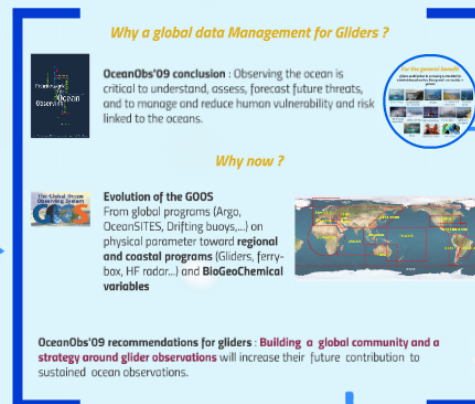
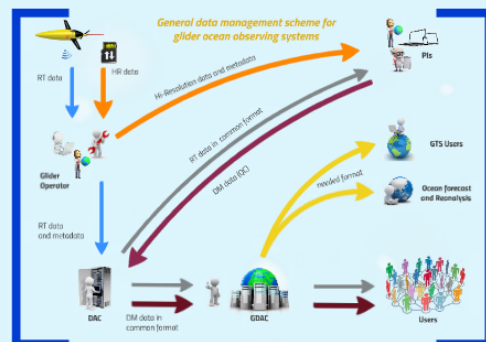


Data Management and Ocean Observing System

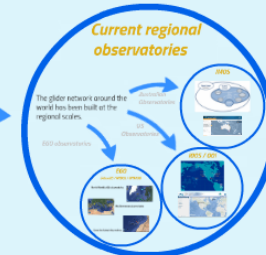
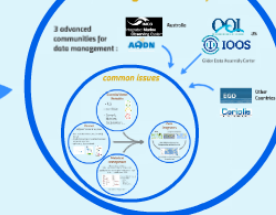
Toward a global data Management for Gliders

victor.turpin@locean-ipsl.upmc.fr

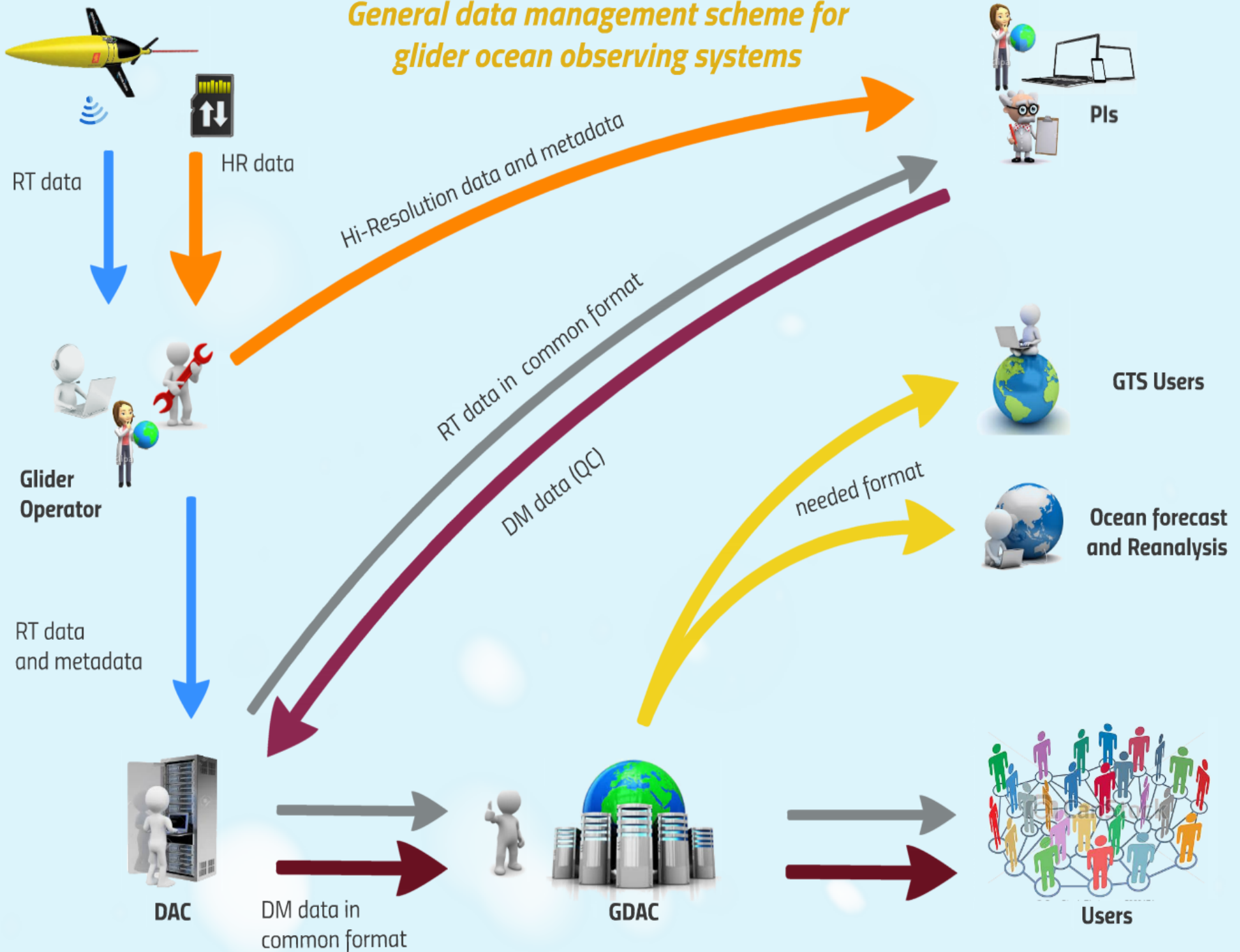


What to do next ?

Gliders global data management today



General data management scheme for glider ocean observing systems



Why a global data Management for Gliders ?



OceanObs'09 conclusion : Observing the ocean is critical to understand, assess, forecast future threats, and to manage and reduce human vulnerability and risk linked to the oceans.

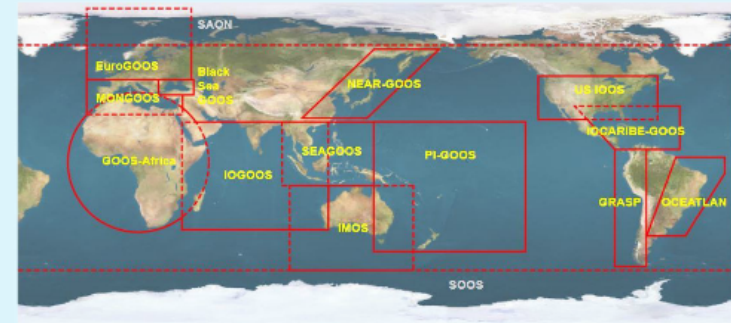


Why now ?



Evolution of the GOOS

From global programs (Argo, OceanSITES, Drifting buoys,...) on physical parameter toward **regional and coastal programs** (Gliders, ferry-box, HF radar...) and **BioGeoChemical variables**



OceanObs'09 recommendations for gliders : **Building a global community and a strategy around glider observations** will increase their future contribution to sustained ocean observations.

For the general benefit

gliders contribution to accessing ocean data for stakeholders, education, blue growth and society in general



climate change



coastal erosion and protection



harbours



management of ecosystems



renewable energy



fisheries and aquaculture



military activities



offshore activities



marine safety



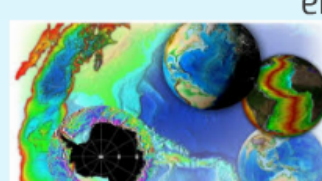
pollution & emergency



tourism



search and rescue

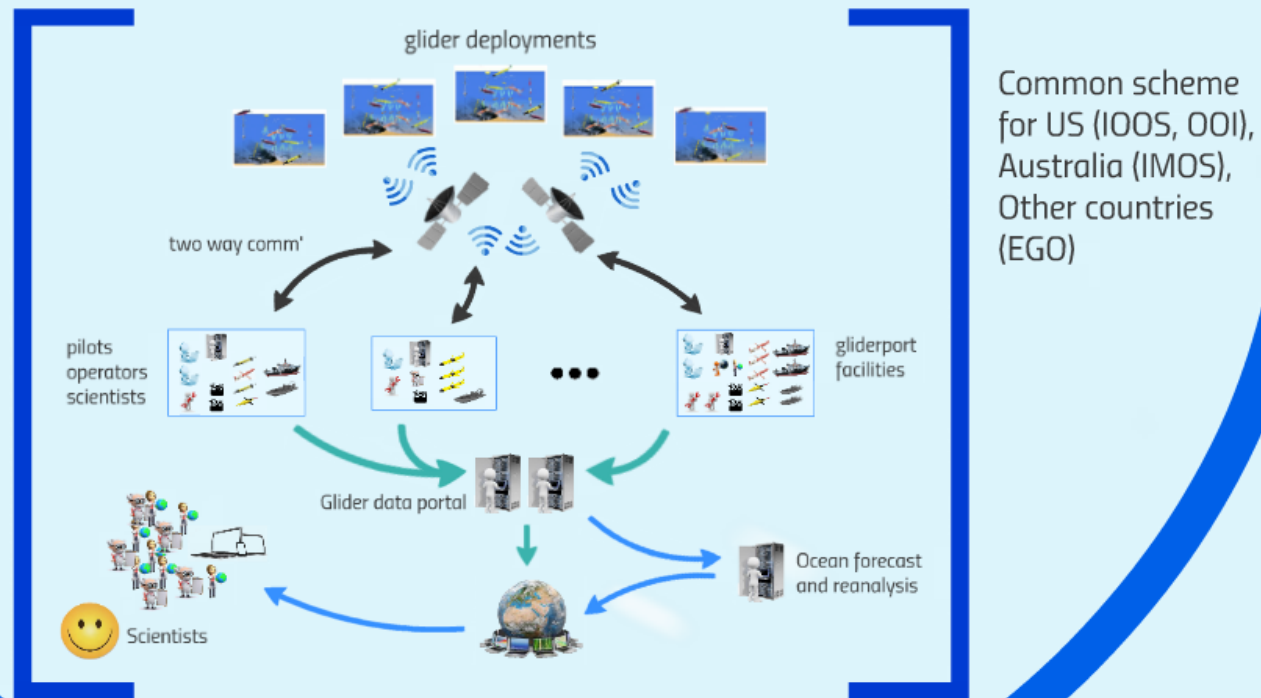


Ocean Sciences

Benefit for the glider community

As the other GOOS communities (Argo, OceanSites, DBCP) benefits from a global data management are :

- Long term backup
- Monitoring facilities (gap identification, area of interest,...)
- Traceability up to scientific publications
- dissemination, access, outreach
- Facilitates studies in Ocean Sciences (modeling, Ocean Forecast and reanalyses, climate, reference data sets, development of common tools...)



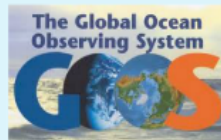
Why a global data Management for Gliders ?



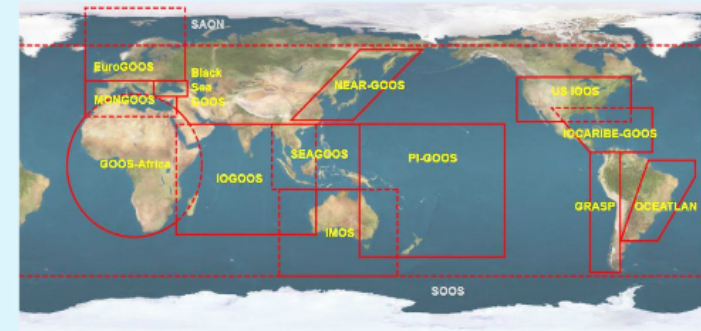
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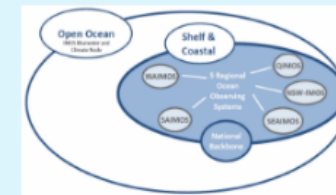
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Current regional observatories

The glider network around the world has been built at the regional scales.

*Australian
Observatories*

IMOS



*US
Observatories*

IOOS / OOI



EGO observatories

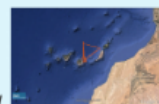
EGO

(AtlantOS / MEDOS / INTAROS)

North Atlantic drift observatories



Mediterranean observatories



Canarian Island Observatory

EGO

(AtlantOS / MEDOS / INTAROS)

North Atlantic drift observatories

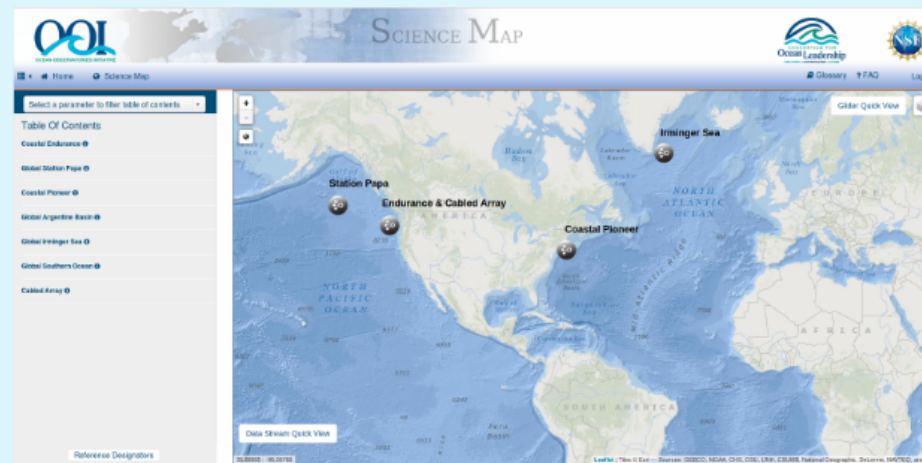


Mediterranean observatories

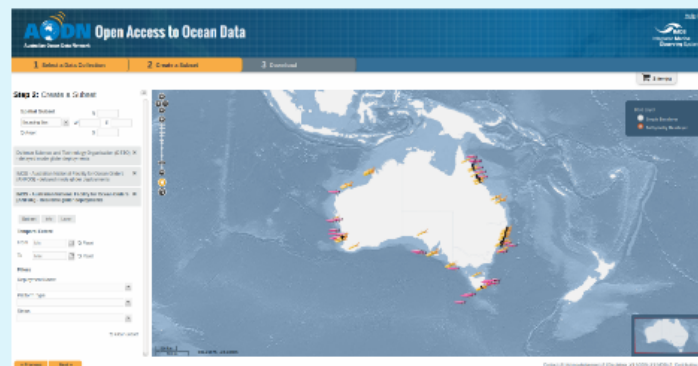
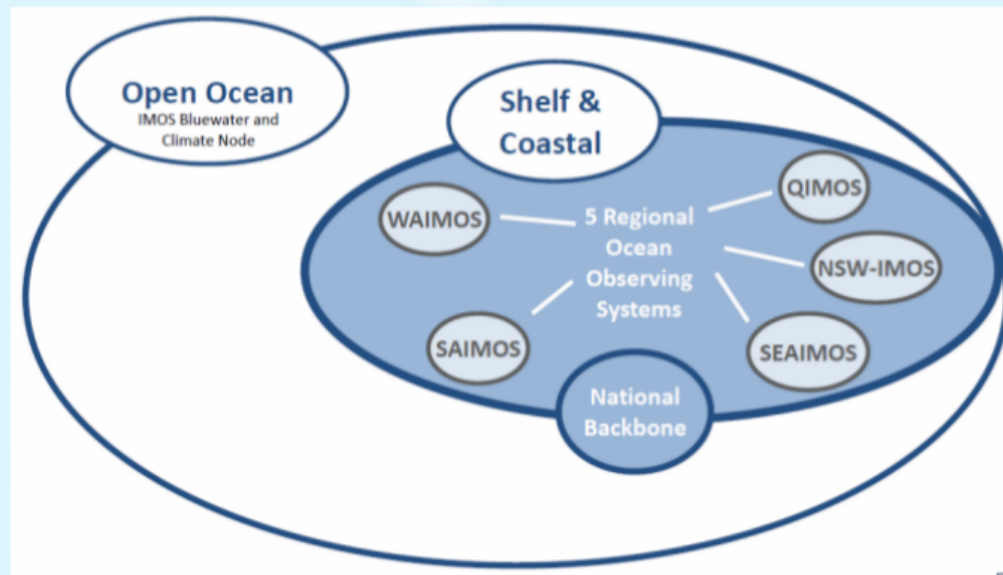


Canarian Island Observatory

IOOS / OOI



IMOS



Gliders global data management today

3 advanced communities for data management :



Australia



US

Glider Data Assembly Center



Other Countries



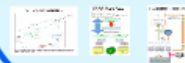
common issues

Essential Ocean Variables

- T, S
- O₂, Chl-a
- Current, Nutrient, Zooplankton, ...

Format

- 3 different formats all very close :
- Data available in time series, in netcdf format
- Small discrepancies in variable/dimension name and metadata
- Different QC flag standards



Metadata management

How to merge metadata ?
Which metadata are mandatory, needed, useful ?
Just files has been chosen to gather metadata and filling the header of netcdf file format (IOOS)



What about IOOS and IOOS ?

Need to improve metadata management :
- SWC
- Involving
- Metadata

Data integrators



common issues

Essential Ocean Variables

- T, S
- O₂, Chl-a
- Current, Nutrient, Zooplankton, ...



Format

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Metadata management

How to manage metadata ?
Which metadata are mandatory, needed, usefull ?

.json files has been chosen to gather metadata and filling the header of netcdf file format (EGD)



Need to improve metadata management :

- SWE
- Involving Manufacturers

What about IOOS and IMOS ?

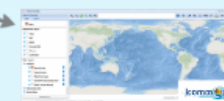
Data integrators

IOOS

European Integrators



data distribution discrepancies
Management of metadata is crucial



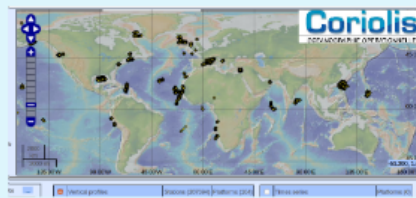
Lots of works need to be done at the integrators level

Data integrators

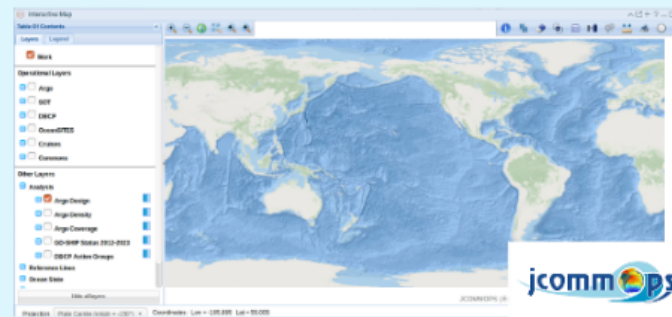
I00S



European Intergrators



data distribution discrepancies
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**Lots of work needs to be done at the
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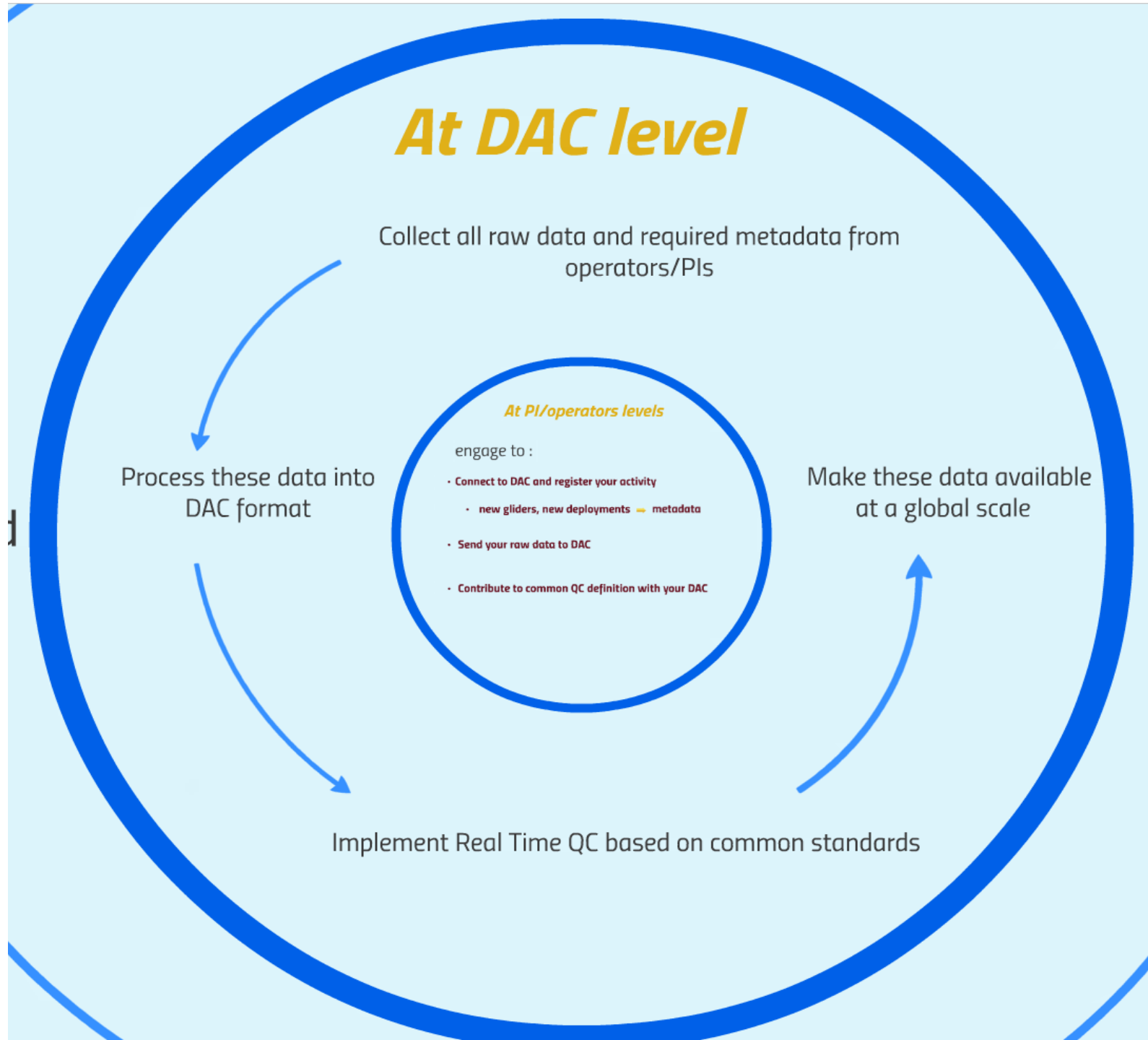
What to do next ?

At PI/operators levels

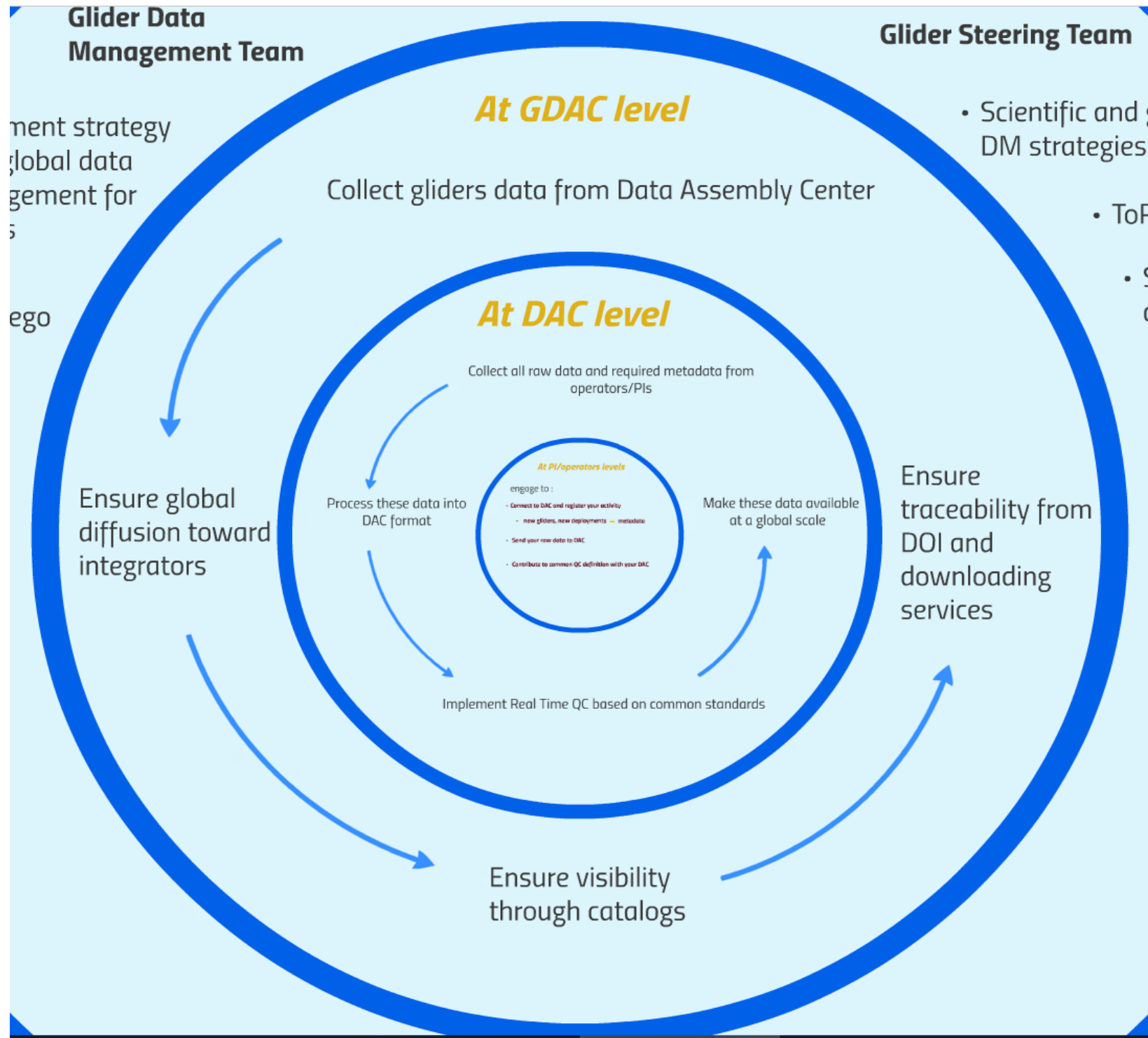
engage to :

- **Connect to DAC and register your activity**
 - **new gliders, new deployments ➡ metadata**
- **Send your raw data to DAC**
- **Contribute to common QC definition with your DAC**

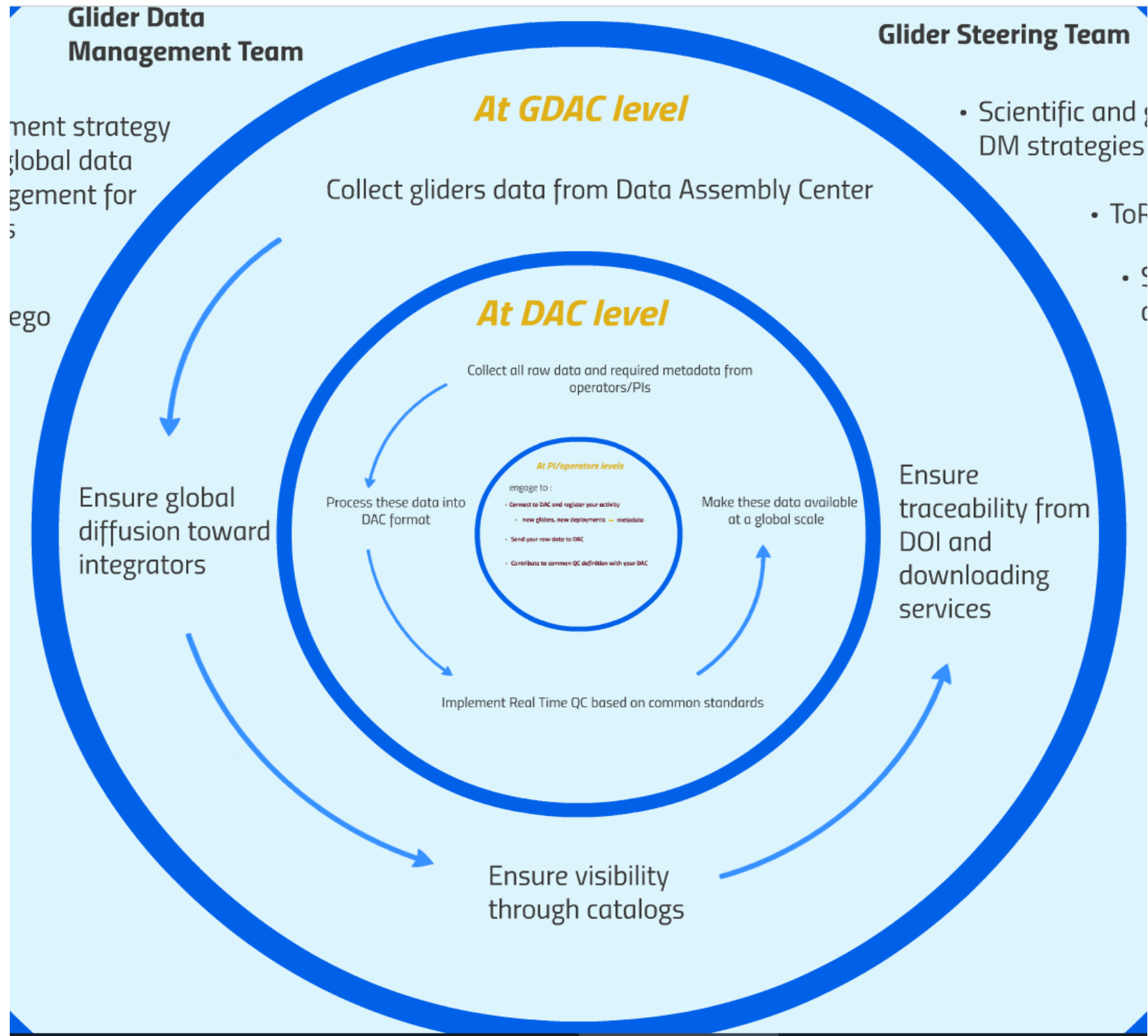
What to do next ?



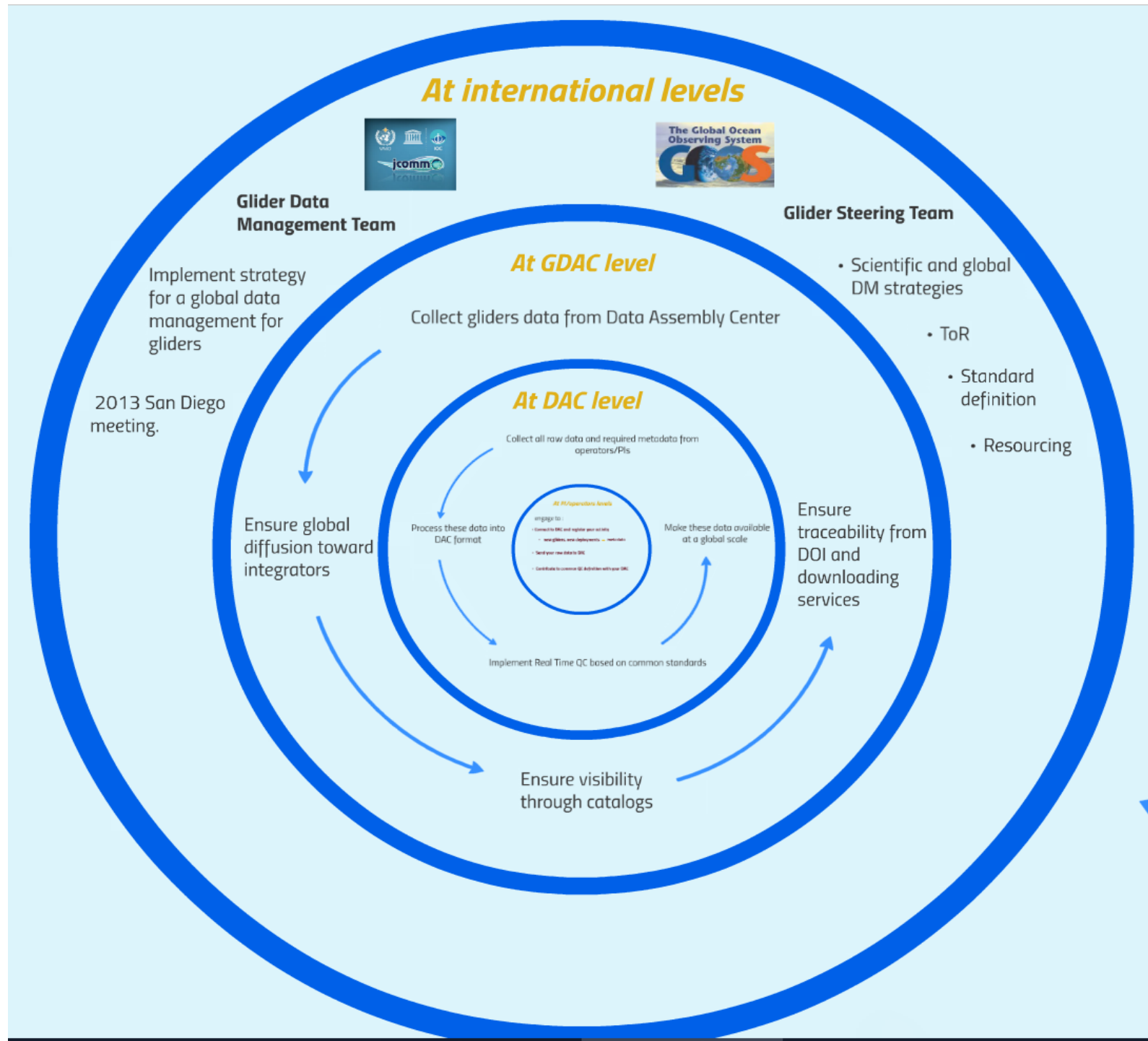
What to do next ?



What to do next ?



What to do next ?



General Conclusions :

Huge progress since OO'09 :

- Dynamic and well organized global community
- Data Management systems works properly
- Setting up a governance for the GOOS

Maintain momentum by :

- Defining scientific and DM strategy at global level
- Coordination within the 3 "advanced" glider data management pole
- Improving gliders data collection at integrators level
- Pursuing development of tools for the glider community (traceability, monitoring...)

What we need :

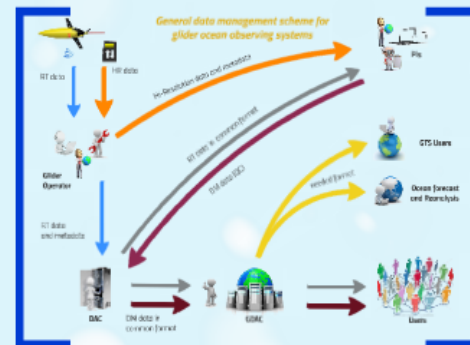
- **Connect to DAC**
- **Register your activity**
- **send data and metadata**

Data Management and Ocean Observing System

Toward a global data Management for Gliders

victor.turpin@ocean-ipsl.upmc.fr

AtlantOS



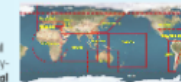
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Current regional observatories

