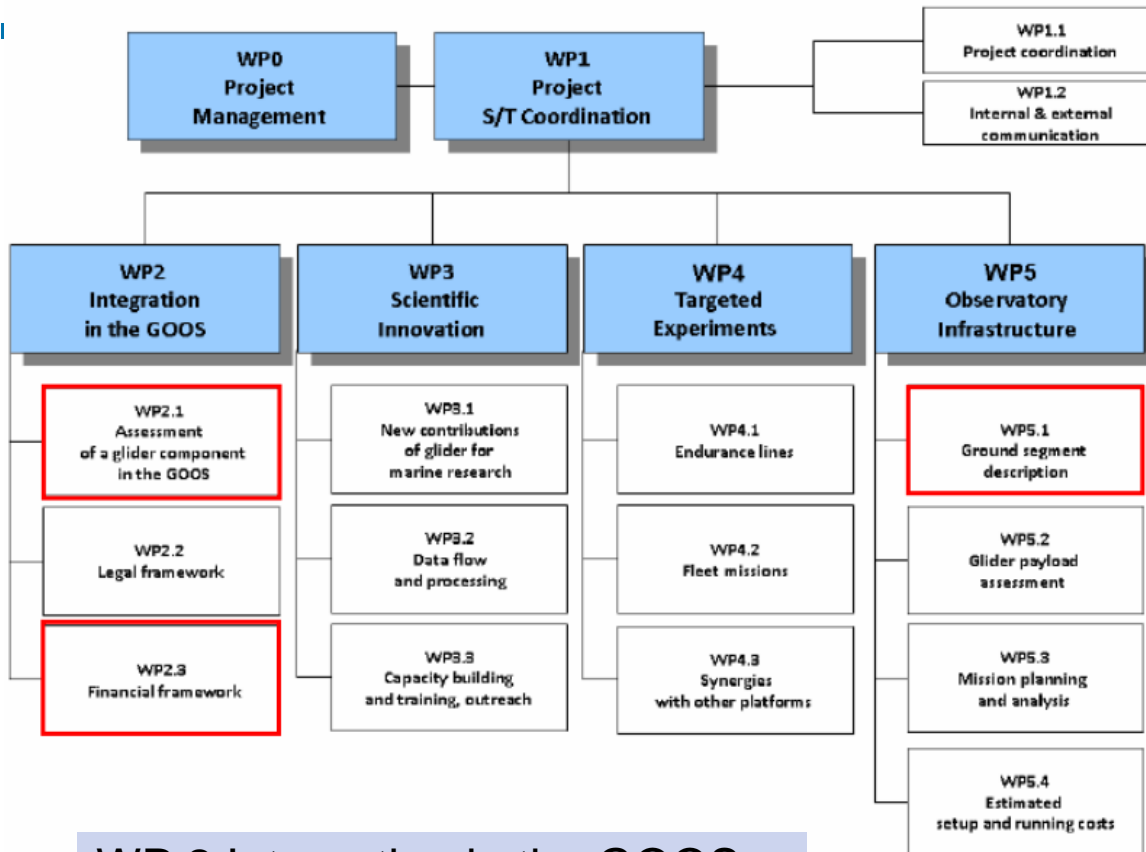
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- to describe best practices in all phases of the system (pre-deployment test, maintenance, calibration etc)
- to adopt common methodologies and protocols
- move towards the harmonisation of equipment which will help in reducing maintenance and calibration costs. For this inter calibration tests and in-situ validation will be organised.

# GROOM

## Gliders for Research, Ocean Observation and Management



### WP 2 Integration in the GOOS

#### Task 2.1. Assessment of a glider component in the GOOS

## GROOM WP.2 Integration in the GOOS

HCMR contribution in Task 2.1: Assessment of a glider component in the GOOS



Link with GMES - EuroGOOS ROOSes activities

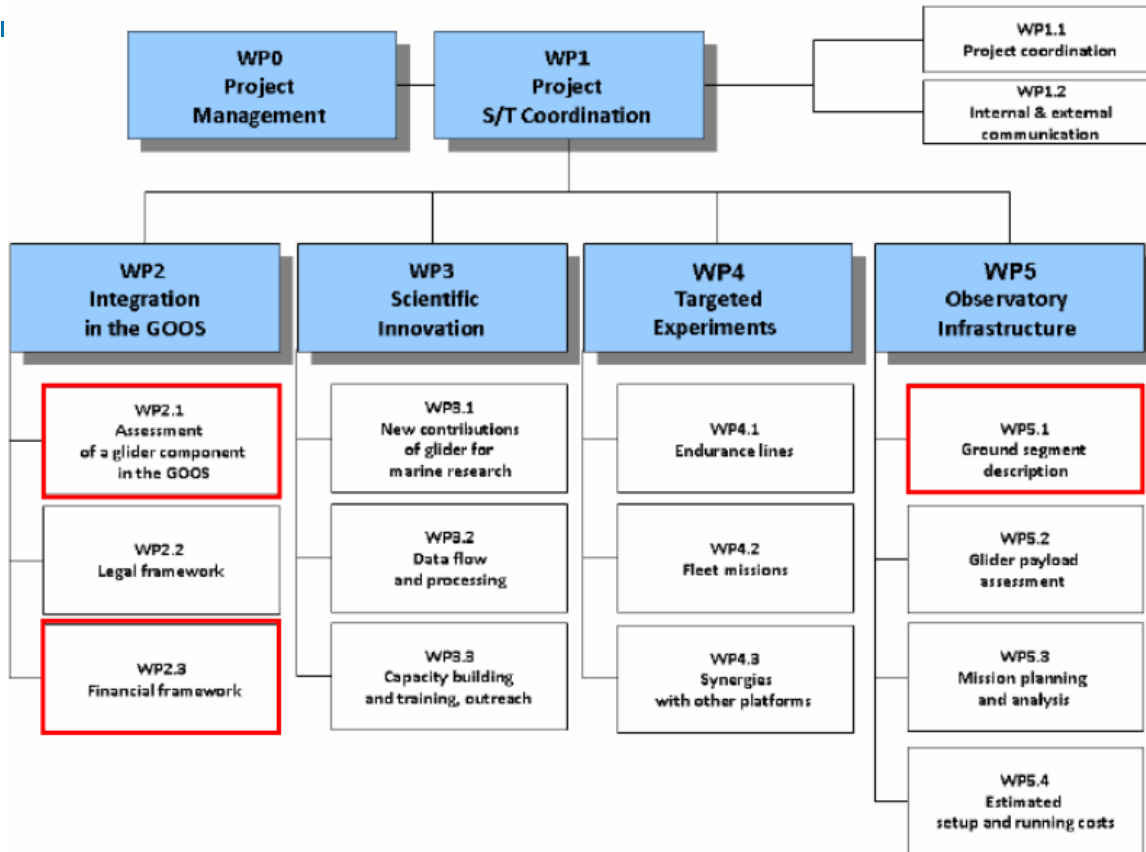


- 1. Develop an overall concept for the management of Gliders observation data taking into consideration data management systems which are developing within GMES and JCOMM*
- 2. Identify, in consultation with the EuroGOOS Task Teams the parameters which can be made available either in real-time or in delayed mode*
- 3. Propose the most effective ways to make Glider data readily available for operational purposes in a sustained matter*



# GROOM

## Gliders for Research, Ocean Observation and Management



### WP 3 Scientific Innovation

#### Task 3.2. Data flow and processing



### HCMR contribution in Task 3.2: Data flow and processing

Link with task 2.1

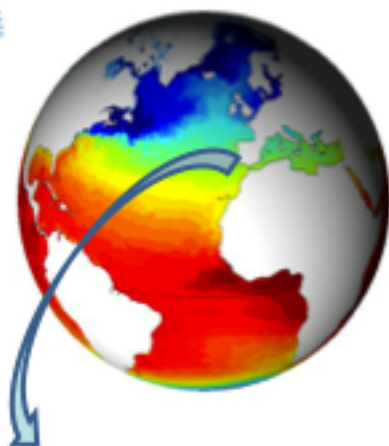
Data streaming and processing

Real time quality control procedures

Delayed mode data assessment

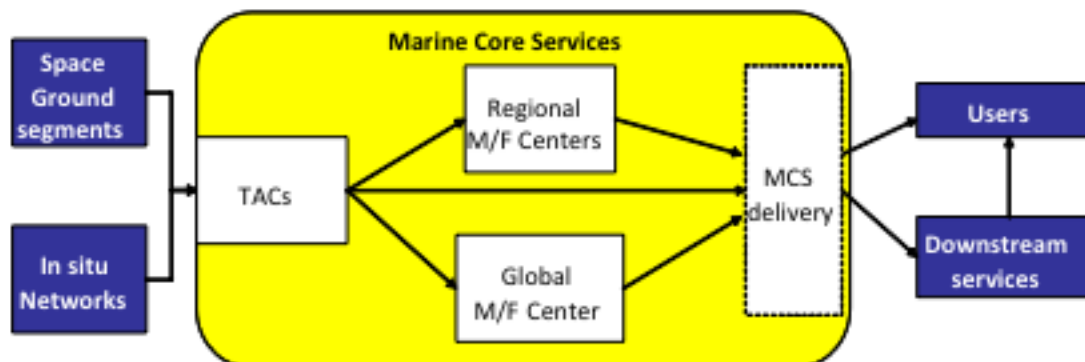
Integrate into ROOSES (MyOcean protocols – Discussion within EMODNet)

In MyOcean project the effort to integrate the data streams in Europe from the global to the regional scales is intensified in order to assemble high quality data sets, provide the “best” in-situ products for data assimilation and define quality control procedures and validation processes.



*deliver regular and systematic reference information (processed data, elaborated products) on the state of the oceans and regional seas:*

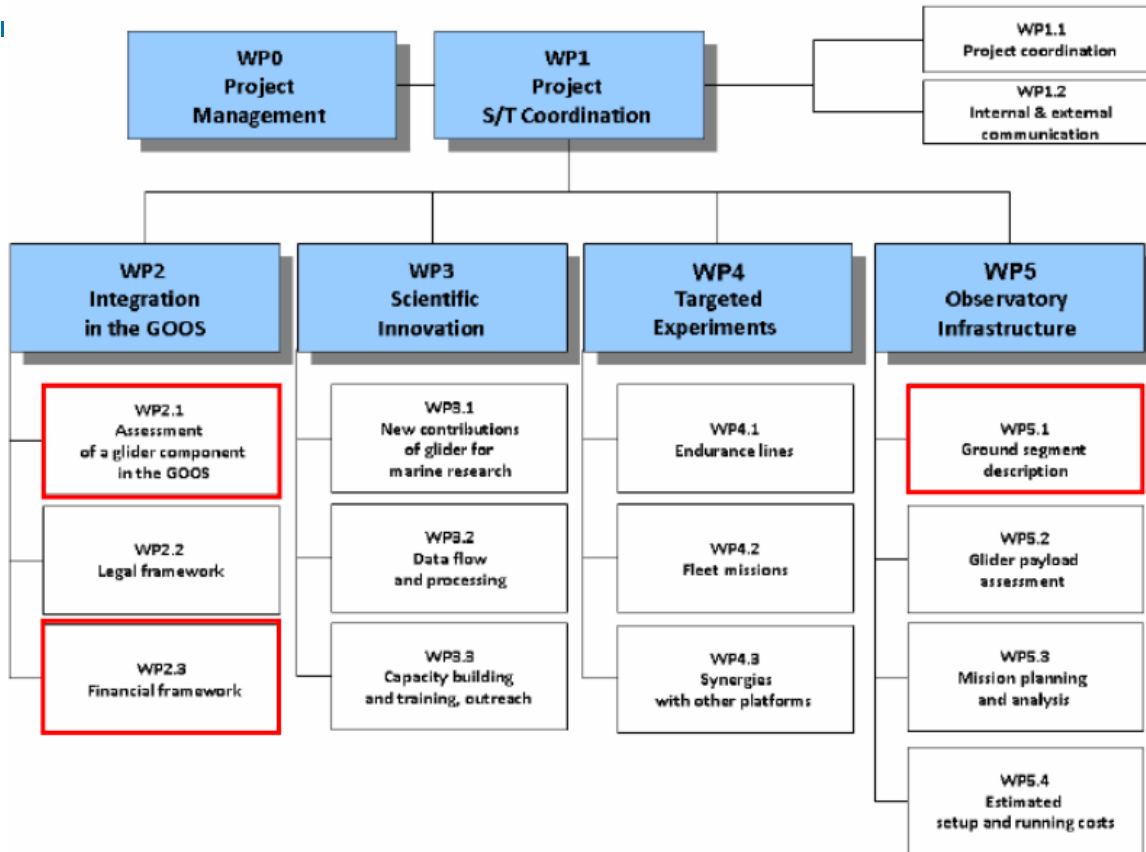
The Thematic Assembly Centers : an essential component of the MCS



- TACs will feed the global and regional components of the MCS in observation products for space and in situ data.
- From observation systems to the service centres. Specific requirements from modelling and data assimilations centers as well as from users and downstream services.

# GROOM

## Gliders for Research, Ocean Observation and Management



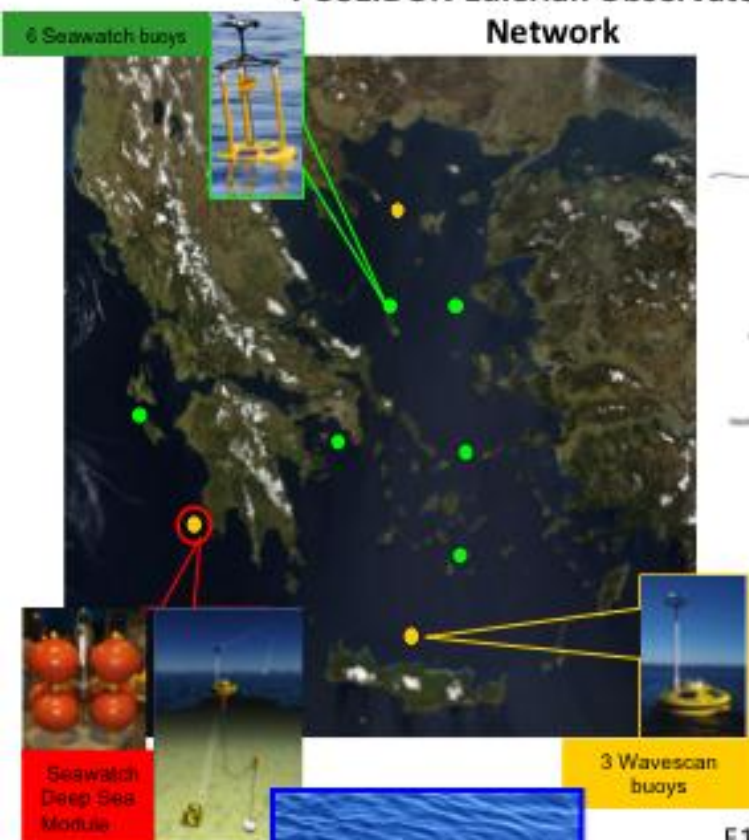
### WP 4 Targeted Experiments

#### Task 4.3: Synergies with other platforms

# GROOM WP.4 Targeted Experiments

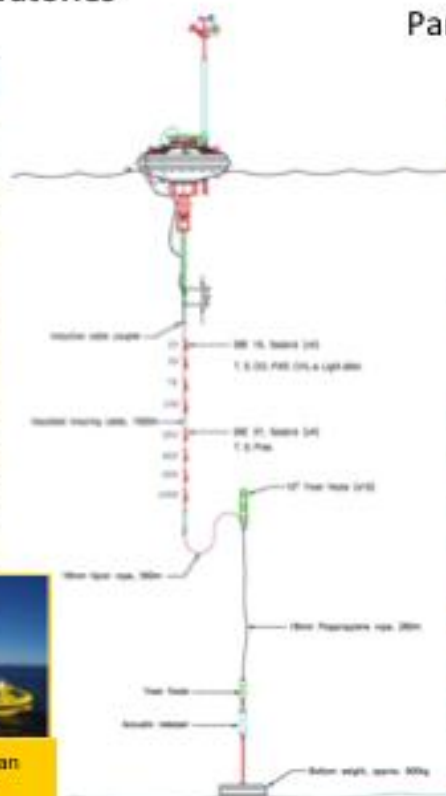
## HCMR contribution in Task 4.3: Synergies with other platforms

### POSEIDON Eulerian Observatories Network



### Parameters measured by E1M3A multi-parametric observatory

Parameters/ Variables	Depth	Sensor	Units of Measure
<b>OCEAN PARAMETERS MEASURED (Every 3 hours with real-time data delivery)</b>			
Temperature	Surface, 20,50,75,100, 250, 400,600, 1000m	Aanderaa 3919A/Seabird 16plus-IMP C-T/Seabird 37 IM C-T	°C
Salinity	Surface, 20,50,75,100, 250, 400,600, 1000m	Aanderaa 3919A/Seabird 16plus-IMP C-T/Seabird 37 IM C-T	ppt
Chlorophyll	20,50,75,100m	Wetlabs FLNTUS-RT	mg/m <sup>3</sup>
Dissolved Oxygen	20,50,75,100m	SBE43/AanderaaOptode	µM L-1 (µM)
Currents	5-50, 10bins of 5m	Nortek Aquadopp 400KHZ	m/s
CO <sub>2</sub> (IR absorbance after equilibration)	surface	CO <sub>2</sub> -CONTROS	µatm
PAR	20,50,75,100m	LiCor Li-193	µmol photons m <sup>-2</sup> s <sup>-1</sup>
Pressure	250m	Seabird 37 IM C-T	bar
Turbidity	20,50,75,100m	Wetlabs FLNTUS-RT	ntu



E1M3A Cretan Sea Observatory



- HCMR offers its POSEIDON moorings network and esp. the E1M3A site for studies of synergies between gliders and fixed point observatories
- Field trials of new sensors for gliders (e.g. CO<sub>2</sub> also available at E1M3A)
- Test and analysis of glider/float/mooring missions for GROOM standards