



Aviso & Mercator serving MyOcean

How a european marine user accesses ocean products derived from satellite altimetry and numerical simulations (past and present missions & forecasts)

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MY OCEAN

Marine
Core
Service



■ MyOcean is a **SERVICE**

- The main component of the « **GMES** » Marine Core Service
- Global & Regional Ocean monitoring and forecasting
- Information based on Data Combination and assimilative Models
- Currents, Temperature, Salinity, Sea level, Ice, ...

→ **GMES Marine Core Service**

■ MyOcean is a **NETWORK** of European partners

- 61 partners out of 29 countries ; ~350 people involved ; ~150 FTE
- 20 core partners committed for operations;
european best monitoring and forecasting systems

→ **Pan-European network**

■ MyOcean is a **PROJECT**

- An EC/FP7 project, the GMES « Marine Fast Track » project
- 3 years : 1st April 2009 → 31st March 2012
- Budget 55 M€, with 34 M€ EC funding

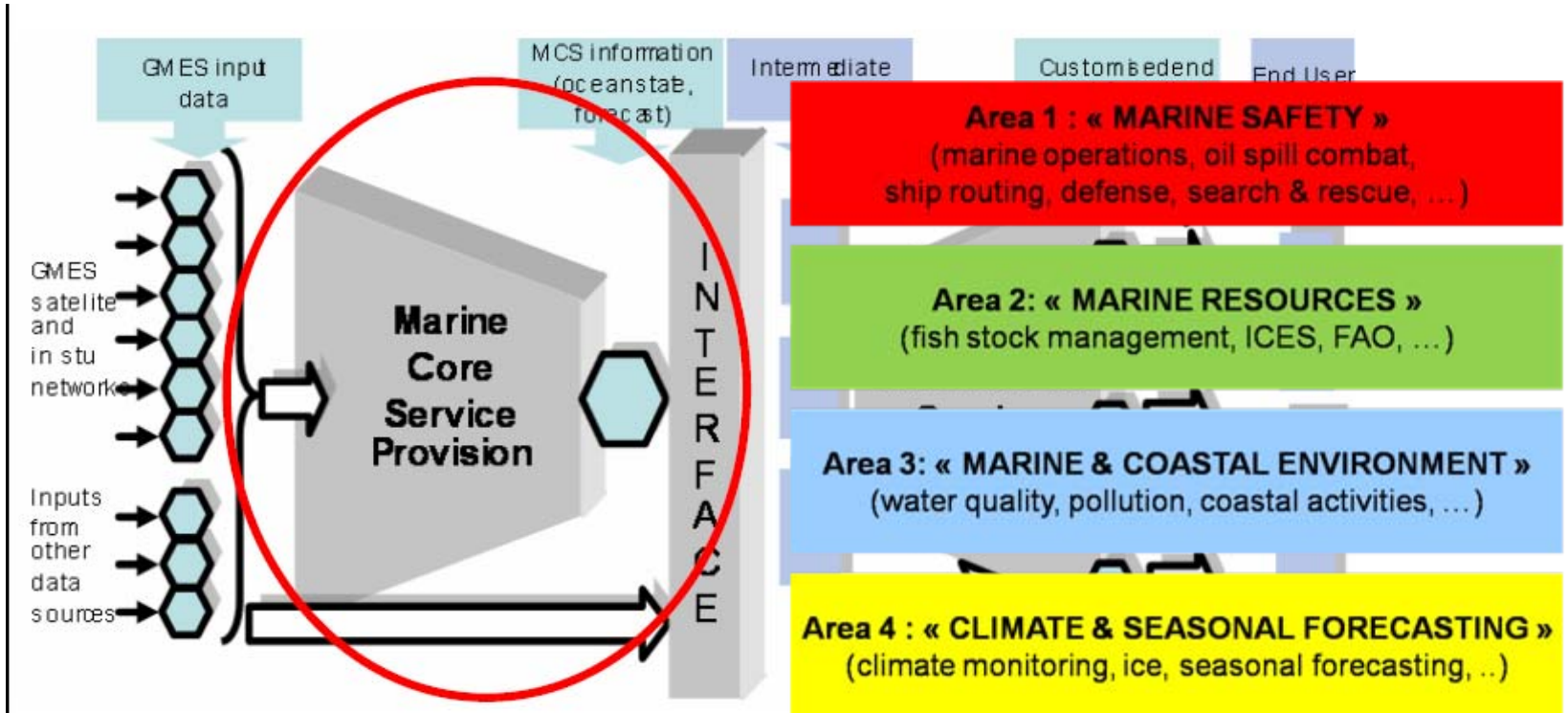
→ **2009 – 2010 – 2011 – 2012**



**61 PARTNERS
FROM 29 COUNTRIES**
are involved in the project

A clear (and limited) role in the value chain

Marine Core Service



Observing

Describing

Deciding

The Production Units (PU)

Marine Core Service

5 Thematic Assembly Centres

Observations

Sea Level

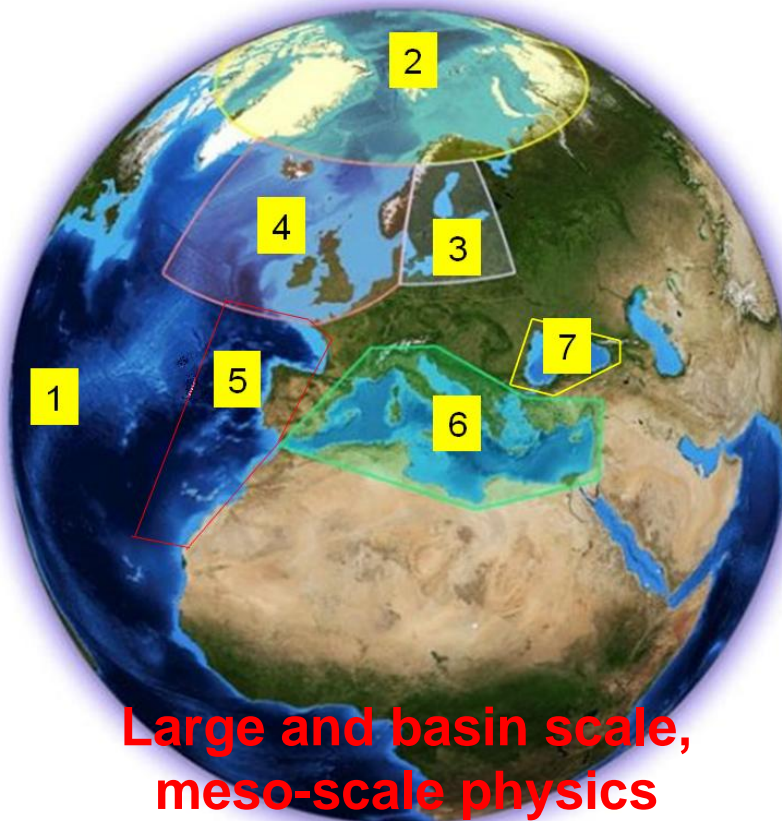
Ocean Color

Sea Surface Temp.

Sea Ice & Wind

In Situ

7 Monitoring and Forecasting Centres



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

Large and basin scale,
meso-scale physics



Data management & sustainability of systems

Marine Core Service

SALP mission – Altimetry

*Production Unit with delivery commitments
(service level – OLA)*

Archival center
SIPAD server

Timely delivery
& aggregation
center
ATOLL server

HMA
Satellite
Measurements
(mono
satellite,
level 2)

MyOcean
Ocean
Observations
(multi
satellite)

Access means depending on
user needs, product level & mission appartenance,
timeliness & long term commitments.

Applying data policy, user right, ascending & descending traceability

1. User request

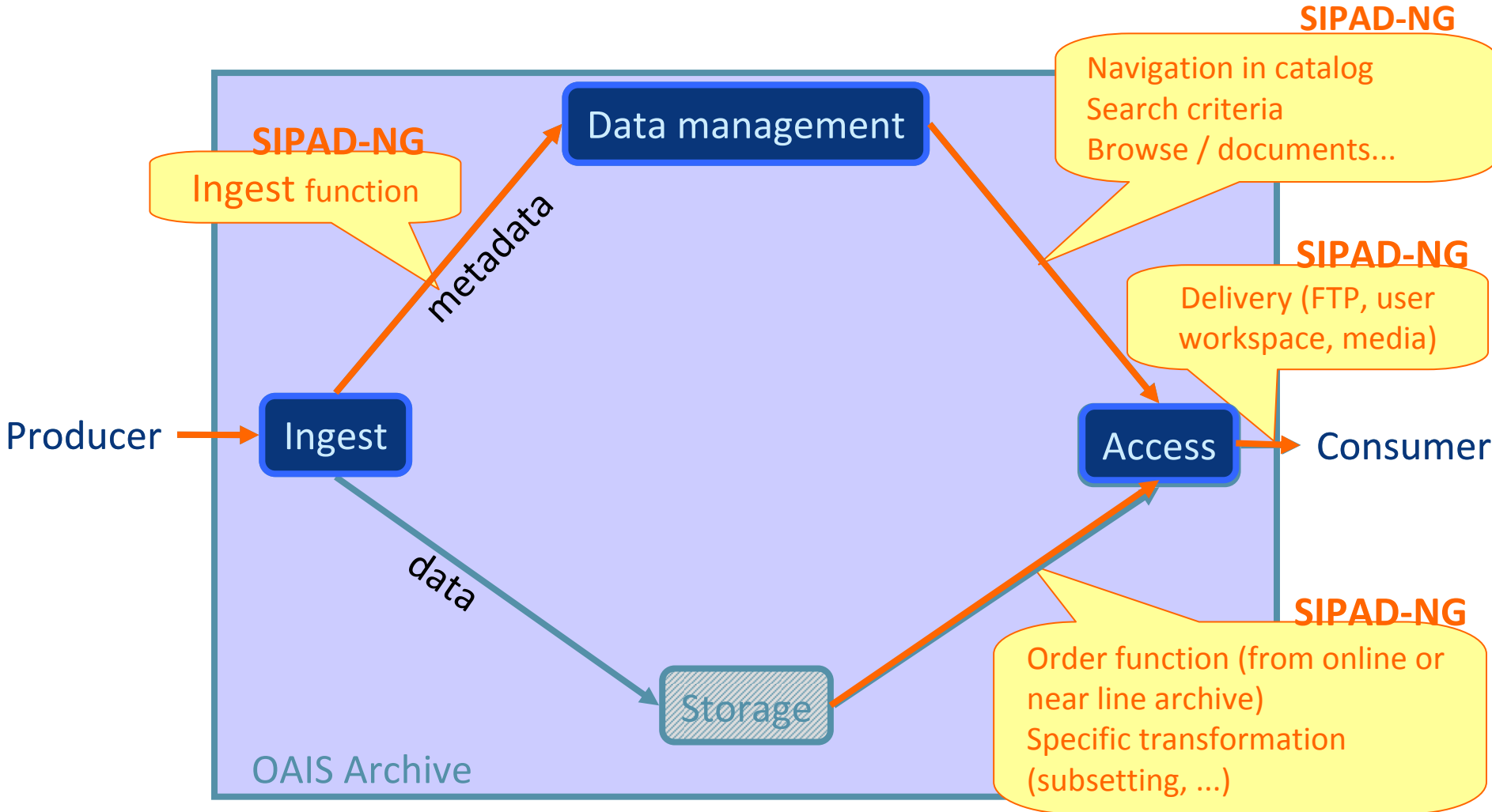
- Ocean currents
- Gridded maps
- Mediterranean sea products, multimission synthesis
- 10 years and subscription for timeseries
- Gilbratar straight extraction
- Numerical data needed

2. Request analysis

- 9 years distributed on archival server
 - delayed time products –
- Last year distributed on line via Thredds server
 - delayed time products –
- Timely delivery distributed online via Thredds server
 - near real time products ,
 - daily update of weekly data (past) –

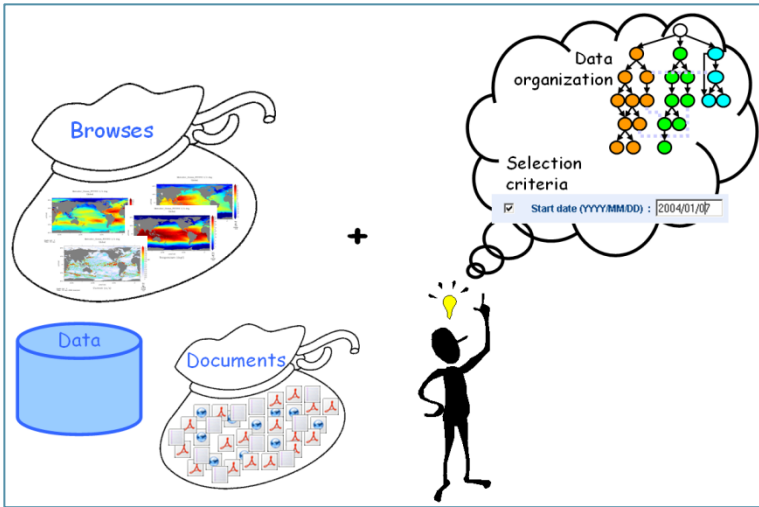
3. Transmit orders

- < Archival server (in once or in sandbox till readiness)
- < An alert send for the last year product readiness
- < An alert send each week, for updated delivery



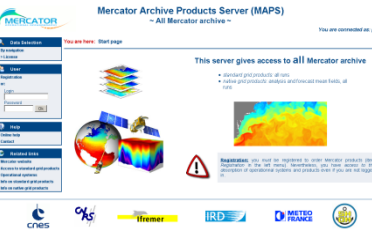
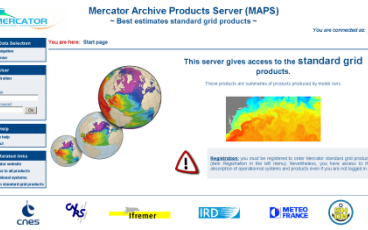
Adaptation of SIPAD-NG to a project

Dictionary definition



First interest:
 Quick achieving of a prototype allowing to:

- access to real data
- refine metadata model



Second interest:
 Development of **web user interface** by adapting the « basic » one offered with SIPAD-NG

Operational data access system

ember 2009 – CLS / CNES

2 ways of accessing archives

Marine Core Service

direct access to archive via the SIPAD-NG catalog

access to a « catalog of catalogs » which accesses to archives via Web Services (SIPAD specific, HMA compliant, ...)

Ex: Mercator-Ocean

Ex: AVISO

...

Project N archive

Project 1 archive

Project 2 archive

SIPAD-NG

SIPAD-NG

SIPAD-NG

WS

www

WS

www

WS

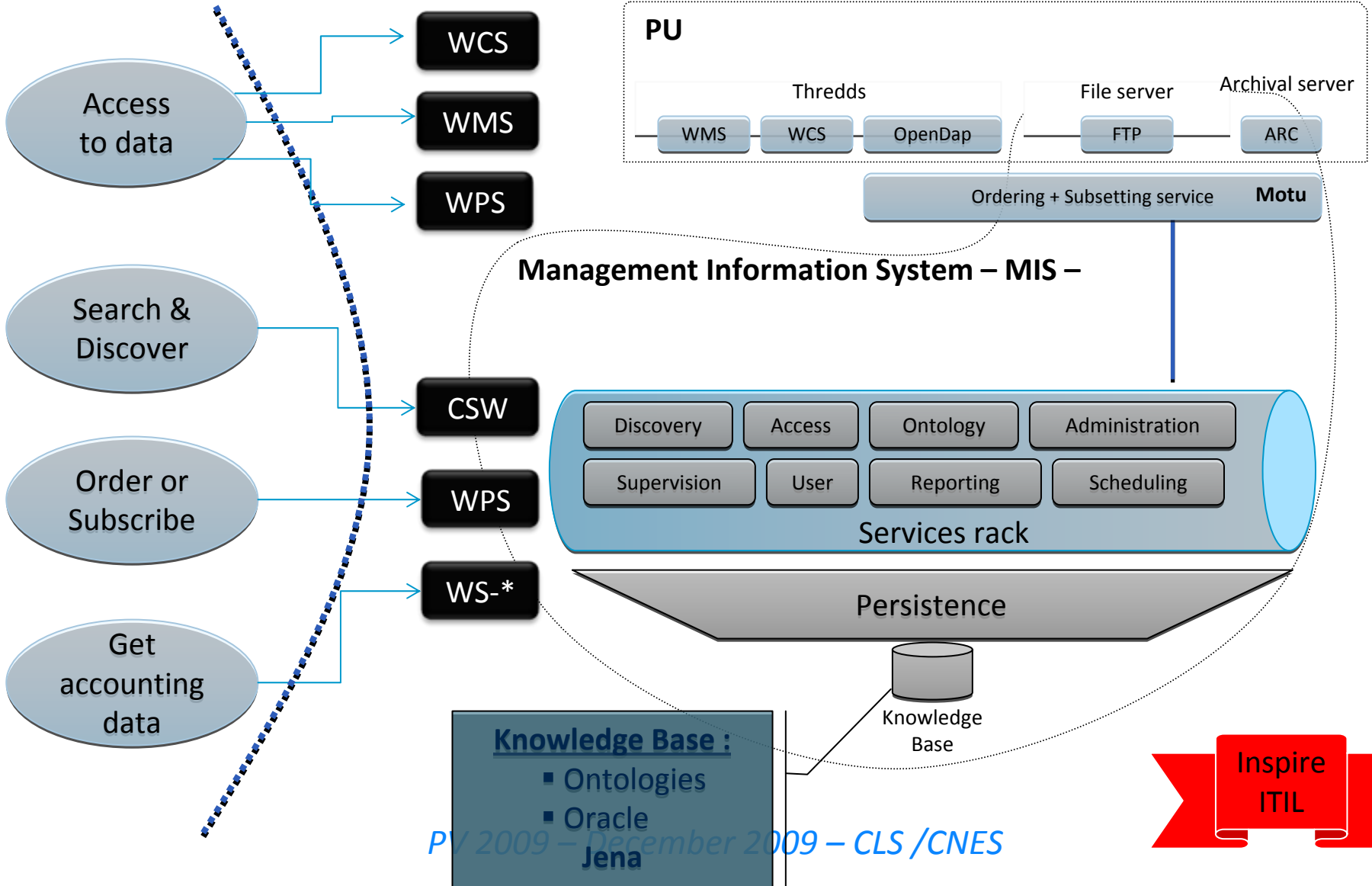
www

« catalog of catalogs », providing also end user services

Ex: ATOLL

ATOLL design

Marine Core Service



[DIAL-P] Data and metadata

Marine Core Service

| Data Type | Encoding* | Access Interfaces |
|--|--|-----------------------------------|
| Satellite swath | NetCDF | FTP SIPAD |
| Gridded data (model outputs, satellite) | NetCDF Climate and Forecast (CF) conventions | FTP Opendap/WCS/WMS** SIPAD |

* Harmonisation underwork (*netcdf 3 / 4, CF 1.4, CSML feature type*)

** Thredds data server (aggregation of time parameter associated to subsetting capabilities: parameters, space, time and depth)

| | |
|--|--|
| Inspire ISO profile* (ISO/TC211 19115,19119,19139) (statistic & dynamic information) | Ontology & vocabulary web services** : SKOS vocabularies + URIs , GEMET, SEADATANET |
| + Inventory module for update of the dynamic information | + User module for transaction report |

* tested/validated by Humboldt Inspire implementation project ,
cooperative action in an ocean international framework

** english language

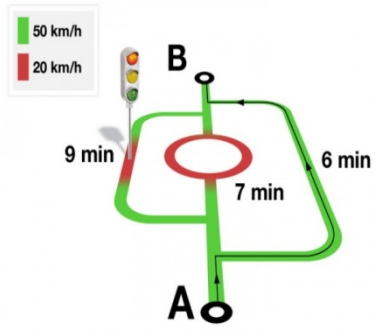
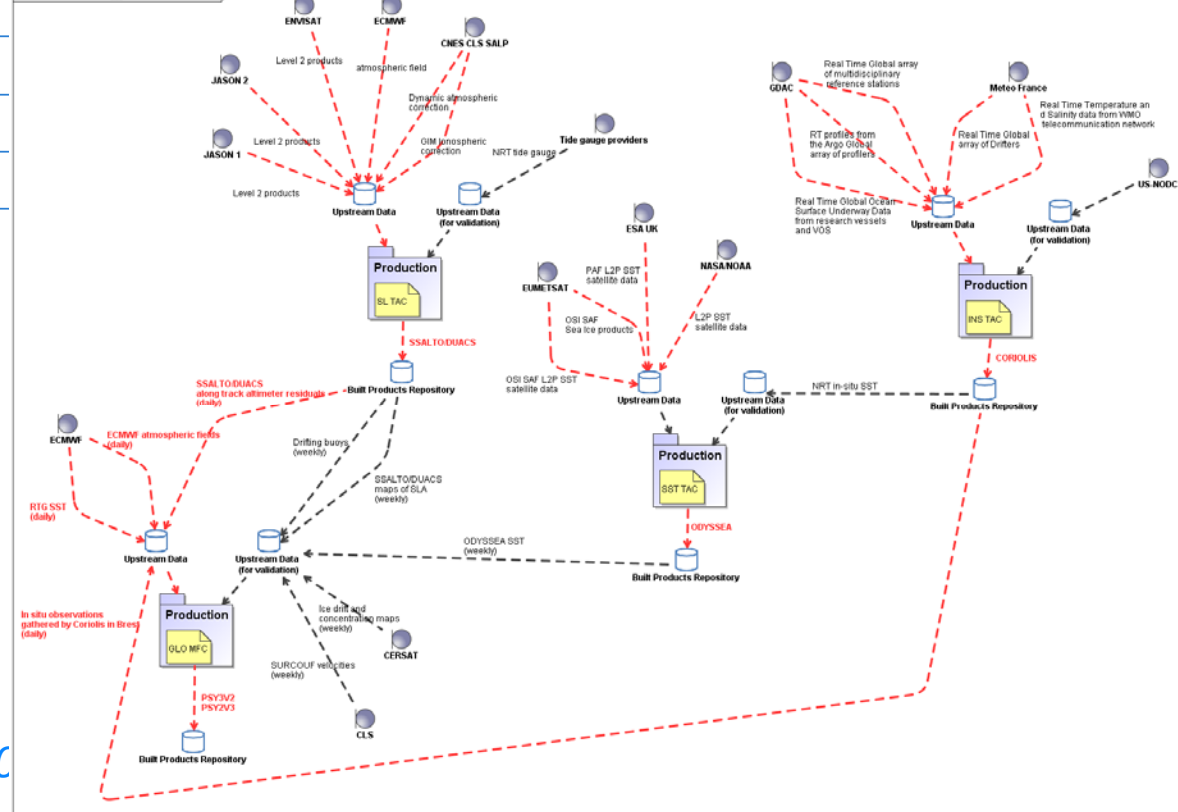
A basic supervision function to monitor product timeliness

Marine Core Service

Inventory on timeliness:
Merged NRT MSLA
motu-ftp-aviso

| Name | Model Prediction | Weight | Time coverage | Expected update | Effective update |
|----------------------------|------------------|---------|--|------------------------|------------------------|
| msla_oer_merged_h_21793.nc | | 1.63 Mo | 2009-09-01T00:00:00 2009-09-01T23:59:59 | 01/10/2009 03:00:00 | 01/10/2009 06:16:00 |
| msla_oer_merged_h_21792.nc | | | | | |
| msla_oer_merged_h_21791.nc | | | | | |
| msla_oer_merged_h_21790.nc | | | | | |
| msla_oer_merged_h_21789.nc | | | | | |

package 0: Top level [HL DFD - Sample GLO]



PV 200

[GMES] The traceability requirement (ascending & descending)



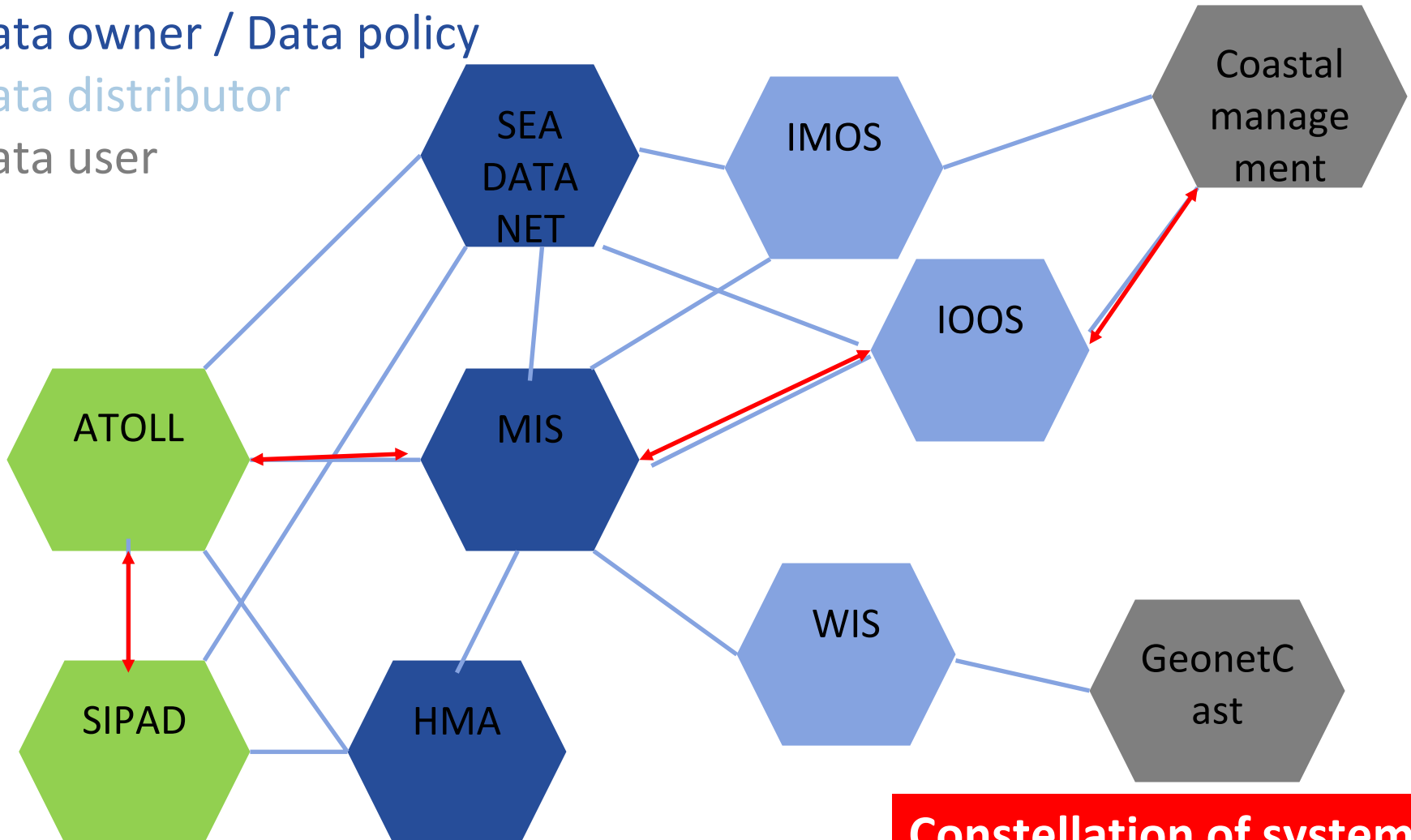
Marine Core Service

Data holder / Dissemination unit

Data owner / Data policy

Data distributor

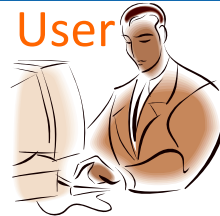
Data user



Constellation of systems

[GMES] The traceability requirement (ascending & descending)

Constellation of systems



Data User

Where does this product comes from ?
(in the value chain)

Data Distributor

Product origin

Who does what with which product ?

Data Owner

data server,
owner,
relay server
relay service

User detailed request

Data Holder

user information
data request parameters
transaction information



External provider