# Ferrybox data integration

# in MyOcean

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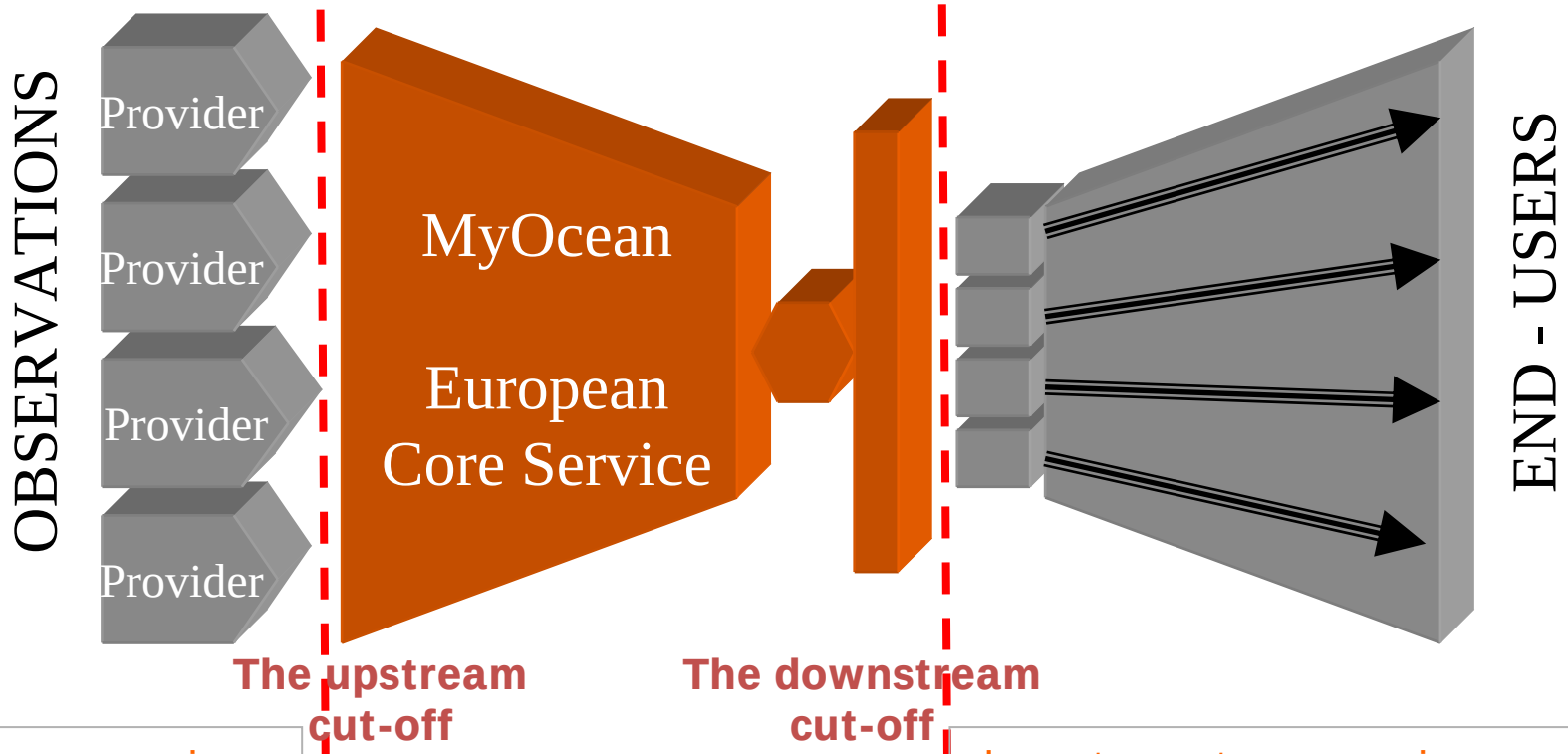
# Outline

- Ferrybox data in MyOcean organisation
- Data processing and quality control
- Data policy and data delivery

# Scope of responsibility



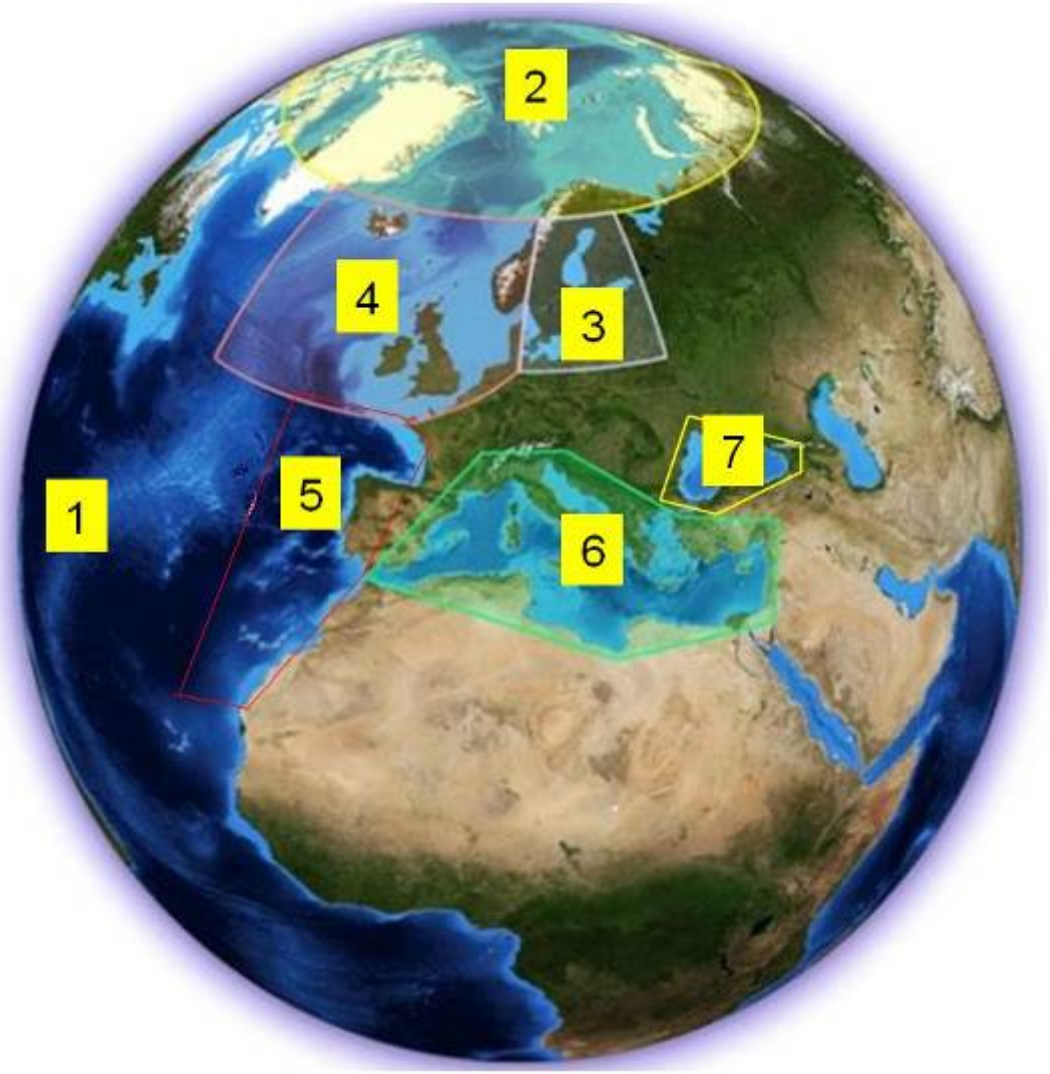

upstream to our service

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

*Data, Model*
*European added-value*

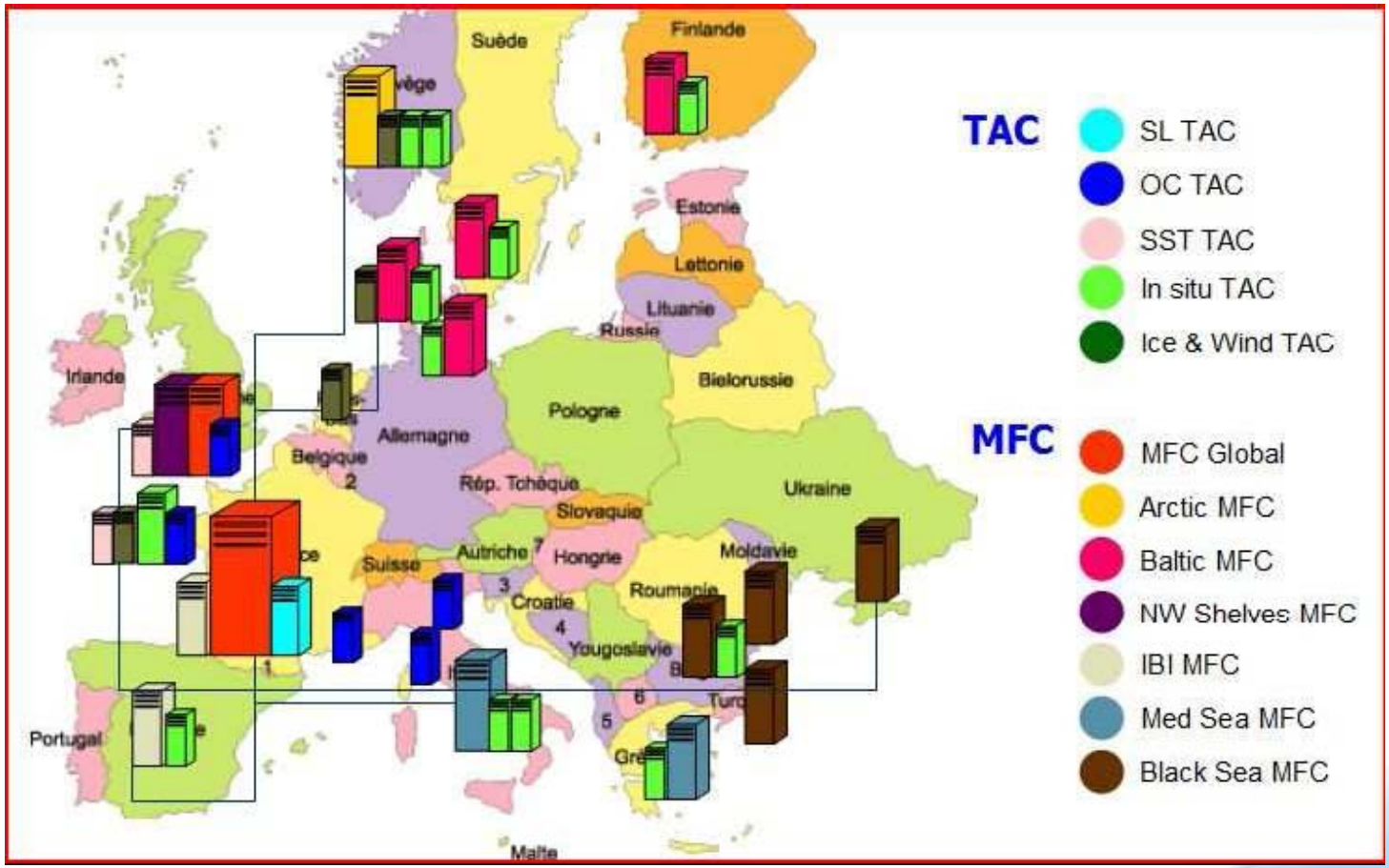
downstream to our service:
… is done (duty), or will be better done (skill) by a **specialized** agency, a **European** agency or a **national** center ; usually already in place
Example : COASTAL SYSTEMS

# *The MyOcean value*
## 6 European Seas + Global Ocean



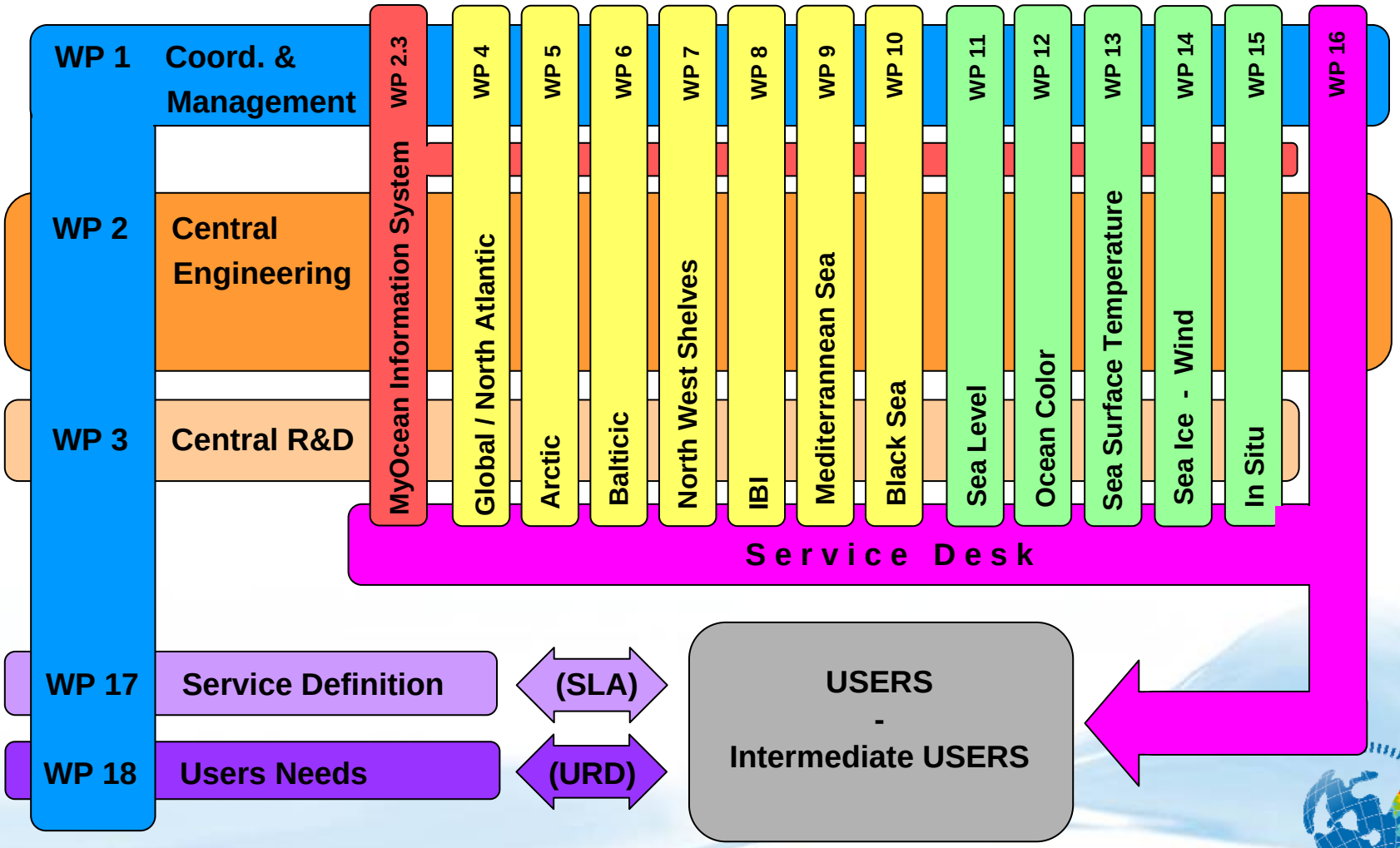

- 1. Global
- 2. Arctic
- 3. Baltic
- 4. NWS
- 5. IBI
- 6. Med Sea
- 7. Black Sea

# Partnership

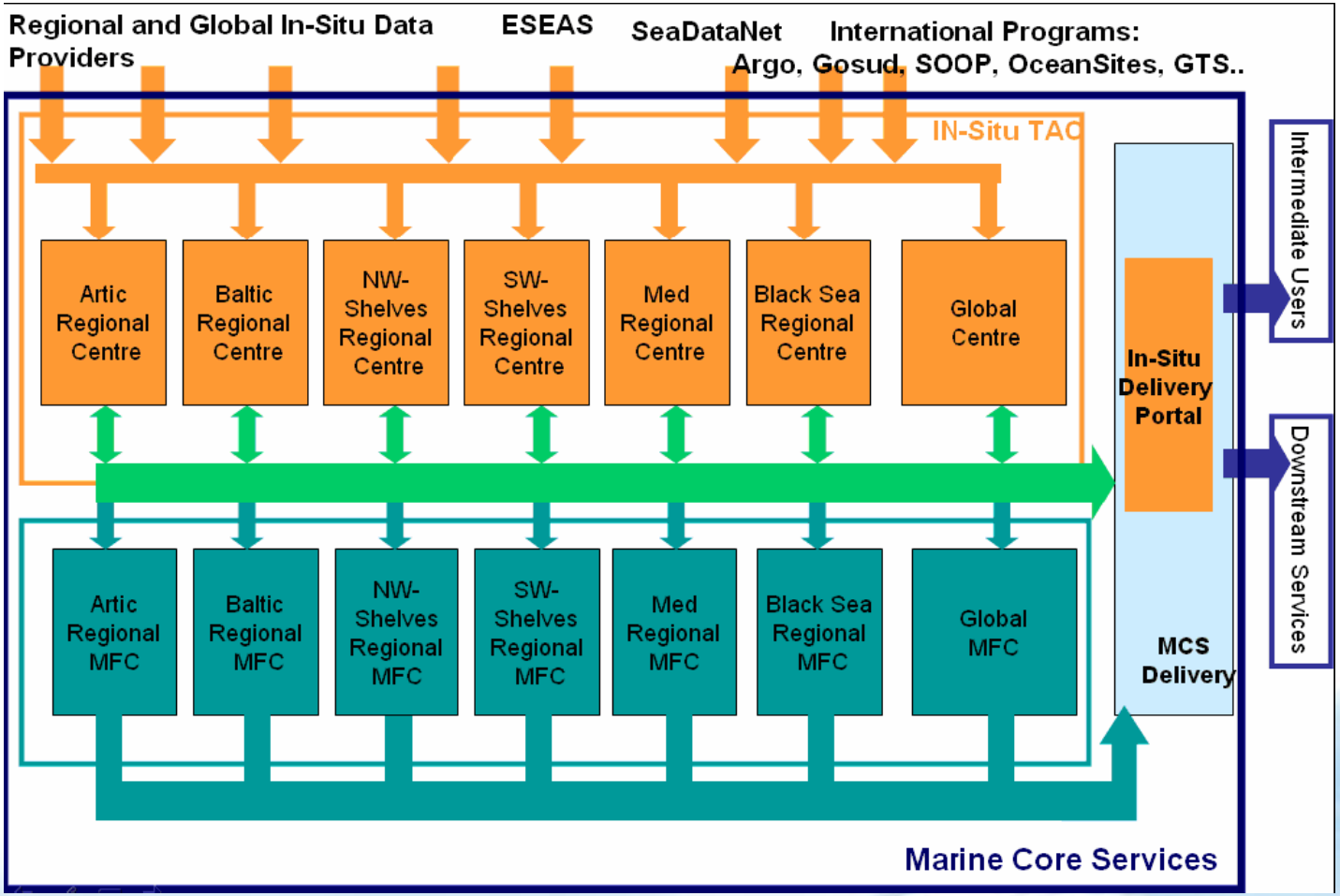



60 partners… BUT… not every one!

# MYO : a System of Systems

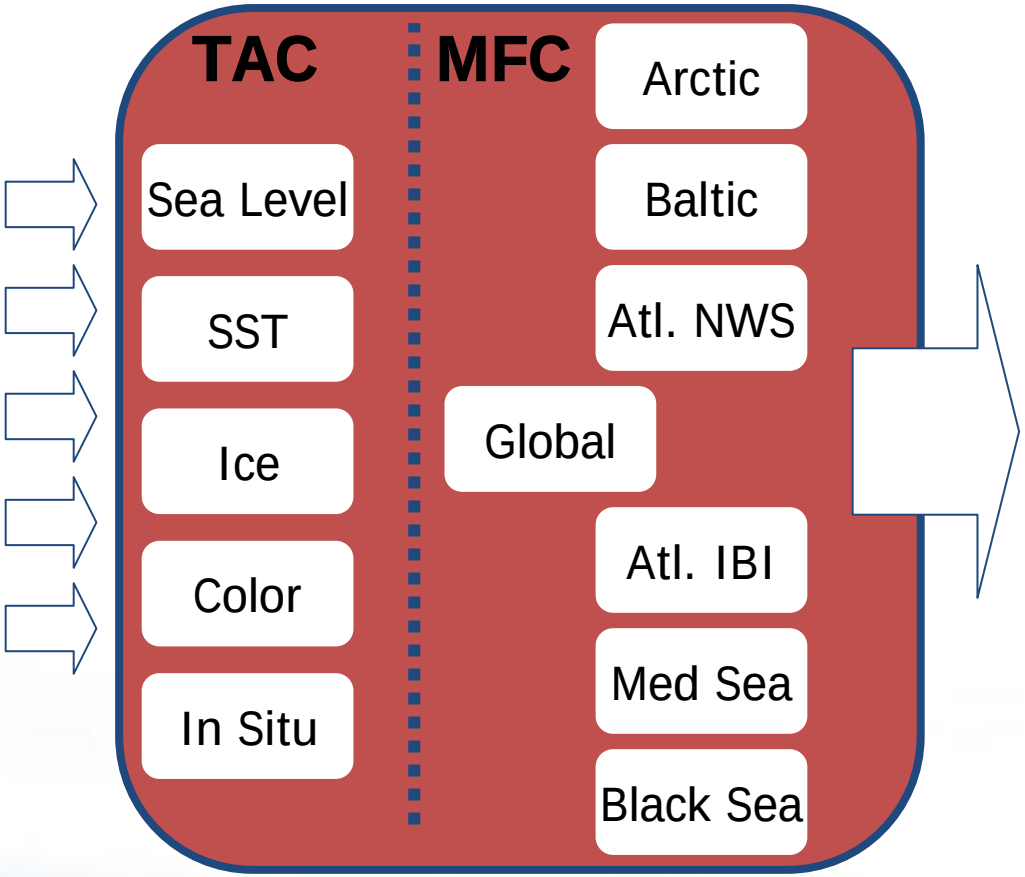


# Organization

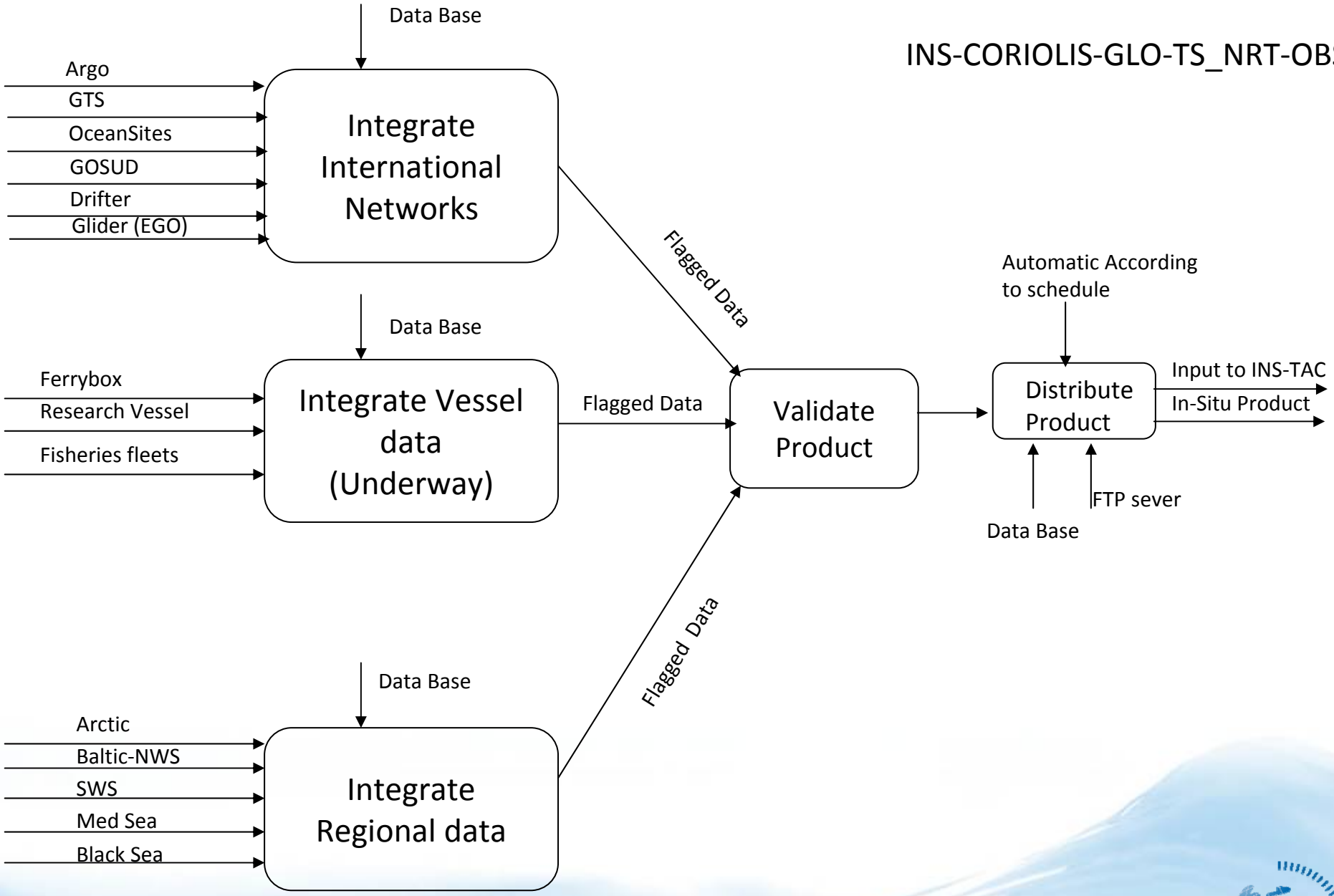


# Ferrybox and underway data production & qualification

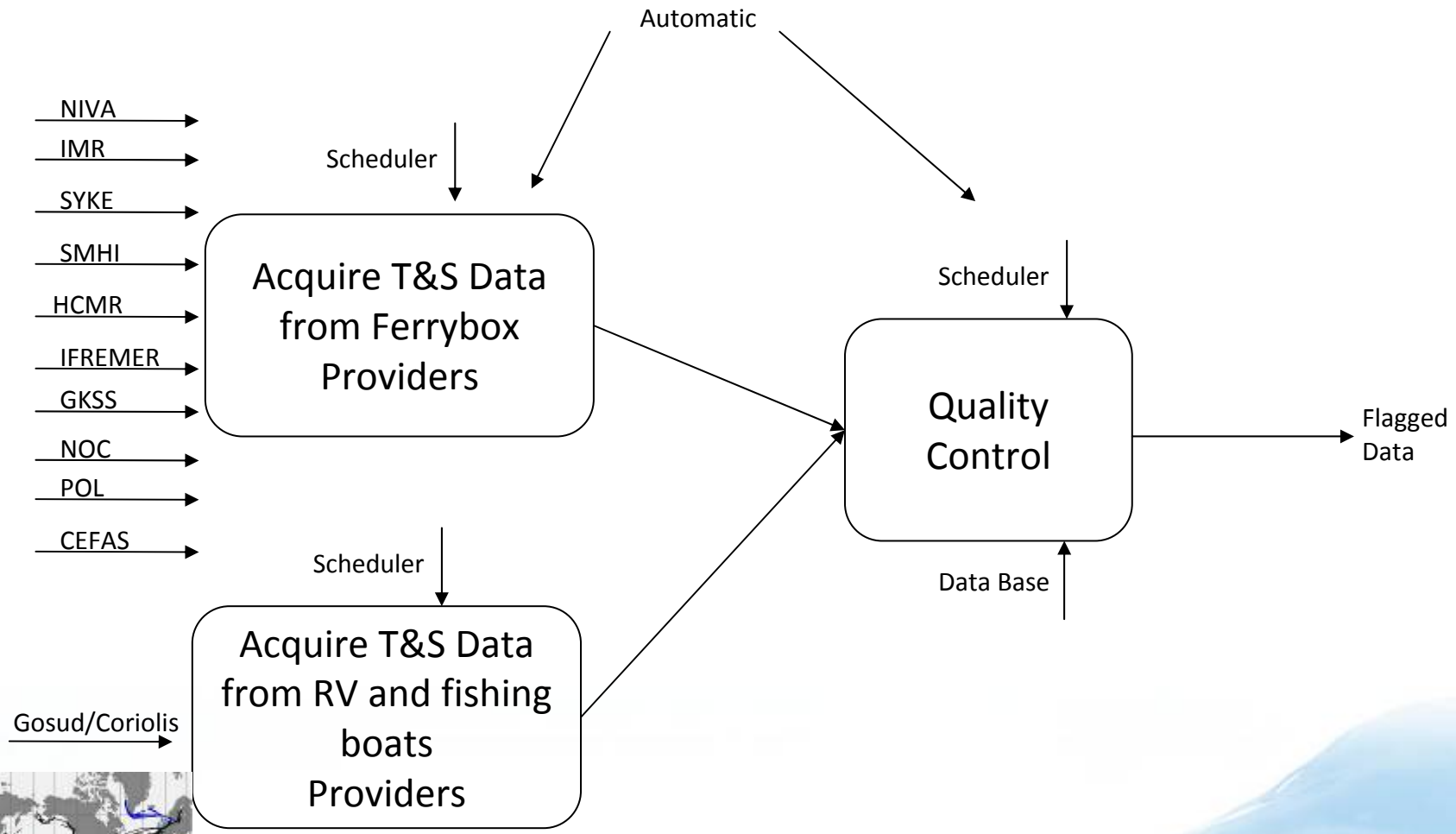
(phys., bio. and chem. Data)

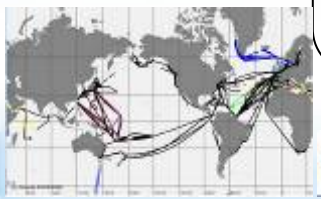



- **<u>STREAM 1</u>: qualification review in September 2010**
  - **Targeted core system close to maturity**
  - MFC Glo, Med, Arctic
  - TAC corresponding comp.
- **<u>STREAM 2</u>: qualification review April 2011**
  - **Extra 6 month R&D / Dev**
  - MFC Baltic, NWS, IBI, B.Sea
  - TAC corresponding comp.


INS-CORIOLIS-GLO-TS_NRT-OBS
Data Base
Argo
GTS
OceanSites
GOSUD
Drifter
Glider (EGO)
Integrate International Networks
Flagged Data
Automatic According to schedule
Data Base
Ferrybox
Research Vessel
Fisheries fleets
Integrate Vessel data (Underway)
Flagged Data
Validate Product
Distribute Product
Input to INS-TAC
In-Situ Product
FTP sever
Data Base
Data Base
Arctic
Baltic-NWS
SWS
Med Sea
Black Sea
Integrate Regional data
Flagged Data
Data Base

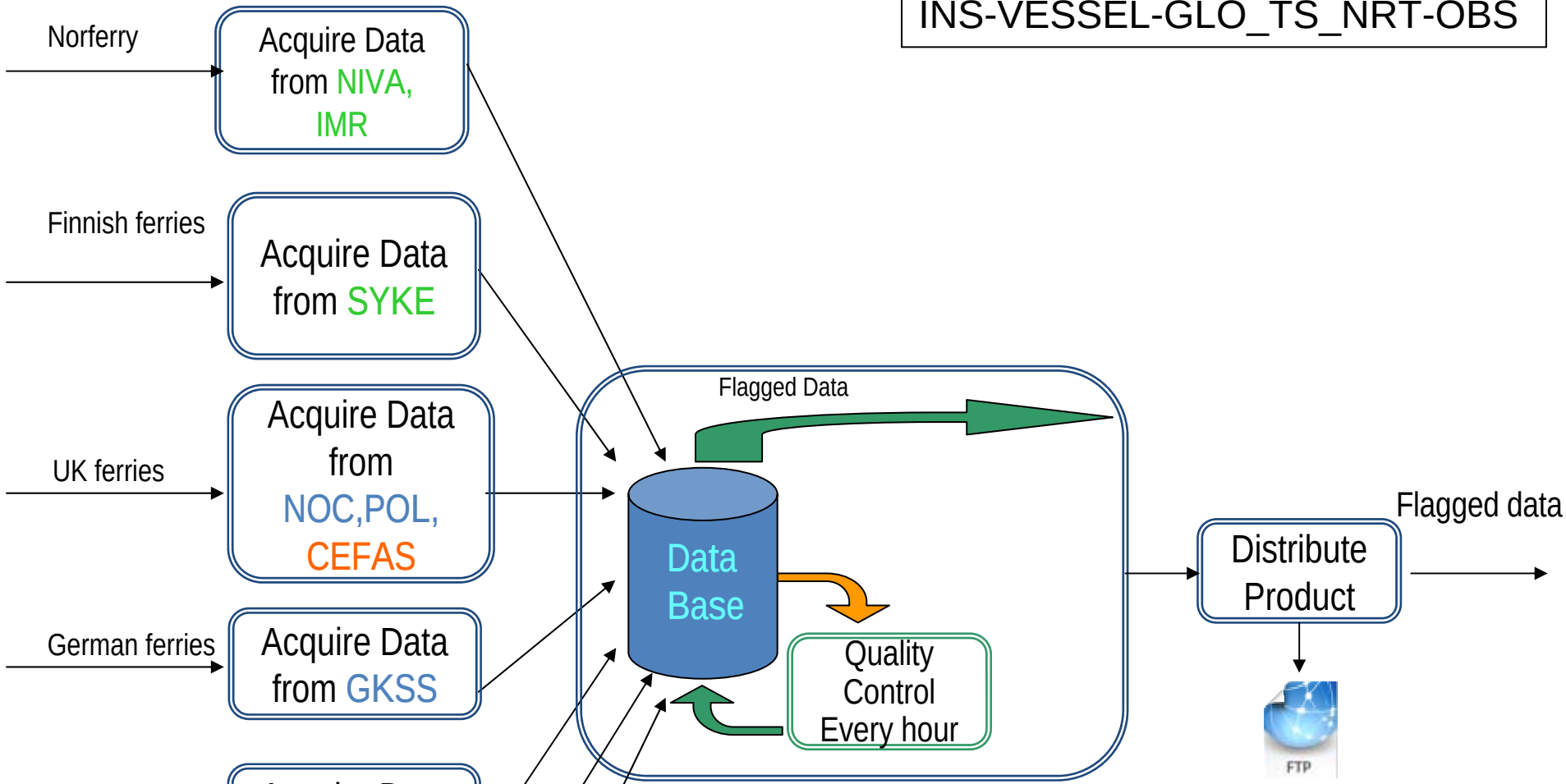
INS-CORIOLIS-GLO-TS_NRT-OBS
Integrate Ferrybox Data



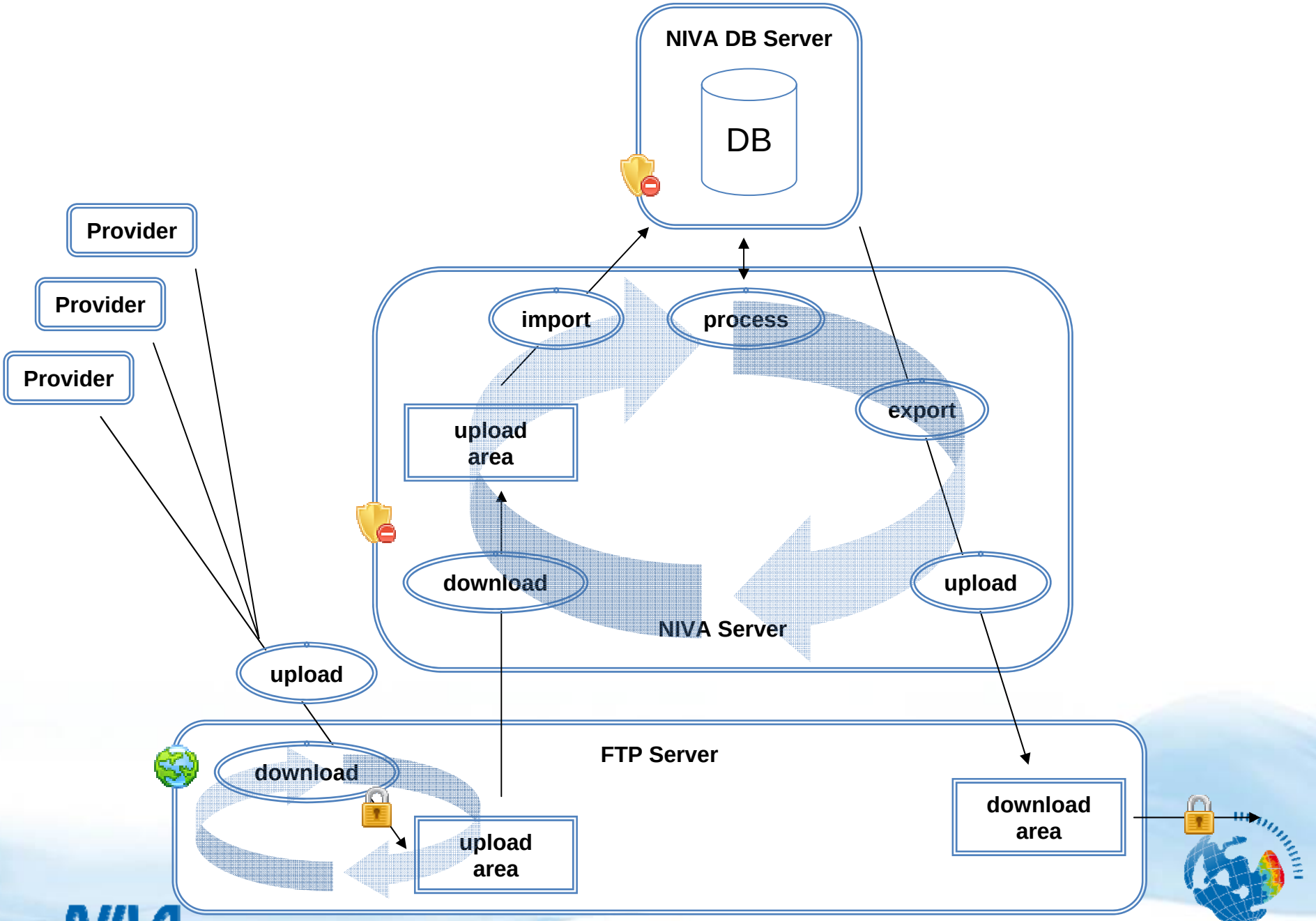



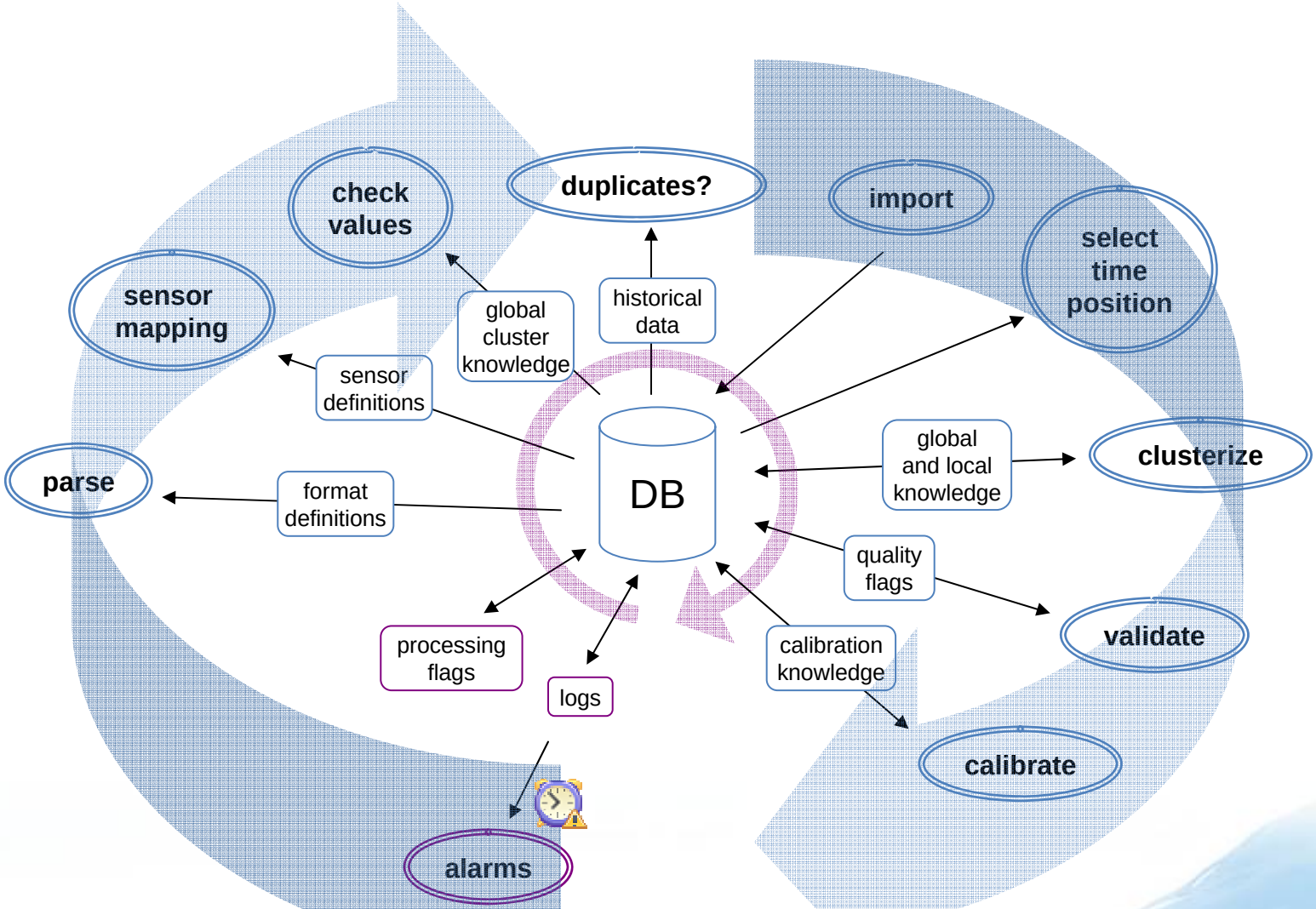
GOSUD global ocean surface underway data pilot project

# INS-VESSEL-GLO_TS_NRT-OBS




New lines: France, Ireland, Netherlands


NIVA DB Server
DB
Provider
Provider
Provider
import
process
export
upload
area
download
upload
NIVA Server
upload
FTP Server
download
upload
area
download
area


check values
duplicates?
import
select time position
sensor mapping
global cluster knowledge
historical data
sensor definitions
parse
format definitions
DB
global and local knowledge
clusterize
quality flags
validate
processing flags
logs
calibration knowledge
calibrate
alarms

# Real-time quality control of T/S data

RTQC of salinity and temperature measurements described in MyOcean document (February 2010):

Following data tests have been proposed for ferrybox data:

- Impossible date
- Impossible location
- Frozen date/location/speed
- Speed range
- Pump
- Pump history
- Global range
- Regional range
- Gradient

# Real time Quality Control mode

- **Inputs:** ARGO, GOSUD, MERSEA, SeaDataNet, EEA
- **Meta data check**:
  - Format (typing etc)
  - Completeness
- **Data check**:
  - Date
  - Duplication
  - Platform speed
  - Location of the platform
  - Different ways of dealing with no data
  - Global Range Test (General setting of values for parameters)
  - Regional Range Test (based on expert knowledge)
  - Spike/Gradient Test
  - Instrument test (in case two instruments are available)
  - Control of data through internal and external consistency tests

# Real-time quality control of biogeochemical data

RTQC of biogeochemical measurements will be described in MyOcean document (due end of March 2010):

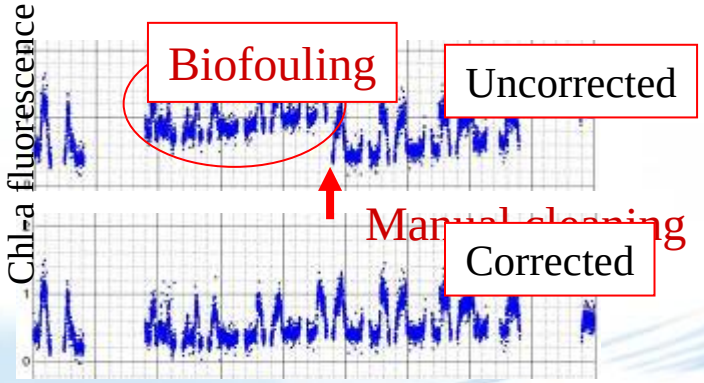
Parameters relevant for ecosystem modelling (data assimilation) and for validation of satellite data

Chl (proxy), $O_2$, nutrients

Same tests as T/S + some additional:

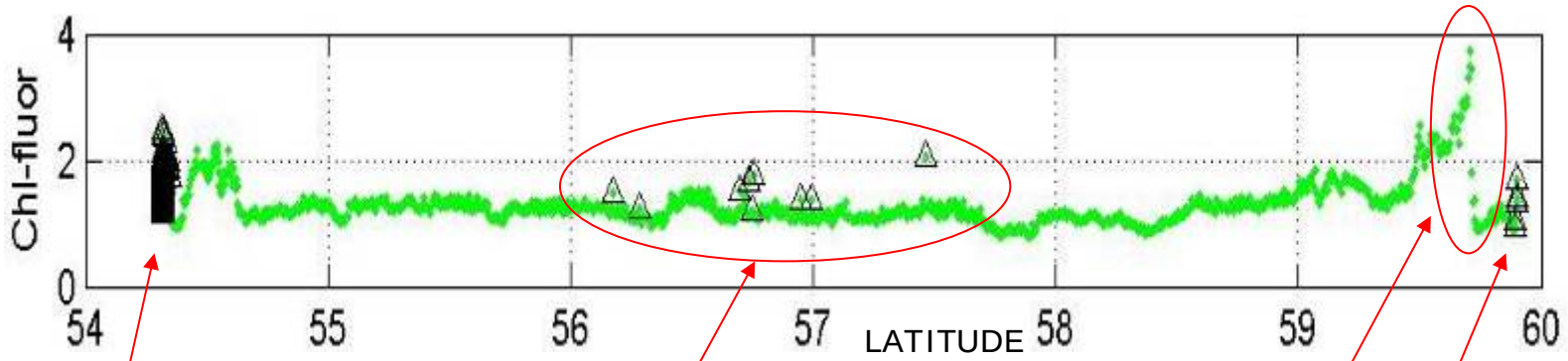
Impossible date
Impossible location
Frozen date/location/speed
Speed range
Pump
Pump history
Global range
Regional range
Gradient

Climatology
Sensor comparison
Biofouling



# Example of automatic data flagging

- Chl-a fluorescence measured by Color Fantasy from Oslo to Kiel 13-14Nov 2008




Pump Off

Spikes (unrealistic) are flagged

Gradients (realistic) are NOT flagged

First observations after pump start (questionnable) are flagged

# MyOcean Data Policy

# MyOcean Data Policy Principles

- Access: An open data policy
  - Anyone can access the MyOcean product without restriction
- Credit: MyOcean product are labelled « MyOcean »
  - The user accepts a MyOcean License (kind of « MyOcean inside »)
- Redistribution: Agreements for the MyOcean data
  - The MyOcean offer is valuable for users; for the products generated by MyOcean; and for the assembly of other ocean data (e.g. TACs).
- Extension in time: Limited to the 3 years of the project.

# MyOcean Data Policy

- Provision of data from inside the consortium,
  - A classical FP7-type data policy
  - Dedicated *in situ* data portal
  - *In situ* data -> MFC -> outer world
- Provision of data from outside the consortium
  - Specific agreement on data access, circulation and copyright
- For the « MyOcean products » disseminated outside the consortium as part of the MyOcean service:
  - « The MyOcean data policy »

# Why delivering ferrybox data to MyOcean?

- Standard format (NetCDF/OceanSites)
- Harmonised quality control system and flags
- One place gathering all/most relevant *in situ* data
- Densification of measurement networks
- Contributing in solving European environmental challenges

Take contact!

but

You will be contacted soon!!

Thank you!