



MY OCEAN

Marine
Core
Service



Project objectives and definition

MY OCEAN

Marine
Core
Service

GMES : Global Monitoring for Environment and Security

- **Core Service** = European Public Service
- To support and develop **Downstream** activities
- Definition and setting up : FP7

- 3 « **Fast Tracks Services** » :
 - **Emergency** Response Core service : SAFER (Infoterra Fr.)
 - **Land** Monitoring Core Service : Geoland-2 (Infoterra GmbH – Medias)
 - **Marine** Core Service : MyOcean (Mercator-Ocean)

- 2 « **Pilot Services** » :
 - **Security** : G-Mosaic (Telespazio)
 - **Atmosphere** : MACC (ECMWF)

- + « **Climate** »



Goal of the project

MyOcean overall objectives are to

- set up a concerted and integrated **pan-European capacity** for ocean monitoring and forecasting, using nationally-available skills and resources.
- demonstrate the **operationality** of the system, based on a « service oriented » organization, according to the European quality standards, and to achieve operational qualification and eventually qualification of Service.
- bring a new pan-european value for the benefit of the **marine service providers** on duty at national or european levels.
- contribute to the long-term **sustainability** of this pan-European capacity.

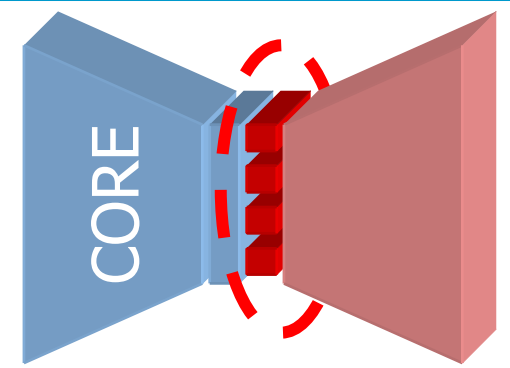
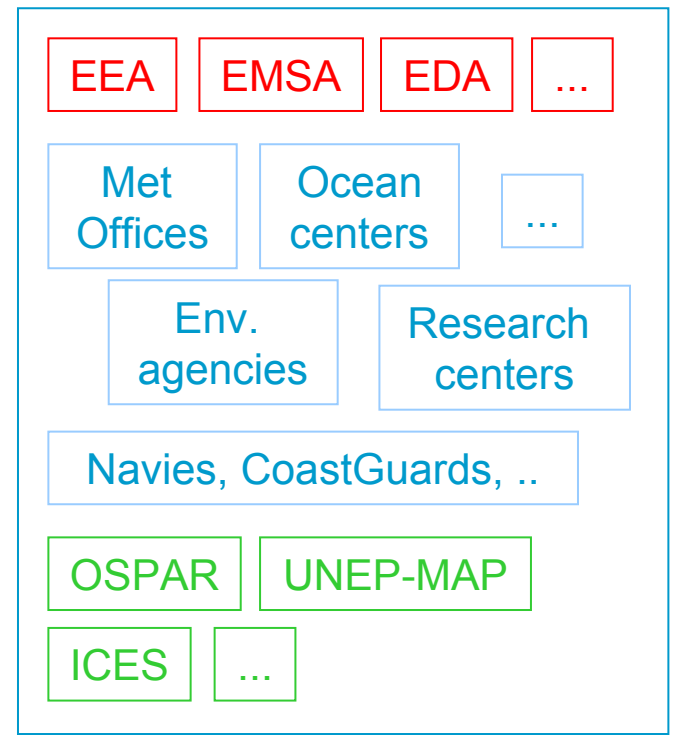
- **MyOcean** will “provide the common denominator data for *all users in the marine sector, in other words the information for existing & new downstream services.*”

- Climate
- Marine Environment
- Seasonal and weather forecasting
- Offshore
- Maritime transport and safety
- Fisheries
- Research
- General Public



(to whom) The targeted users

- **The Key Users**
- **MyOcean** will deliver a service to
 - **EU:** The European Union
 - **Users: European agencies (EEA, EMSA, EDA, ...)**
 - **MS:** The Member States
 - **Users: National / Regional Service Providers (public or private)**
 - **IG:** The Intergovernmental bodies
 - **Users: MS and/or exec.bodies such as OSPAR, UNEP-MAP, HELCOM, ICES, ...**



The MyOcean value ... to market user's needs

- A **network of partners** all around Europe
- A privileged link with **first-rank users**

- EU agencies



- Conventions and policies

- A MyOcean « **Core User Group** »

- A MyOcean User **Requirement document**

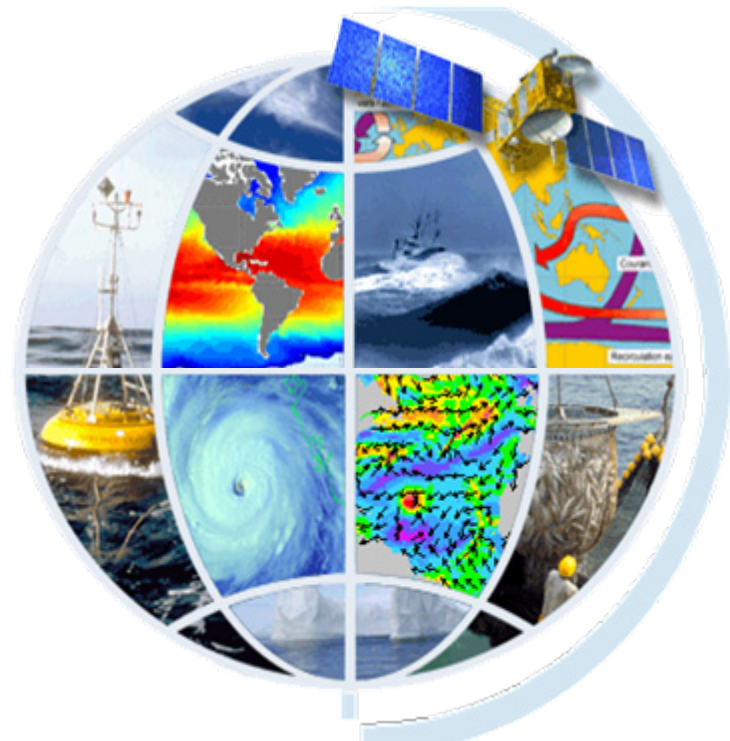


A MyOcean network involving **all European maritime countries**
Partners networking 28 countries for user's requirements

Linking with Member States key services, linking with the Maritime Policy, linking with conventions HELCOM, OSPAR, UNEP/MAP, ICES, ...

(what) The service

- MyOcean will
 - *“deliver regular and systematic reference information (processed data, elaborated products) on the state of the oceans and regional seas:*
 - *at the resolution required by intermediate users & downstream service providers, of known quality and accuracy,*
 - *for the global and European regional seas.”*



Data handling, Modelling and Assimilation



Variables: T, S, UV, SSH, ice, Chl-a, ...



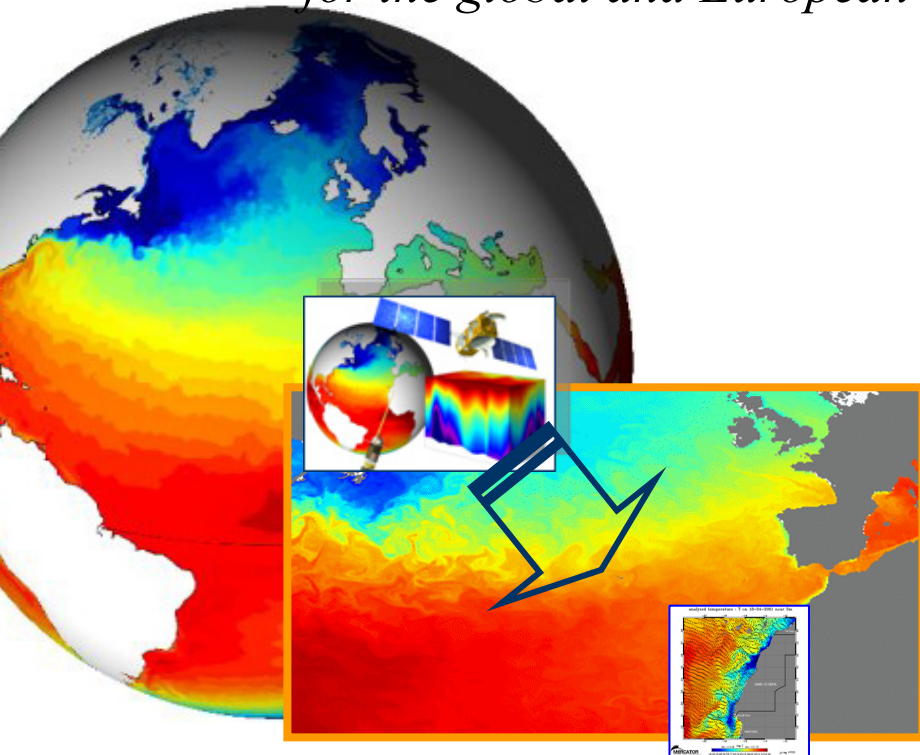
Products: Catalog of reference products : pre-defined data fields, reanalysis, reports, ...



Service: Delivery, Discovering, Viewing, Downloading, 24/7 Support, Information, PoC,...

■ MyOcean will

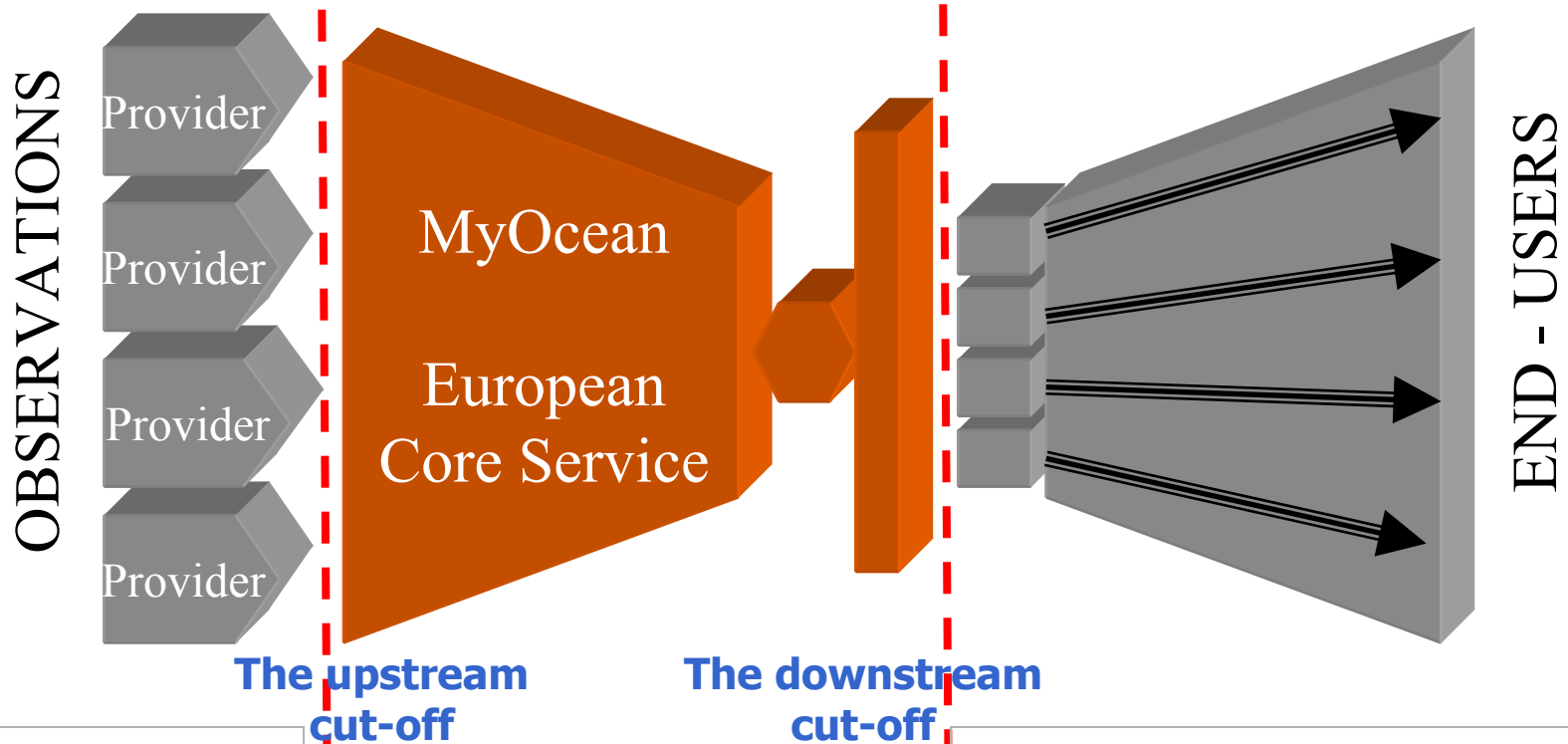
- *“deliver regular and systematic reference information (processed data, elaborated products) on the state of the oceans and regional seas:*
- *at the resolution required by intermediate users & downstream service providers, of known quality and accuracy,*
- *for the global and European regional seas.”*



- Physical state of the ocean, and primary ecosystem
- For global ocean, and main European basins and seas
- Large and basin scale ; mesoscale physics
- Hindcast, Nowcast, Forecast
- Data, Assimilation and Models

Scope of responsibility

Marine Core Service



upstream to our service

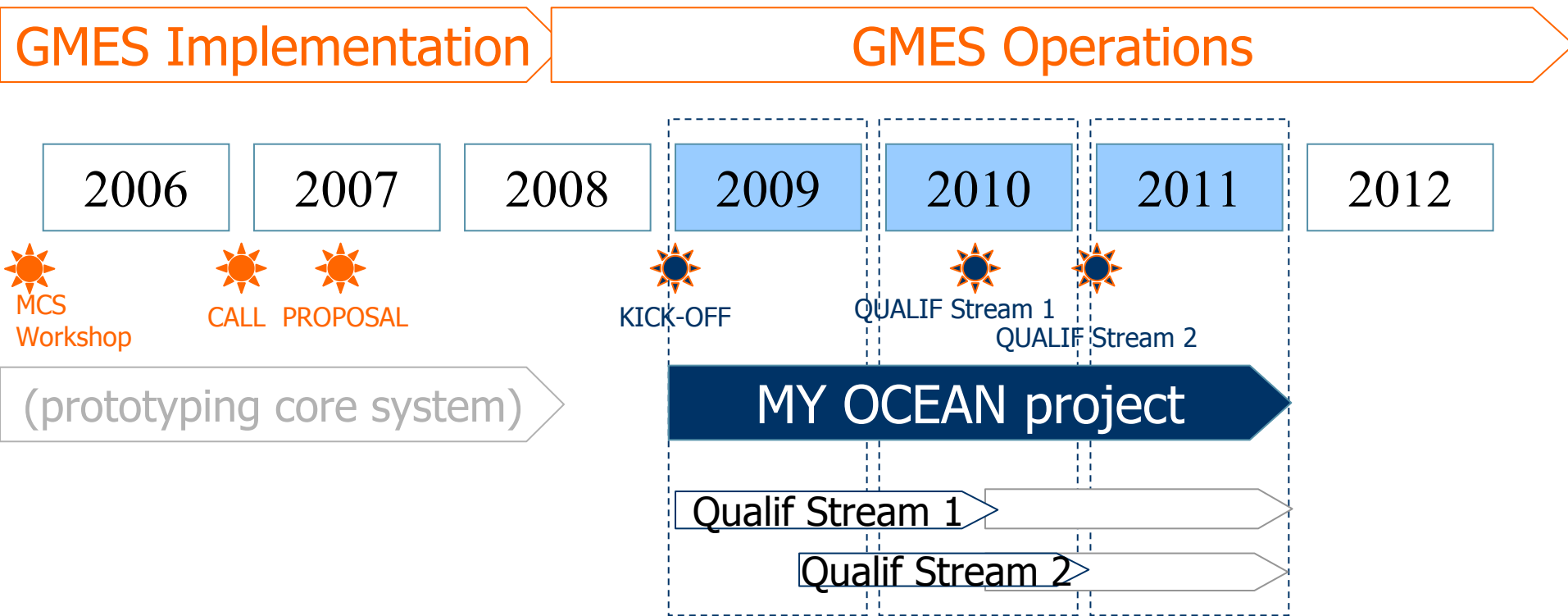
... is done (duty) by an **observation** agency or center (raw data)
 Example : **Eumetsat SAF** or the **ESA PAC**

*Data, Model
 European added-value*

downstream to our service:

... is done (duty), or will be better done (skill) by a **specialized** agency, a **European** agency or a **national** center ; usually already in place
 Example : **COASTAL SYSTEMS**

(when) The project schedule



- A 3-year project
- Governed by the “qualification steps”
 - Stream 1 (MFC Global, Med, Arctic), qualified at month 18
 - Stream 2 (MFC Baltic, NWS, IBI, B.Sea) qualified at month 24



The production

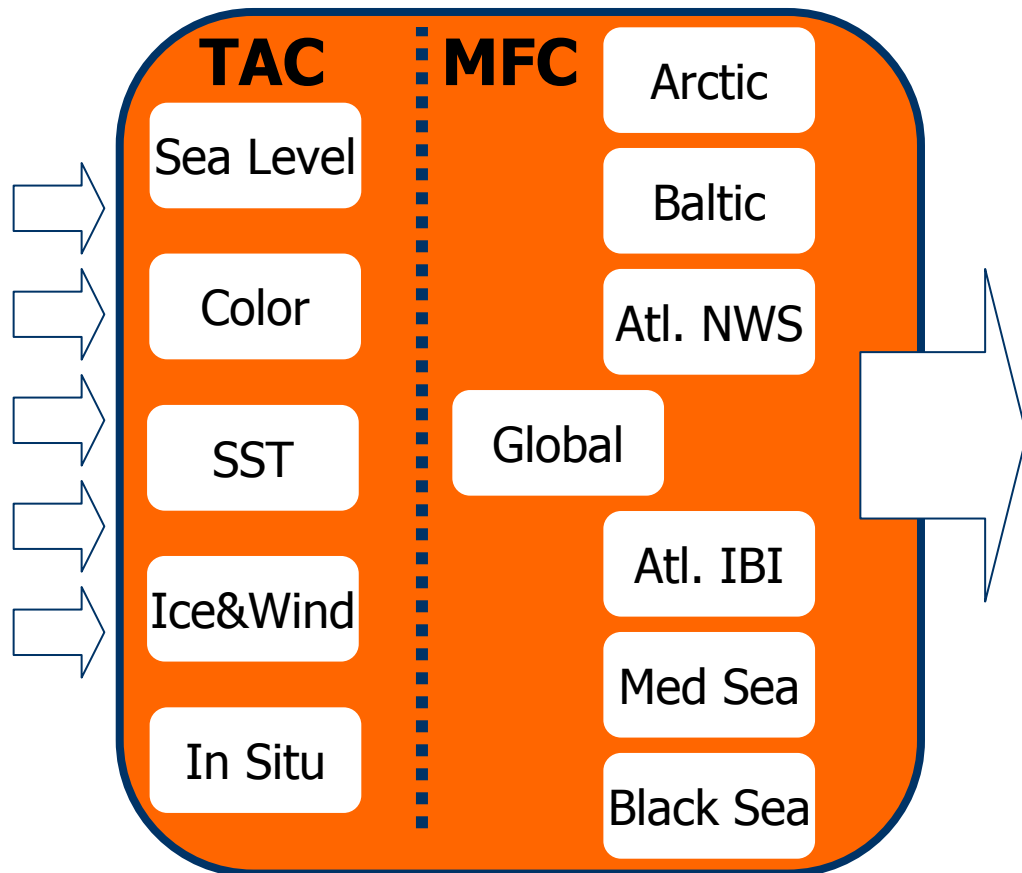
GOAL: Ensure the best production of information through the involvement of first-rank players in Europe.

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The MyOcean value ... through Production Units

12 PRODUCTION UNITS

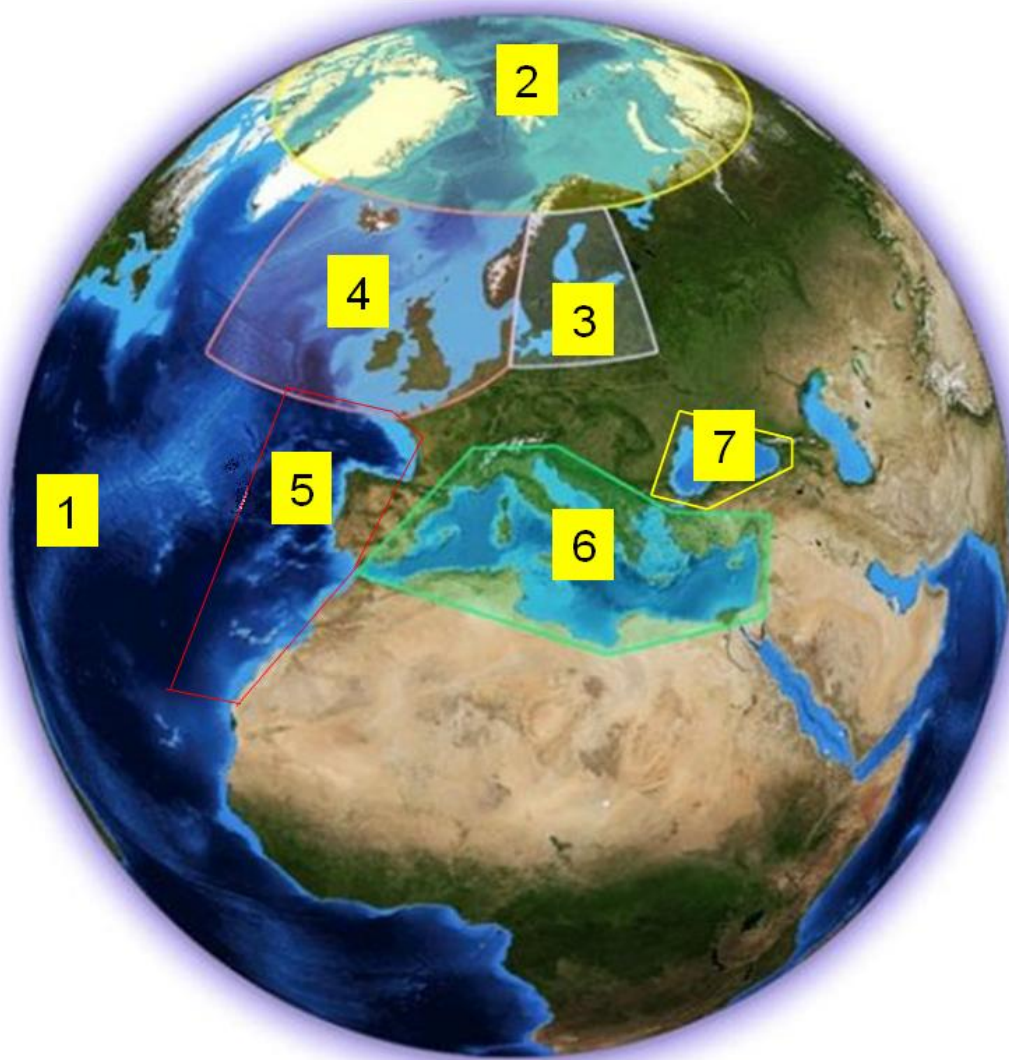


- **5 TAC : Thematic Assembly Centers**
 - “Observations”
- **1 global and 6 regional MFC: Monitoring and Forecasting Centers**
 - “Model / Assimilation”

- **Each Production Unit**
 - under operational commitments to deliver a service
 - Conducting R&D, Integration, Operations, and Assessment

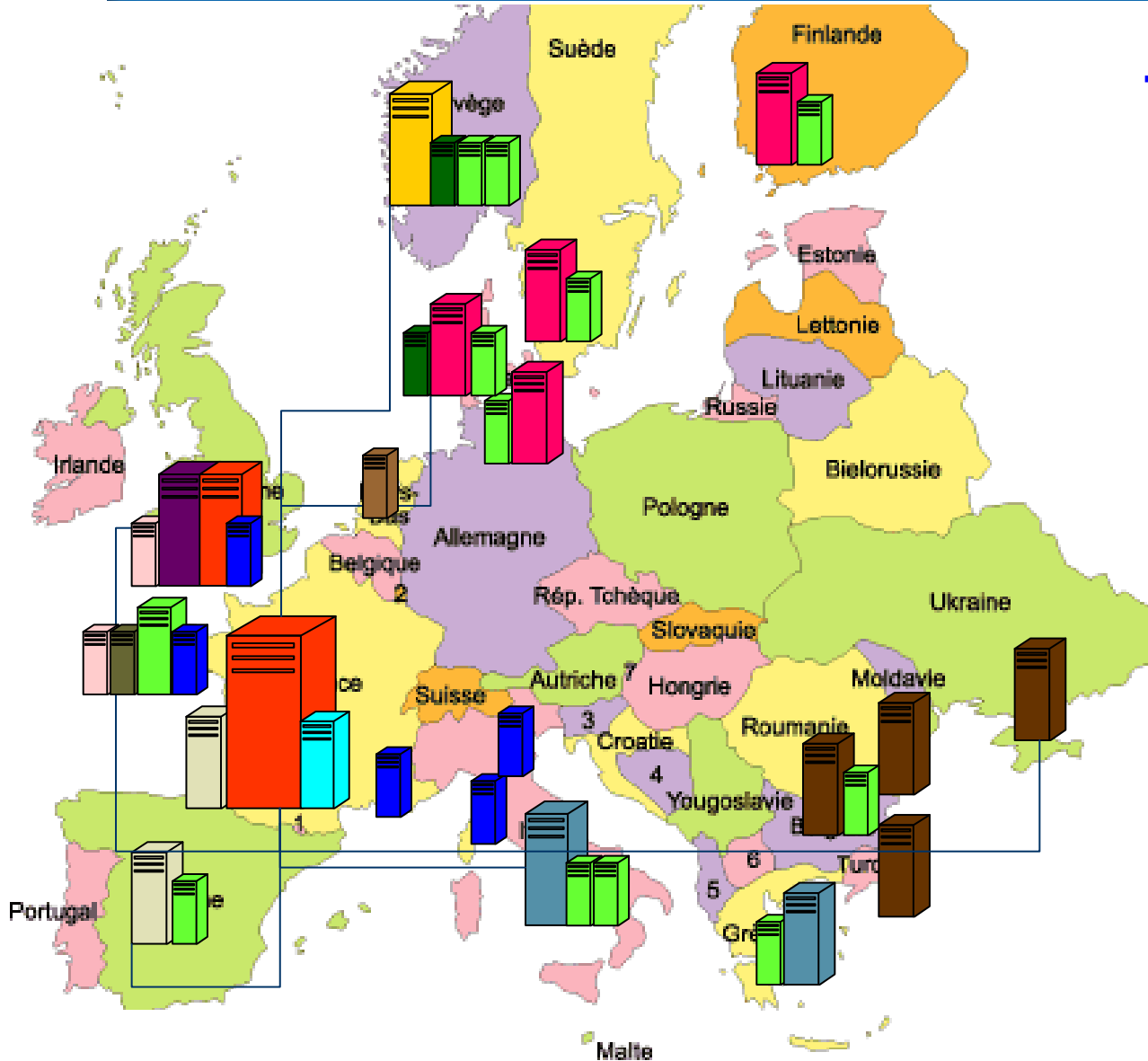
The MyOcean value

6 European Seas + Global Ocean



- 1. Global
- 2. Arctic
- 3. Baltic
- 4. NWS
- 5. IBI
- 6. Med Sea
- 7. Black Sea

An organization of 12 Production Units



- TAC**
- SL TAC
 - OC TAC
 - Sea Ice TAC
 - In situ TAC
 - SST TAC
 - Wind TAC

- MFC**
- MFC Global
 - Arctic MFC
 - Baltic MFC
 - NW Shelves MFC
 - IBI MFC
 - Med Sea MFC
 - Black Sea MFC



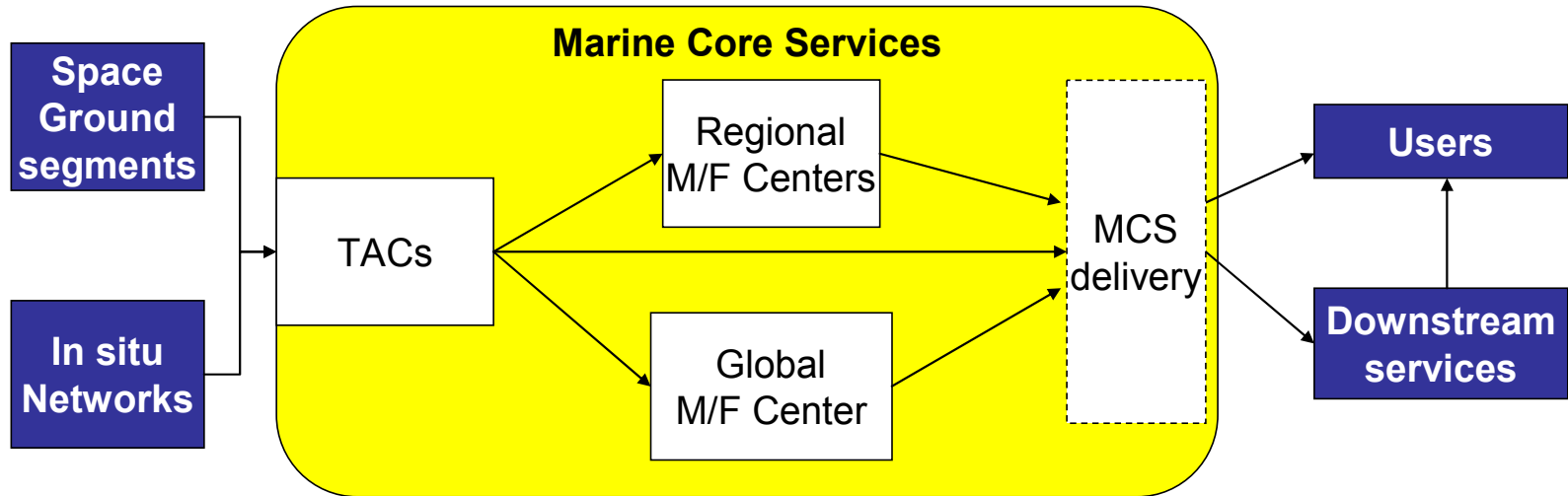
MCS TACs

The Thematic Assembly Centers as
production units of the
GMES Marine Core Services

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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.

TACS: main functions

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- **Interfaces**
 - In-situ : observing system networks
 - R/S : European and non-European G/S and facilities (includes EUM SAFs)

 - **Functions of In-Situ and R/S TACs**
 - Monitoring performances of the observing system
 - Real-time and delayed mode processing (R/S=multi-satellite, level 2+)
 - Regular + on request
 - Quality control, Validation and Error characterization
 - Data synthesis and added value products (user requirements, services)

 - **Interoperable, harmonized data distribution system (MCS)**

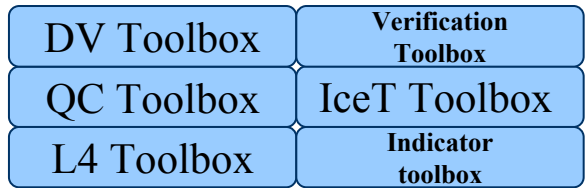
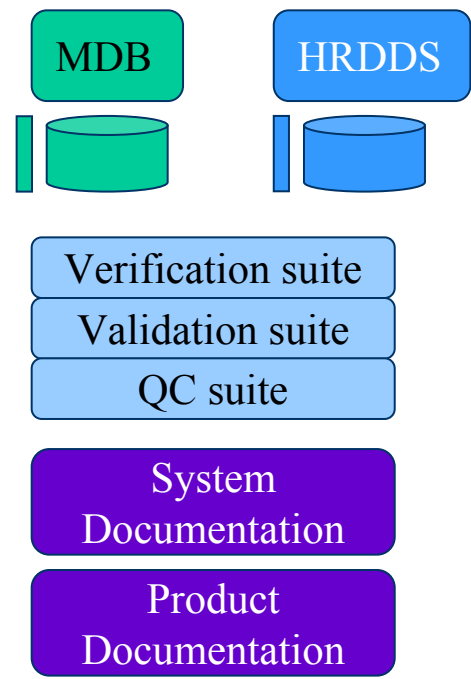
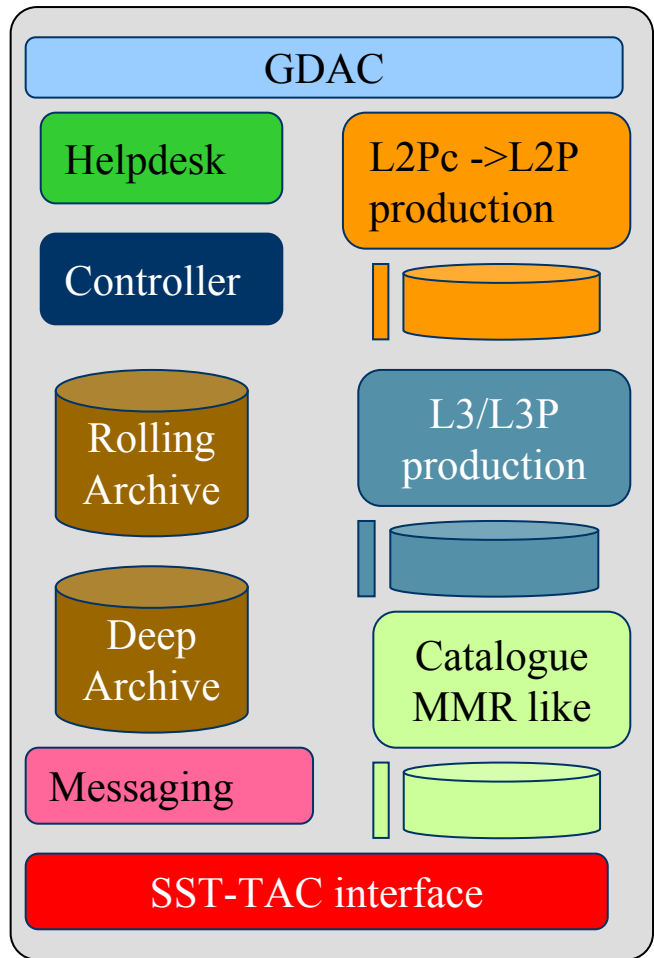
 - **Interface with other TACs and MFCs (Modelling Forecasting Centres)**
 - Prepare “best” products for MFCs (spec. from data ass. centers)
 - Feedback on data products and on the observing systems
 - Contribute to the design and implementation of the observing systems

 - **Interface with applications and users (downstream services)**
- ⇒ Management, Production/Maintenance, Cal/Val, Development, R&D
+ external R&D (see Research WP : call for proposals, visiting scientists)

- Operate the main functions of a European GHRSSST-PP RDAC and GDAC
- Produce and distribute in NRT SST L2P, L3, L3P and L4 regional and global SST products for the needs of the other MCS components and of MCS downstream users, but also for other GHRSSST-PP users
 - full L2P reprocessing from level 1 data is part of the GMES ground segment, ESA and OSI-SAF, + other GHRSSST-PP RDAC
- Provide a delayed mode (3-5 day) update of L2P, L3 and L4 products
- Continuously monitor and verify SST-TAC products and services using metrics by exploiting the tools developed in the context of the GHRSSST-PP, ESA MERSEA, MEDSPIRATION project (MDB, DDS) and the EUMETSAT OSI-SAF
 - L2 validation is foreseen as part of the GMES ground segment
- Maintain and improve SST products and services through R&D activities on high priority topics : ex : error covariances, bias correction, meta-data, ice surface temperature....
- Organization:
 - Coordination: WP leader (MF/CMS)
 - Central mirroring, access and helpdesk functions at IFREMER
 - Production functions at MetO (global L4), IFREMER (NW shelves L4, global delayed mode L4), CNR (Med Sea L4, Back Sea L4), DMI/Met.no (Arctic L4), M-F/CMS (L3)
 - Common quality monitoring and verification functions at IFREMER (MDB) and NOCS (DDS)
 - Distributed R&D

SST-TAC Components

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Ocean Colour TAC

- **Objectives:**

- ✓ To produce global, pan-European and regional (Arctic, Baltic, NW Shelves, Mediterranean, SW Shelves and Black Sea) high-quality ocean colour products for MFCs, Intermediate users & downstream services
- ✓ To support MCS quality monitoring
- ✓ Provide a central access point in NRT to regional and global OC products from European and non-European sources

- **Products:**

- NRT,DT L3:from individual sensors and from intercalibrated/ merged data sets
- NRT,DT L4 analysis: merged multi-sensors analysis (with in situ in the future)
- L2,L3 and L4 Re-analysis & Indicators of ecosystem state
- Parameters: chlorophyll, nLw, diffuse attenuation coefficient, etc...

- **Organisation:**

- ✓ OCTAC will be a distributed system composed by a Global center and regional centers

- **Partnership:**

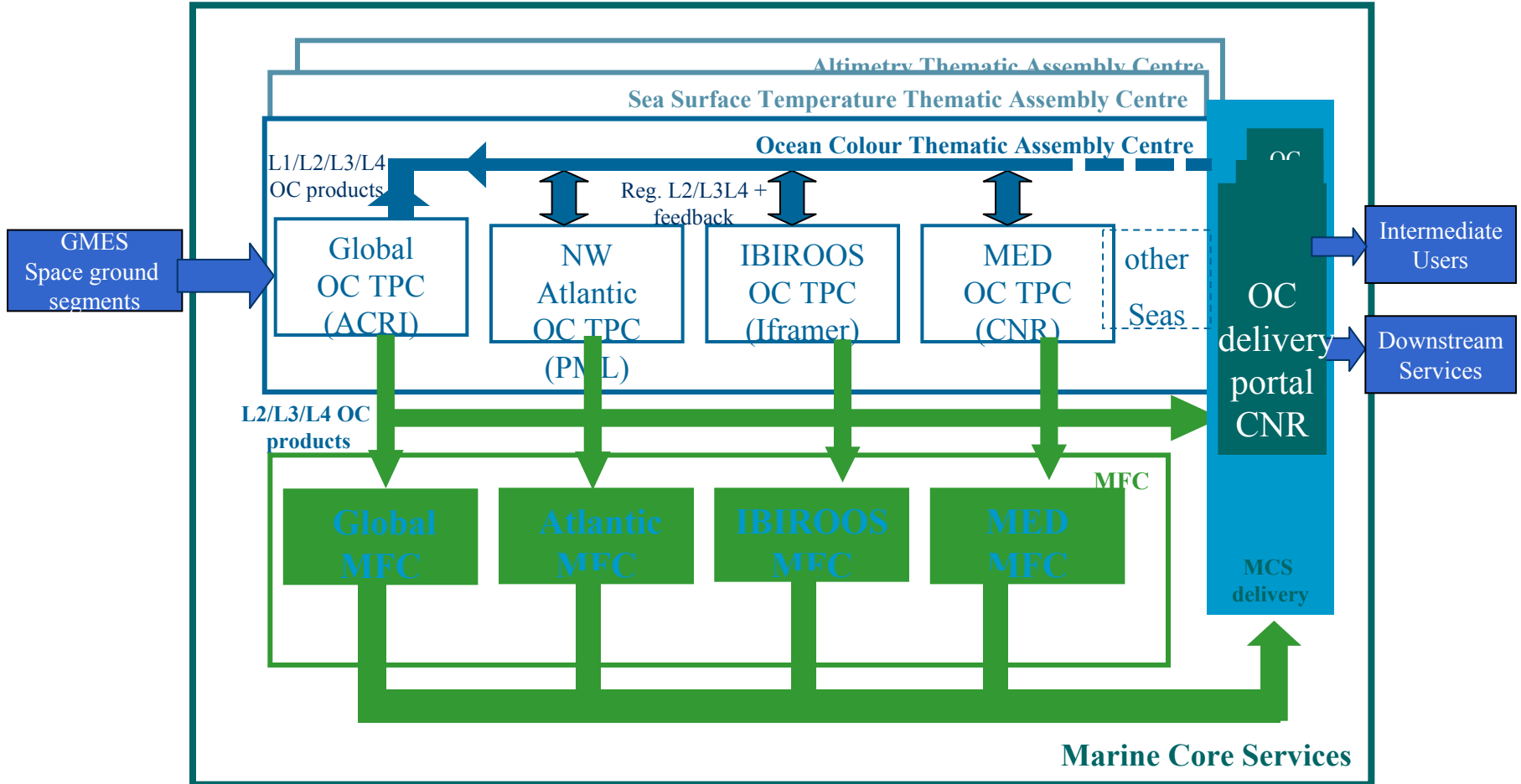
CNR (coordination & MED), ACRI (Global), JRC (re-analysis & global validation); PML(NWShelves –TPC), Ifremer (SW Shelves)

R&D and CAL/VAL all Partners + link to external R&D activities

- **Interfaces**

Data interface: Space Agencies ground segments, in situ TAC, MFCs, downstream services

Marine Core Service

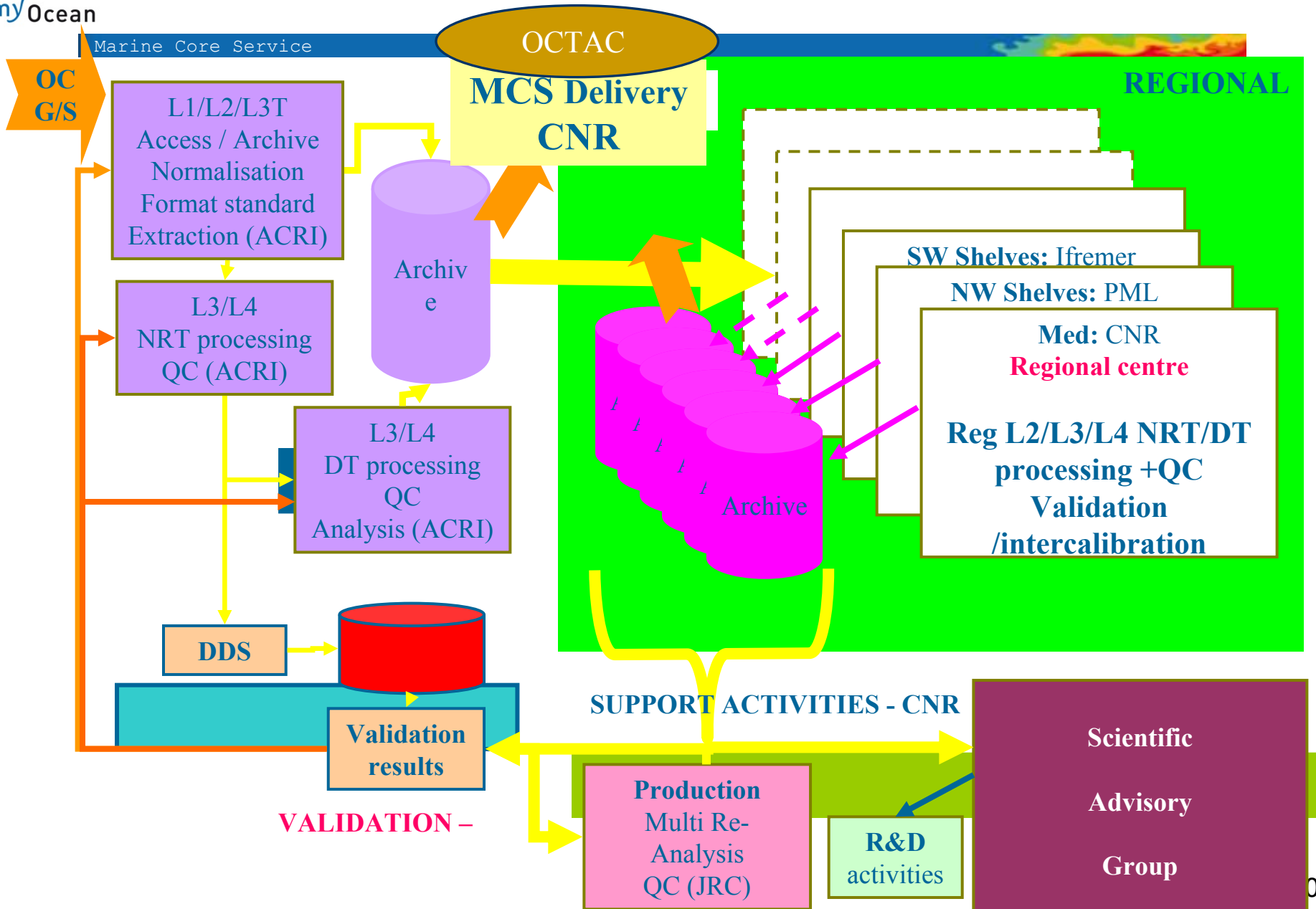


- Data and information flux within MCS
- Data and information flux within OC TAC
- External data and information flow



myOcean

Ocean Colour TAC





Project organization

MY OCEAN

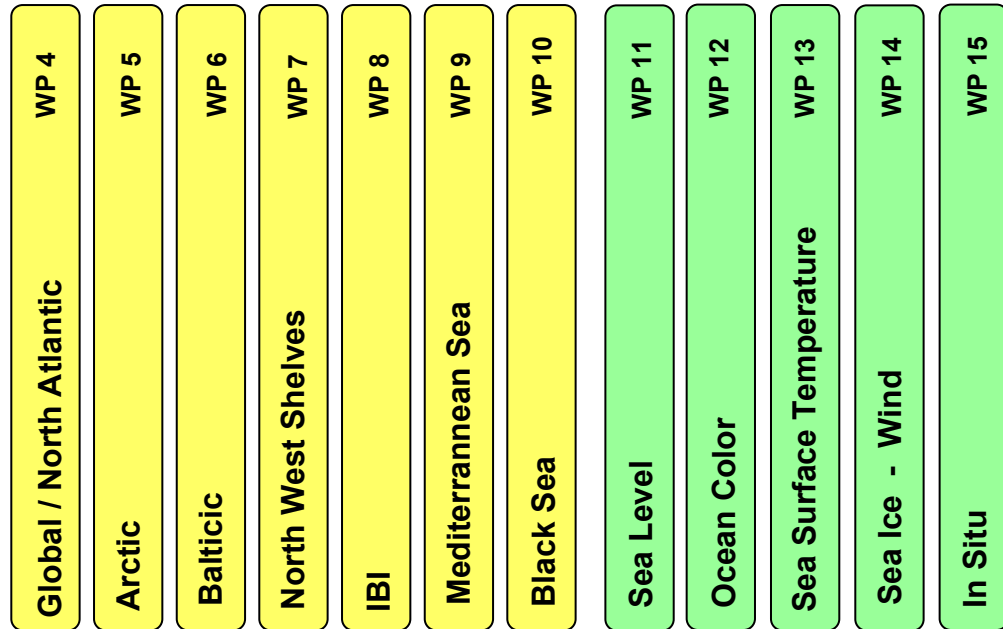
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MyO Work Breakdown Structure

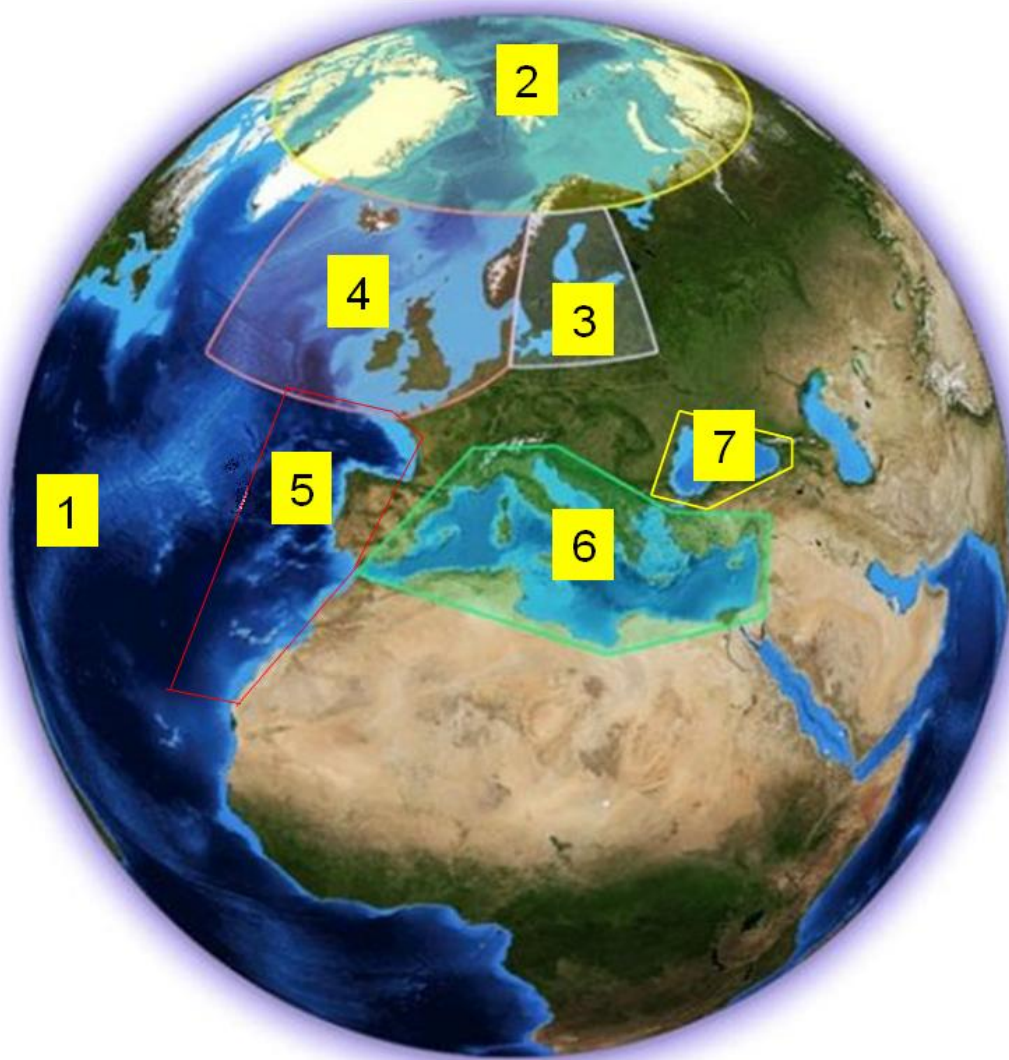
Marine Core Service

7 MFCs + 5 TACs
= 12 Production Units

each Production Unit
= 1 Sub-System

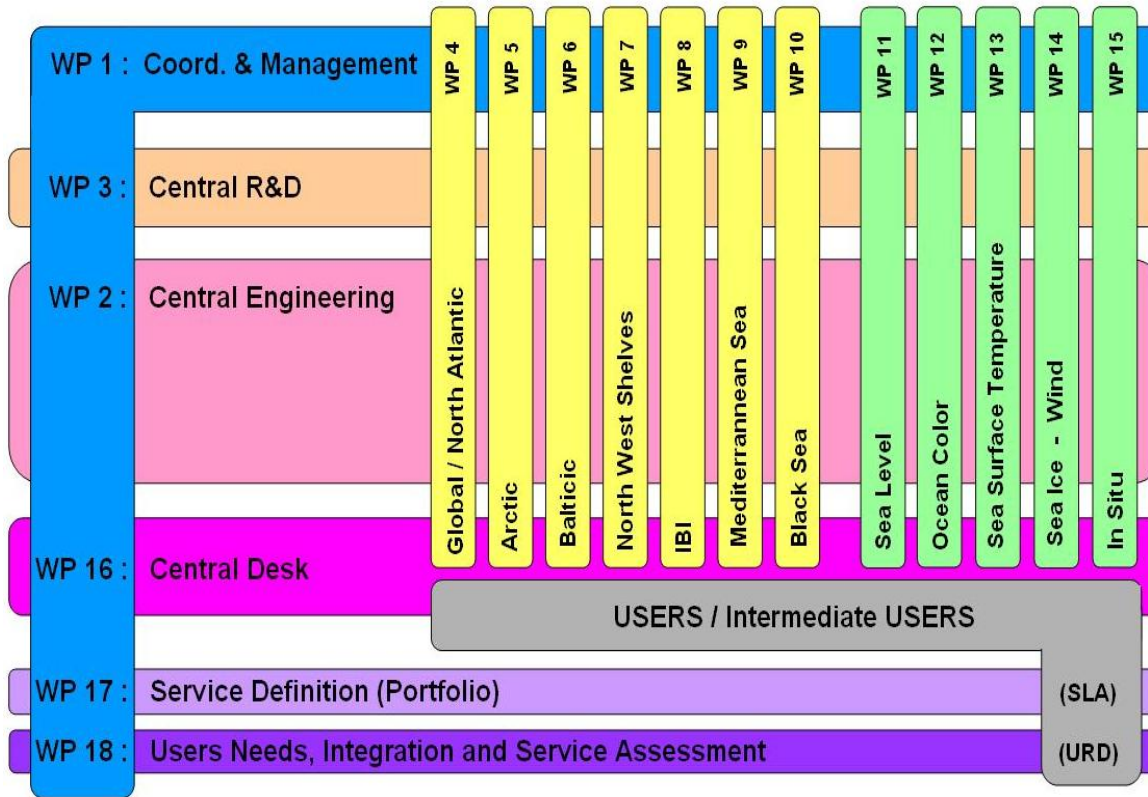


The MyOcean value 6 European Seas + Global Ocean



- 1. Global
- 2. Arctic
- 3. Baltic
- 4. NWS
- 5. IBI
- 6. Med Sea
- 7. Black Sea

The MyOcean value ... in the organization

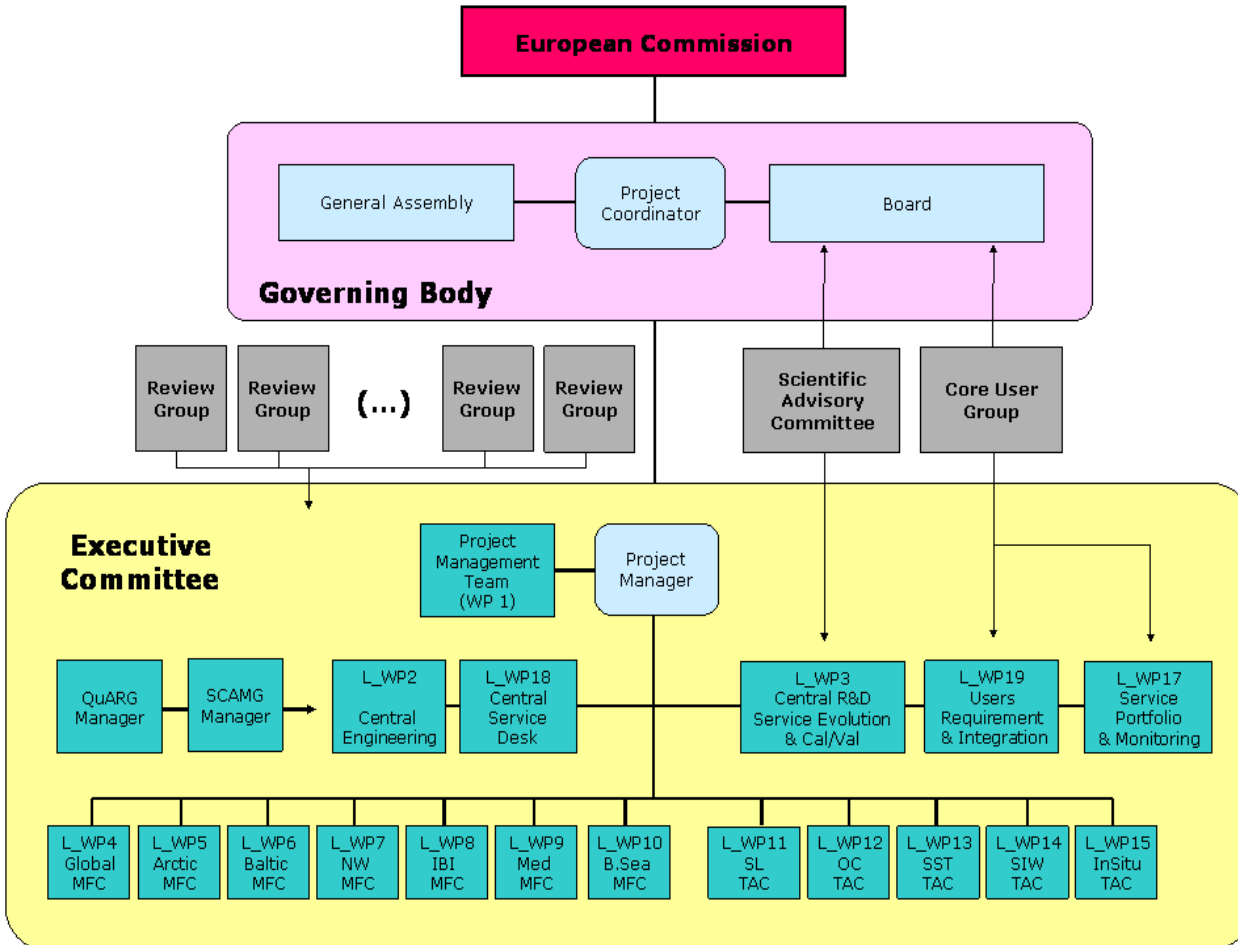


- An organization to run the project and **the Service**
- An organization preparing the future **MCS Management Organisation**, linked with the overall GMES management organisation

- Demonstrate the value during the coming 3 years, and build organization and sustainability with GMES stakeholders for the further steps

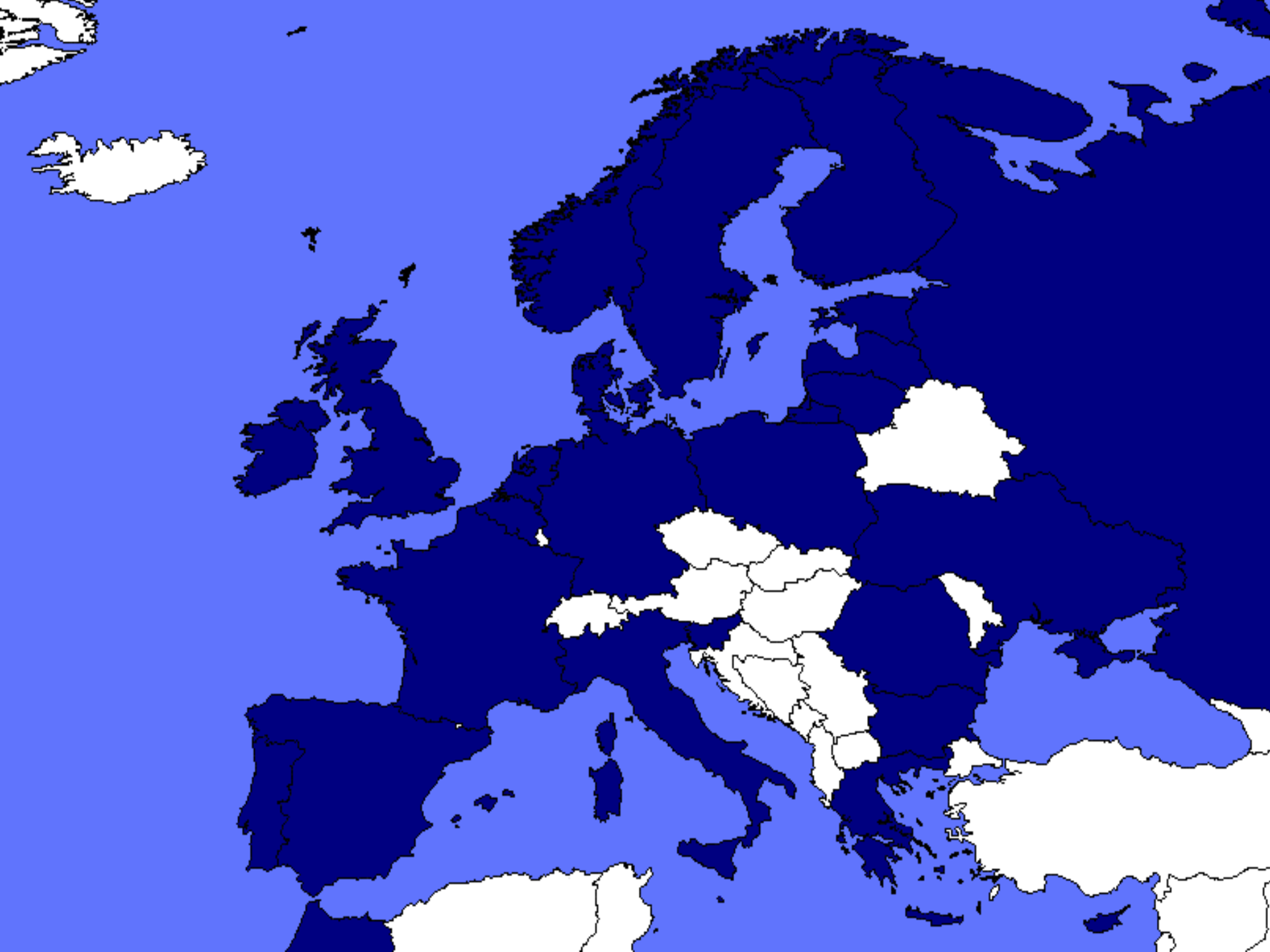
Management and strategic bodies

Marine Core Service



- **Board**
- **Advisory bodies**
 - The Scientific Advisory Committee
 - The Core User Group
- **Executive Committee**

- **60 Partners (today) – representing 28 countries**
 - Met' Offices
 - Marine / Hydrographic / Oceanographic centers
 - Research centers, ...
- **5 Private companies**
 - CLS : Central Engineering and Altimetry
 - ACRI : Ocean Color TAC
 - StarLab : Users management (URD, SLA, ...)
 - Brockmann Consult : Users management (URD, SLA, ...)
 - HR Wallingford : Central Desk (reviewing activities)
 - Techworks : Central desk (web based technical work)
- **Budget**
 - 55 M€ (33,8 M€ EC-Grant)
 - 84% : personnel cost
 - 7% travel cost
 - 190 FTE (~ 400 persons directly involved in the project)



- MyOcean is focussed on a strict
« **core** » service
 - No « **downstream** » activities
 - No « **on request** » production

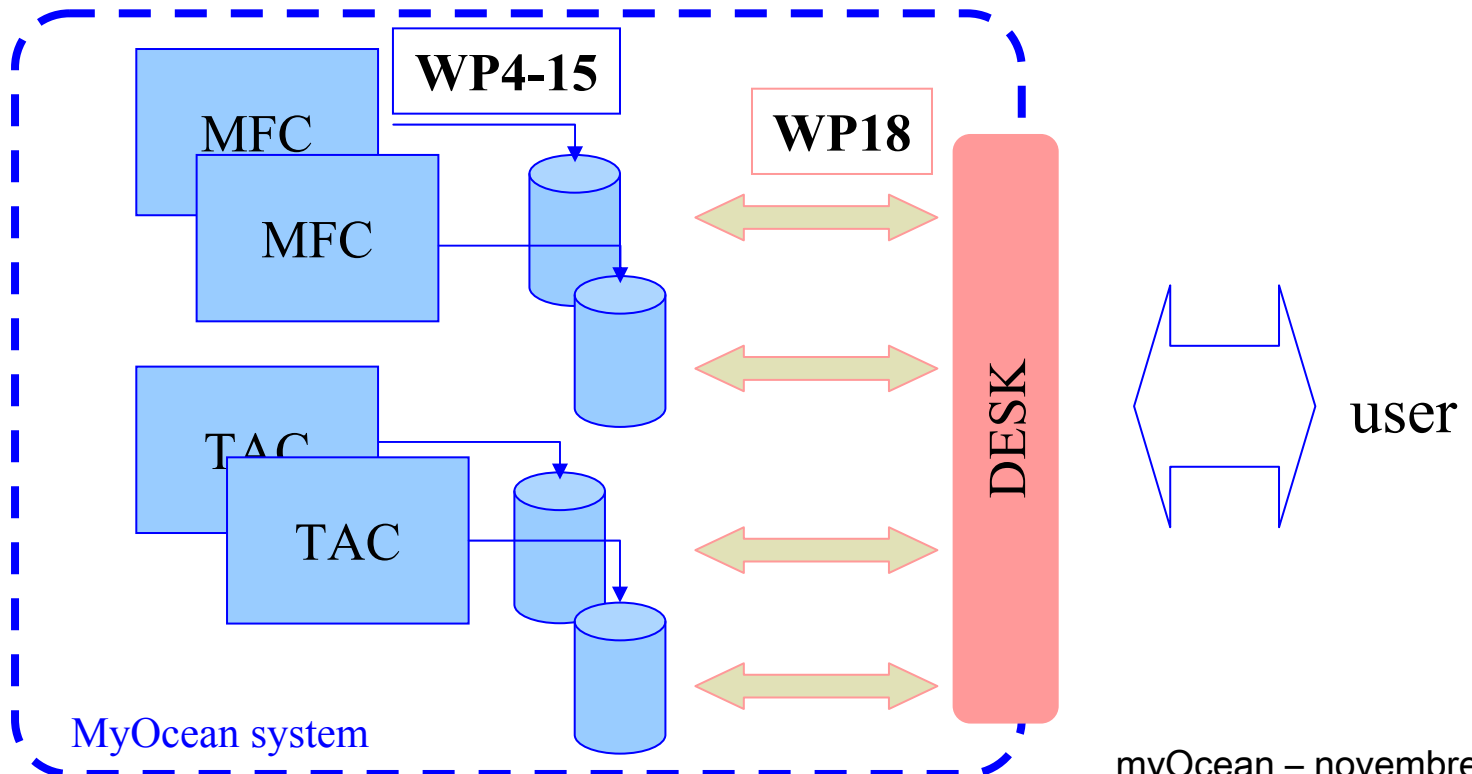
A « **core service** » limited to :

- « **Easy-download-of-bulk-and-assessed** » information
- + « **Discovering & Viewing** » of this ocean information

Delivery : two kinds of Users

- Registered / Regular Users (Met' Offices, Navies,...)
- Occasionnal Users (Researchers, EU Citizen, ...)

- WP17 is defining and maintaining the « list of products » (Portfolio)
- The « producers » in MFCs and TACs are producing and assessing them
- WP16 is providing access to them
 - A « central desk » (one only) to download the core product
 - A « viewing tool » to have a look at the ocean



- ABOUT US
- NEWS
- INNOVATION
- DOWNSTREAM



My Ocean

LOGIN

PASSWORD

OK

CATALOGUE

SERVICES

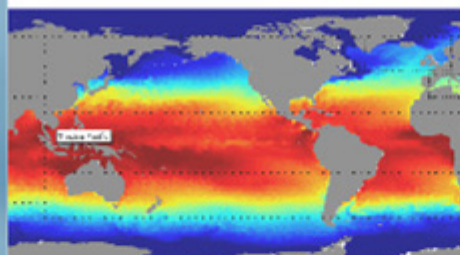
MISSIONS

YOUR FEEDBACK

HELP

SEARCH

Free Ocean Online



HOW IS THE OCEAN ?

TODAY

TOMORROW

Play & learn

Products Ordering

- ANALYSIS
- NOW CAST
- GENERAL FORECAST
- REGIONAL FORECAST

CLICK HERE TO
DISCOVER
MY OCEAN

Application Ranges

- OIL SPIL
- WATER QUALITY
- COASTAL ENG.
- SAFETY AT SEA
- CLIMATE
- ENVIRONNEMENT MONITORING
- MARINE RESOURCES

Norway

WHO ARE WE ?

"Ullam venit cum permissio, alter ego cum frater et patris"

Lorem ipsum dolor sit amet. Con minimim venami quis nostrud laboris nisi ut aliquip ex ea con dolor in reprehenderit in voluptate nonumi. Mimimum veniami ex ea con dolor nisi ut aliquip...

► MORE INFORMATION



- ||| ABOUT US
- ||| NEWS
- ||| INNOVATION
- ||| DOWNSTREAM



My Ocean

WELCOME : Name Surname

▶▶ YOUR PROFILE

- CATALOGUE
- SERVICES
- MISSIONS
- YOUR FEEDBACK
- HELP
- SEARCH

YOUR PROFILE NSP / oil spill

IDENTITY CARD

NAME SMITH	PREFERENCES
FIRSTNAME John	LANGUAGE English
COMPANY XX Met Office	AREA Arctic
ADDRESS	APPLICATION FIELD Oil spill
PHONE	MEDIA Ftps://
EMAIL	HELPDESK CONTACT

SUBSCRIPTIONS

PRODUCTS	APPLICATION	AREA	DURATION	USE	DELIVERY
Ocean forecast	Oil spill	Arctic	permanent	Institution.	Ftps://
SST	Oil spill	Arctic	permanent	Institution.	Ftps://
SLA –currents	Oil spill	Global	permanent	Institution.	Opendap

ORDERS ARCHIVE

PRODUCTS	APPLICATION	AREA	DURATION	USE	DELIVERY
Reanalysis	Environment	Arctic	On request	Institution.	Ftps://
Ocean forecast	Emergency	Global	On request	Institution.	Ftps://
SSH	Emergency	ibi-portugal	On request	Institution.	Ftps://
SLA –currents	Emergency	Global	On request	Institution.	Opendap
Ocean forecast	Safety at sea	Global	permanent	restricted	Opendap

Example





Conclusion

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- Few months to go before the kick-off, and 3 years to demonstrate the real value of the MCS idea, and ensure real progresses.
- MyOcean was born amongst the operational oceanography community, which forms a real community thanks to structuring initiatives such as EuroGOOS and its regional alliances
- The success of MyOcean and GMES relies on a strong involvement of the scientific community and of the user community



Contact point

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