

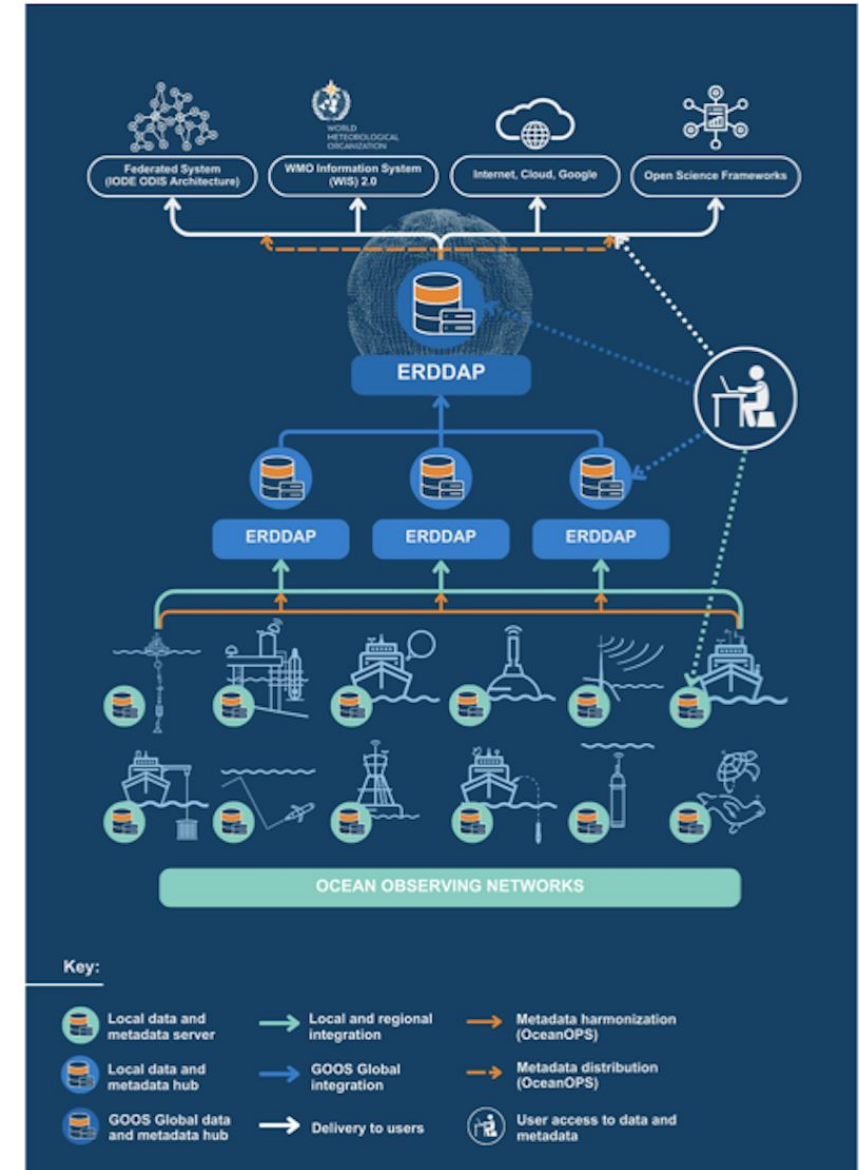
# OCG Cross-Network Data Implementation Strategy

## Why?

- Many existing or developing data strategies
  - WMO Unified Data policy
  - Revision of IOC Strategic Plan For Data
  - **UN Decade Data Strategy**
- Ocean community pushing for compliance with FAIR data principles – what does that mean?

This Implementation Plan is an effort to define specific and actionable ways OCG network/programs can move towards FAIR compliance

- Improve (meta)data discovery, accessibility and usability for all stakeholders
- Improve access to distributed (meta)data endpoints through federated, uniform data services



# OCG Cross-Network Data Implementation Strategy

## Data and Metadata Implementation Requirements:

- Real Time Data (2)
- Delayed Mode Data (4)
- Metadata (3)
- Best Practices (3)



*GOOS OCG Data Implementation Requirements*

Real Time Data	Metadata
OCG-R1	OCG-R7
Data shall be exchanged in real time (with minimum delay) via the WIS/GTS of the WMO in approved formats/templates.	Networks shall have a defined uniform metadata content that includes at least the minimum OceanOPS requirements, thereby ensuring that they are compliant with the WIGOS metadata requirements. Note that OceanOPS is the authoritative source through which WIGOS metadata are submitted to OSCAR for all oceanographic and marine meteorological platforms.
OCG-R2	OCG-R8
Data shall be available in real time or near-real time on the Internet through interoperable services (preferably ERDDAP) freely and without any restriction. Community agreed quality control procedures shall be applied in real-time and adjusted values made available when possible.	Discovery and Use metadata shall be based upon a well-documented community standard, including a persistent and unique WMO/WIGOS identifier allocated by OceanOPS and use controlled vocabularies.
OCG-R3	OCG-R9
Each network shall have at least one identified Global Data Repository. This Global Data Repository may be one or multiple (mirrored) repositories, or they may be data endpoints that can be federated into a virtual global repository.	Platform and Discovery metadata shall be exchanged with OceanOPS utilizing machine-2-machine services.
OCG-R4	OCG-R10
Data and data products shall be available through publicly accessible ERDDAP services. These distributed ERDDAP services will be federated under a single OCG ERDDAP focal point.	Each network should have an active data team.
OCG-R5	OCG-R11
NetCDF is the preferred data file format, though ERDDAP services can act as a data format translator if needed.	Each network should have identified best practices on data infrastructure and workflows and data Q.C.
OCG-R6	OCG-R12
Additional platform metadata should be available through the Global Data Repository and harvestable by machine-2-machine services.	Raw/real-time data, delayed mode data and data products should be archived and have unique identifiers created (i.e., Digital Object Identifier [DOI]) for citation and reuse.
<b>Best Practices</b>	

## Next step: Implementation!

- ERDDAP services where needed for delayed mode data and metadata
- Federate distributed ERDDAP nodes in OCG focal ERDDAP
  - Datasets from AniBOS, DBCP, GLOSS, GO-SHIP in place
- Leverage these ERDDAP services for metadata exchange with OceanOPS as well as IODE Ocean Data Information System (ODIS)

# Ocean Observing System Report Card 2023

GOOS Observations Coordination Group

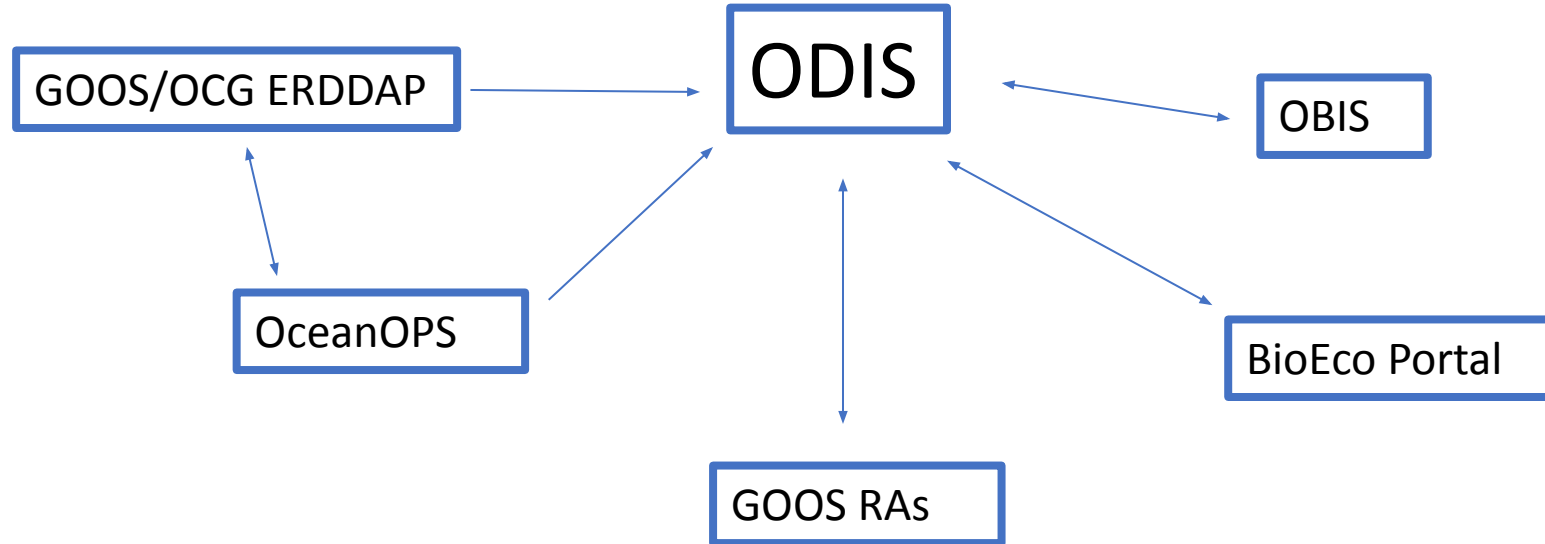


## Tracking Progress towards Implementation

GOOS <i>In situ networks</i> <sup>1</sup>	Implementation	Data & metadata			Best practices <sup>6</sup>
	Status <sup>2</sup>	Real time <sup>3</sup>	Archived high quality <sup>4</sup>	Metadata <sup>5</sup>	
Ship based meteorological - SOT	★★★	★★★	★★★	★★★	★★★
Ship based oceanographic - SOT	★★★	★★★	★★★	★★★	★★★
Repeated transects - GO-SHIP	★★★	Not applicable	★★★	★★★	★★★
Sea level gauges - GLOSS	★★★	★★★	★★★	★★★	★★★
Time series sites - OceanSITES	★★★	Not applicable	★★★	★★★	★★★
Coastal Moored buoys - DBCP	★★★	★★★	★★★	★★★	★★★
Tsunami buoys - DBCP	★★★	★★★	★★★	★★★	★★★
Tropical moored buoys - DBCP	★★★	★★★	★★★	★★★	★★★
HF radars	★★★	★★★	★★★	★★★	★★★
Drifting buoys - DBCP	★★★	★★★	★★★	★★★	★★★
Profiling floats - Argo	★★★	★★★	★★★	★★★	★★★
Deep & biogeochemistry floats - Argo	★★★	★★★	★★★	★★★	★★★
OceanGliders	★★★	★★★	★★★	★★★	★★★
Animal borne sensors - AniBOS	★★★	★★★	★★★	★★★	★★★

Click on network names for links to each network. Click on implementation stars to view related KPIs. More information on networks sta

## What could a cross-GOOS infrastructure look like?

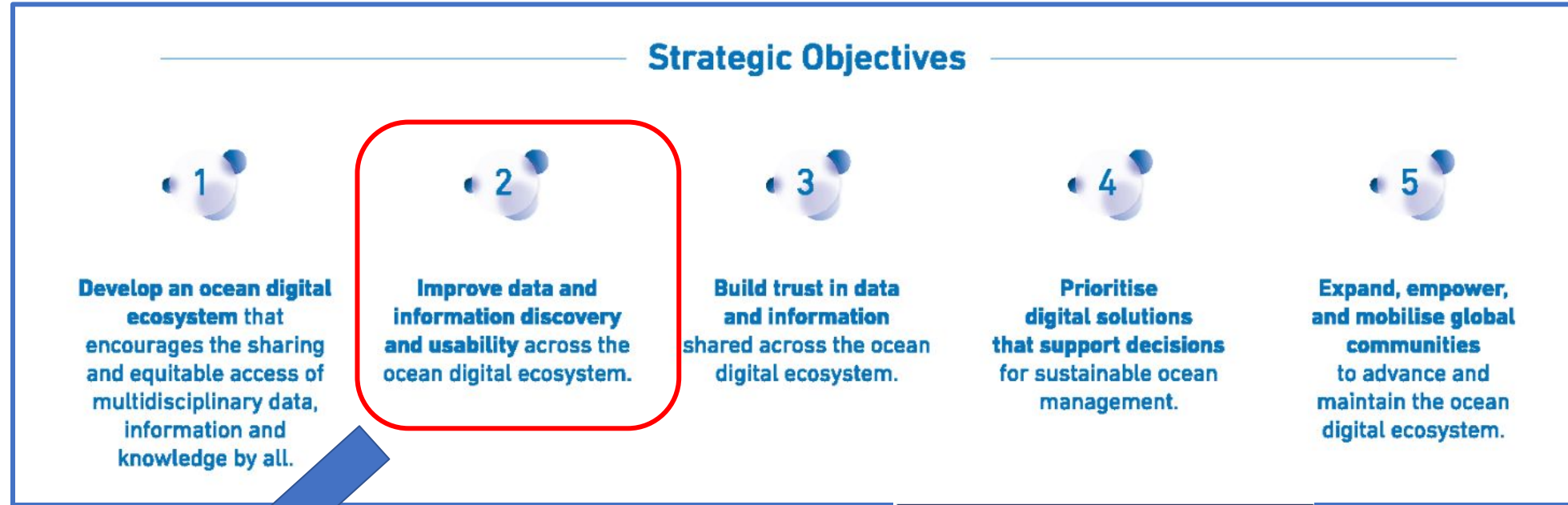


One common element is potentially a platform (ship, mooring, USV, etc)

- How to link data at several repositories to the platform?

Could a unique OceanOPS platform ID link all of these datasets back to the platform?

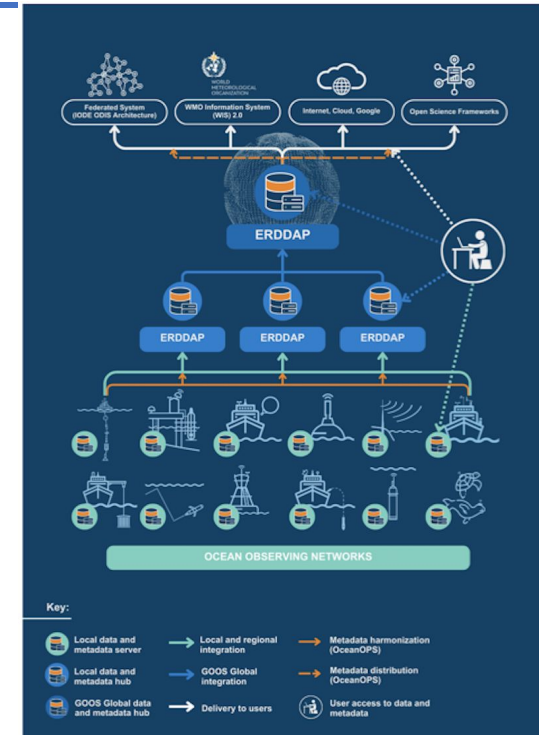
# Integration with UN Decade Data Strategy



## Ocean Decade Data Strategy Implementation

Action: Data publishers should deploy free and open (non-proprietary) data dissemination tools, capable of data mediation....services should provide data users easy access to enable discovery and use of data/metadata in preferred tools.....

## GOOS Cross-Network Data Implementation Strategy



# AMRIT Project

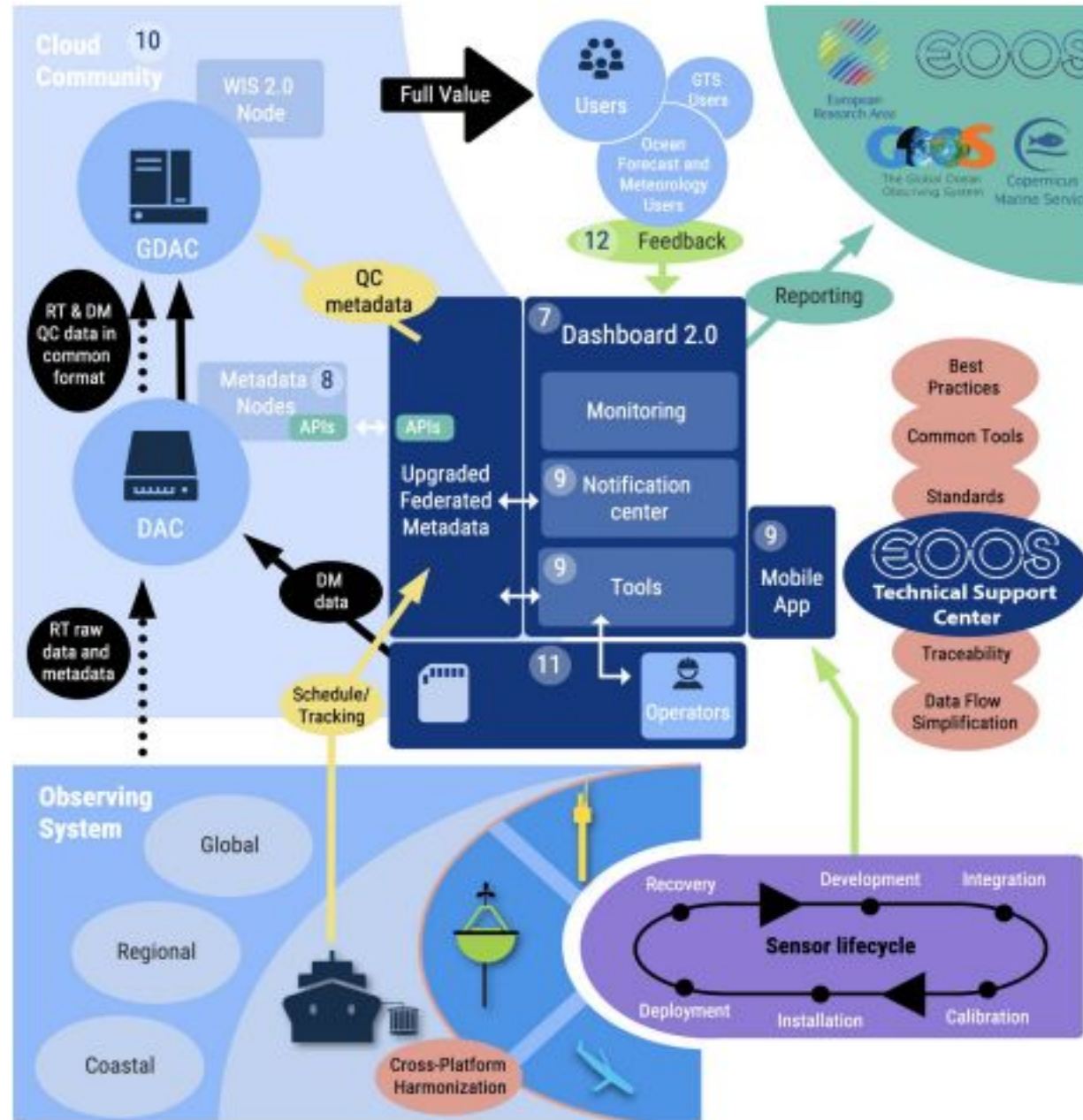


Figure 2. Scheme illustrating EOOSS TSC tools and services developed by WP 7-12:

- Web based dashboard**
- Real-time search engine on system capabilities
  - Interactive map, routine static maps
  - Metrics for implementation status data/metadata flows and uptake
  - GIS processing and analysis products,
  - Tools for platform/cruises registration
  - Tools for planning and running ops
  - Notification services
  - Data link to the cloud
  - Data/Metadata flow mapping
  - Report generator on system capabilities
  - User groups management interface
- Dashboard Mobile application**
- Cloud based community for open source developments**
- Overarching API for metadata exchange and PID allocation**
- Controlled vocabulary and ontologies server**
- Mobile Application to flash, register, track platforms/sensors**
- Helpdesk support centre)**
- Documentation including tutorial videos**