



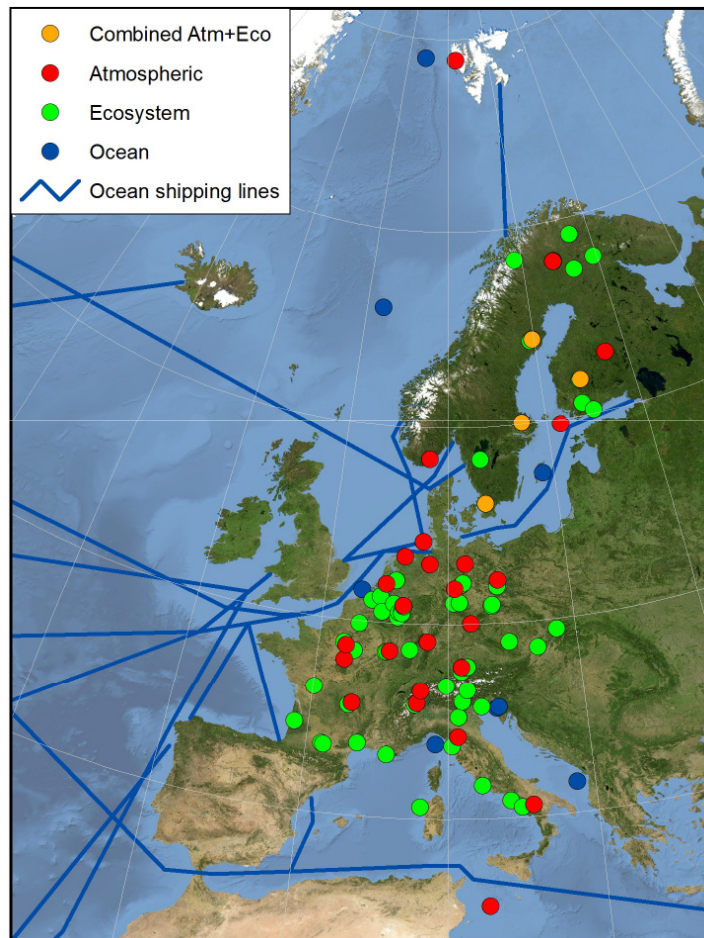
ICOS

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State of the art and perspectives of ICOS ERIC

Werner L. Kutsch, Director General

Current status of ICOS: 11 participating countries,
> 100 stations and VOS lines, 2016 fully operational

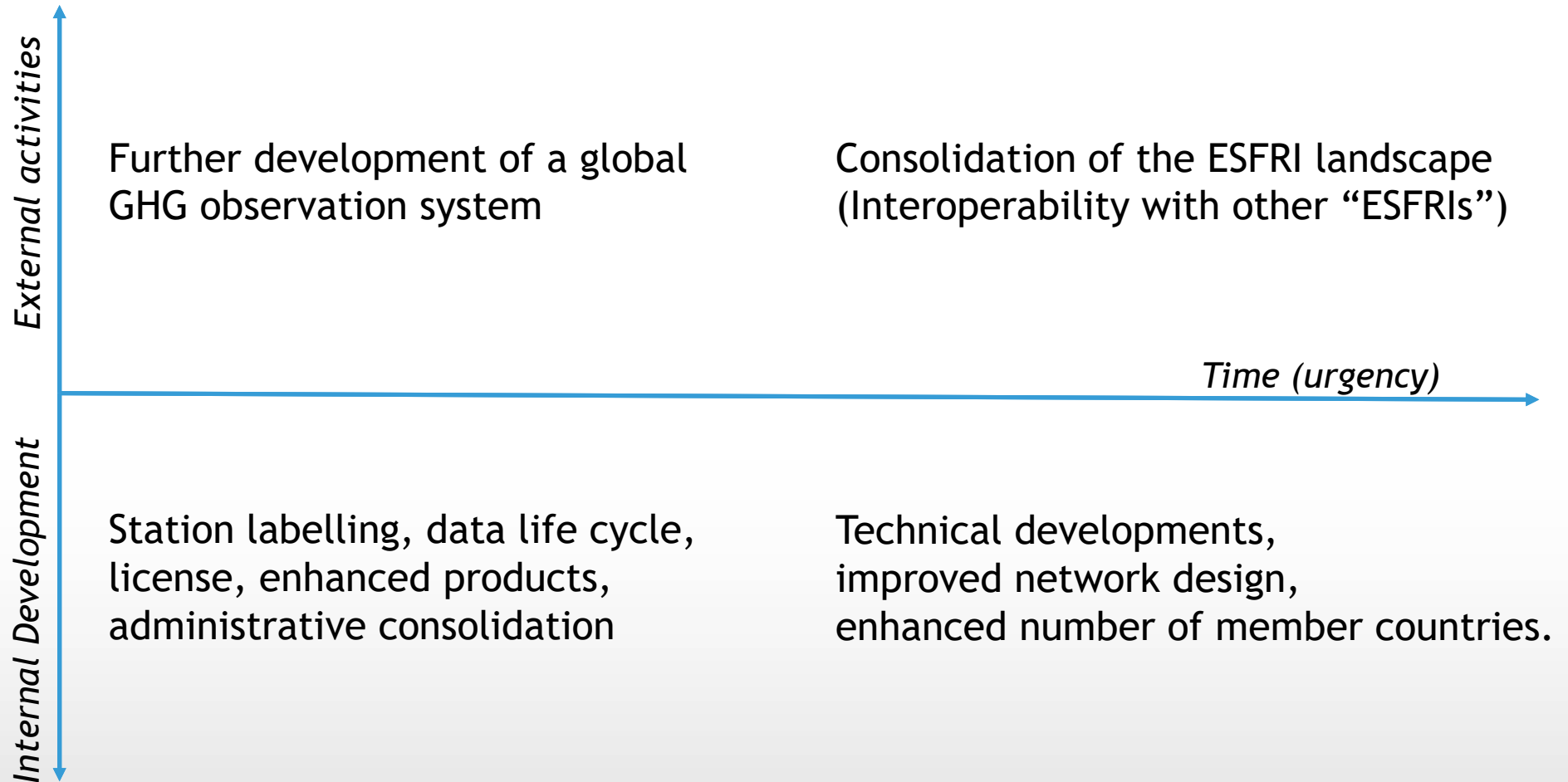


ESFRI ROADMAP 2016

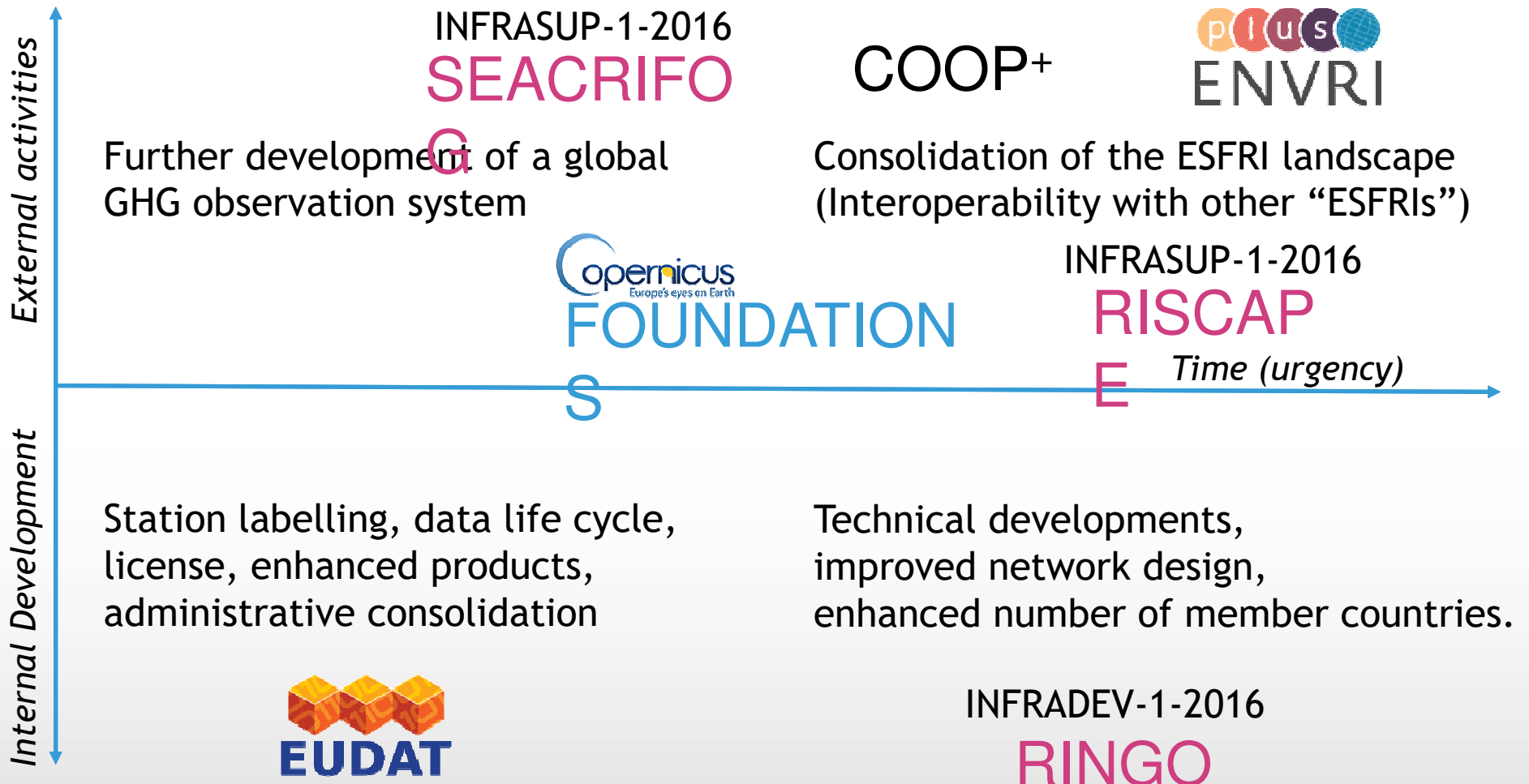
ICOS is a landmark!



ICOS will have four main activity fields



Support by H2020 (best case: 7 Mio € for ICOS)





ICOS

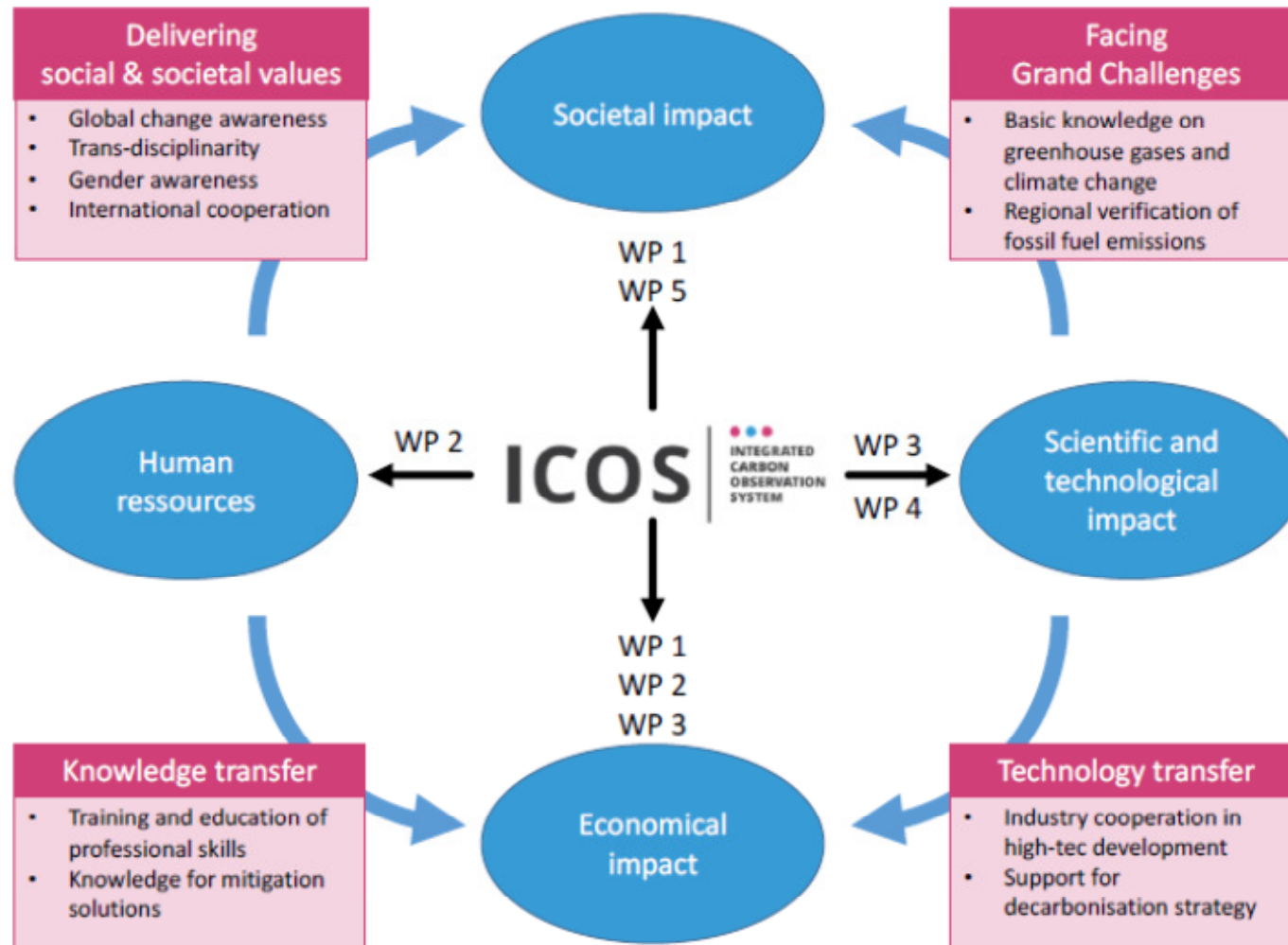
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**Readiness of ICOS for Necessities of integrated
Global Observation**

RINGO

Proposal addressing Horizon 2020 call INFRADEV-3-2015-2016

Impact



WP1: Increasing the impact of ICOS

- Analysis of requirements and possible impact of developing ICOS as European pillar of a global in-situ system resulting from COP 21
- Developing ICOS RI readiness to provide information on fossil fuel emissions (UHEI, ...)
- Developing the ICOS Flask sampling strategy (UHEI, MPI-BGC, ...)
- Developing ICOS RI readiness to provide information on ecosystem - river - stream - estuary - ocean carbon transport and GHG fluxes
- Enhancing the bridge between ICOS RI and satellite observations (UBremen, ...)



WP2: Enhancing ICOS membership and sustainability

- Building partnership with countries
- Support in building national network and training for managers in stakeholder liaison and resource acquisition
- Training workshops for scientists in candidate countries



WP3: Technical developments

- Exploration to apply new technologies for vertical profiles (GUF, UBremen, ...)
- Improving atmosphere measurements on voluntary observing ships (IOW, GEOMAR, MPI-BGC, ...)
- Moving towards an autonomous system to measure ocean surface carbon uptake in regions and seasons where merchant vessel- based systems are not suitable
- Making non-CO₂ - GHG eddy covariance measurements operational (TIAK, ...)
- Developing ICOS Ecosystem network to nodes for general Ecosystem observations

WP4: Improving data

- Developing metadata for ICOS RI (MPI-BGC, ...)
- Making legacy data available (TIAK, UHEI, ...)

WP5: Towards a Global Carbon and GHG observation system

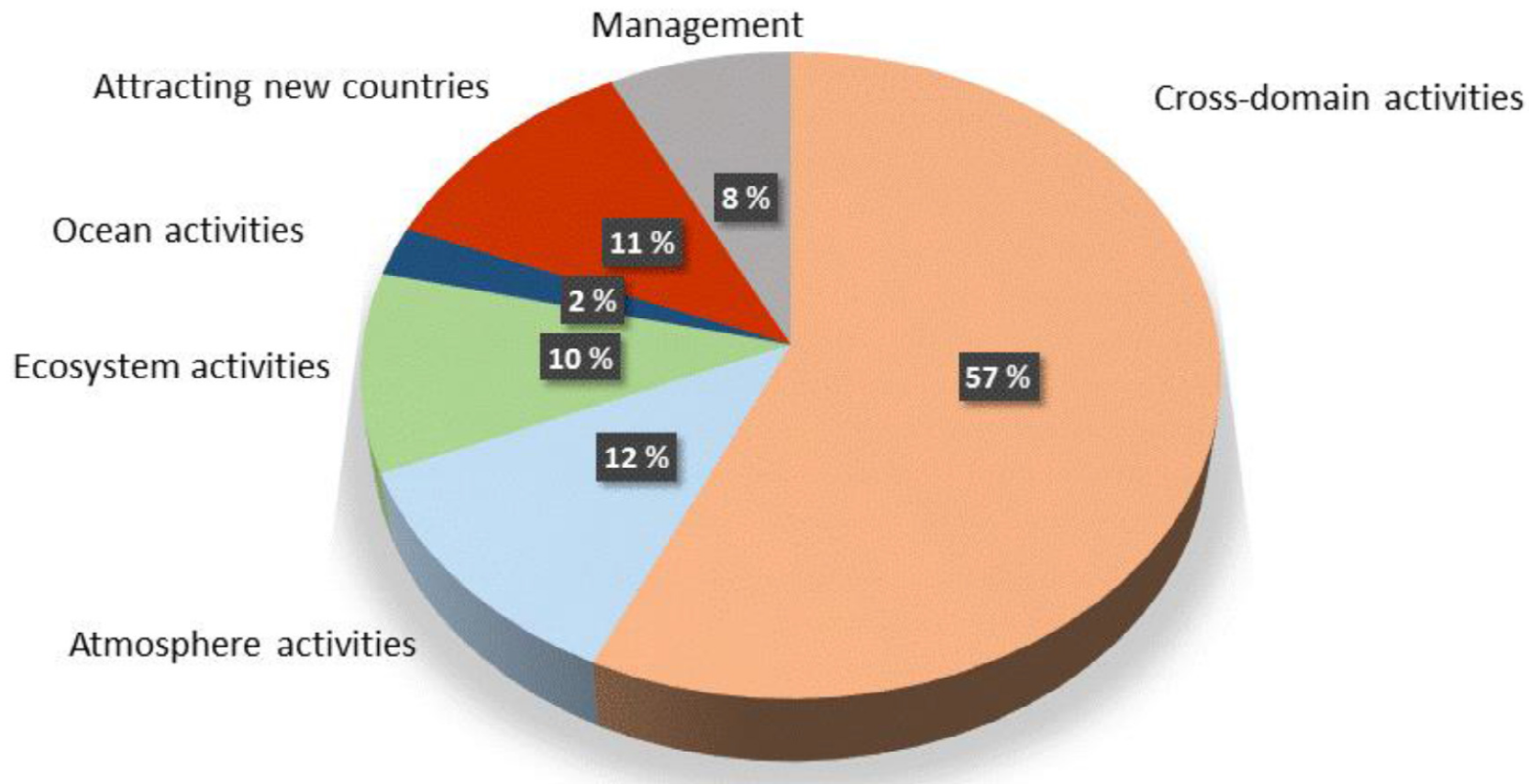
- Building stable cooperation with other regional observational networks

WP6: Project Management

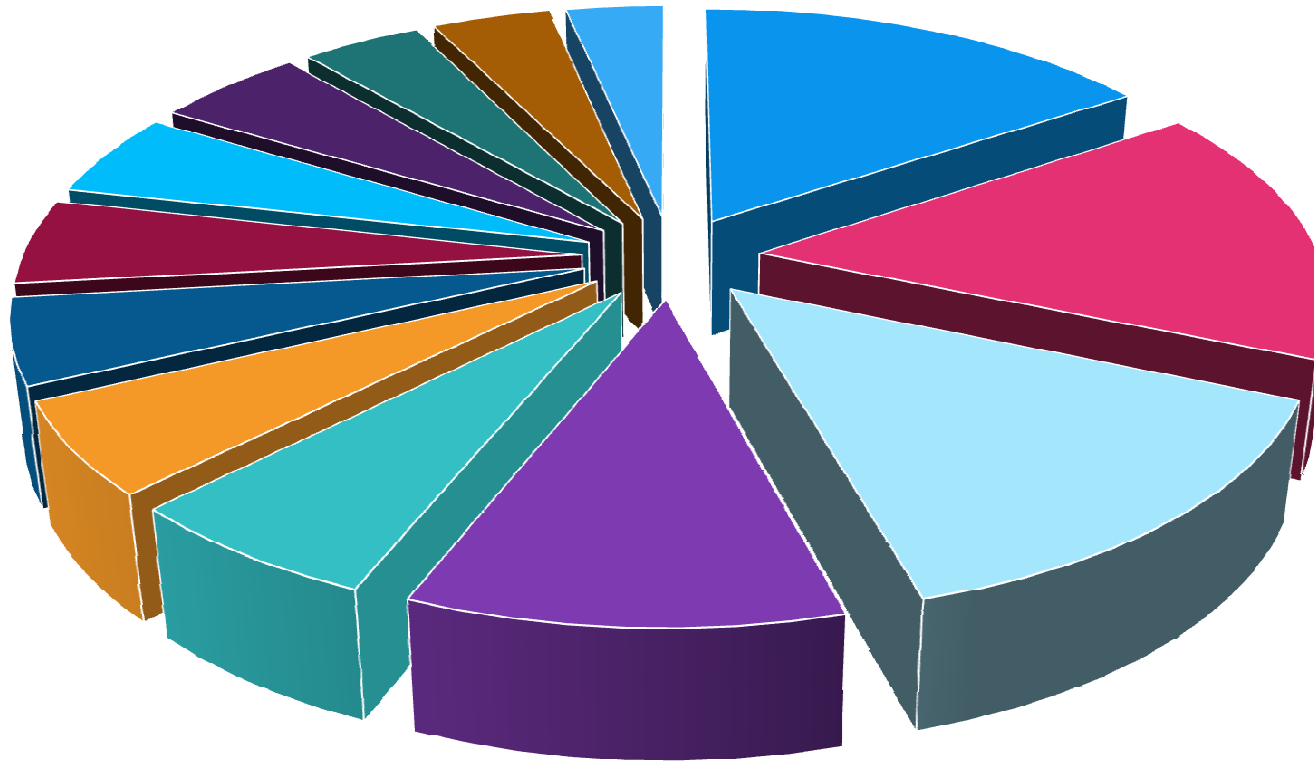


Budget (content-wise)

Ringo resources distribution



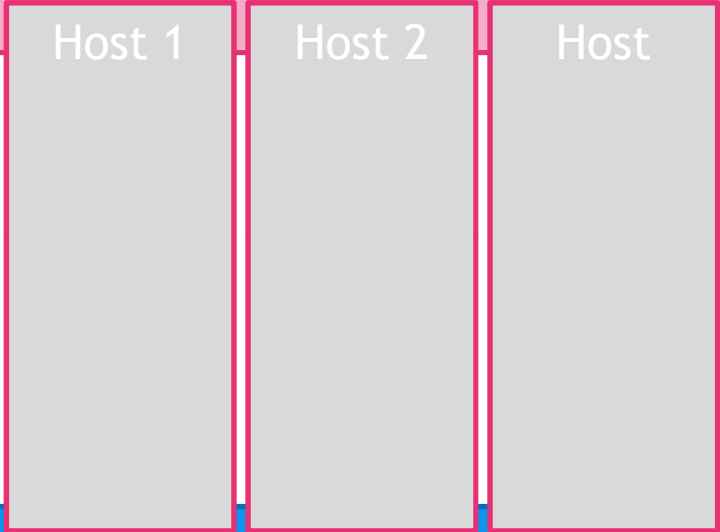
Budget (country-wise)



- France:
- Germany:
- ERIC
- UK
- Netherlands
- Swiss
- Italy:
- Belgium
- Finland
- Norway
- Czech Republic
- other countries
- Sweden



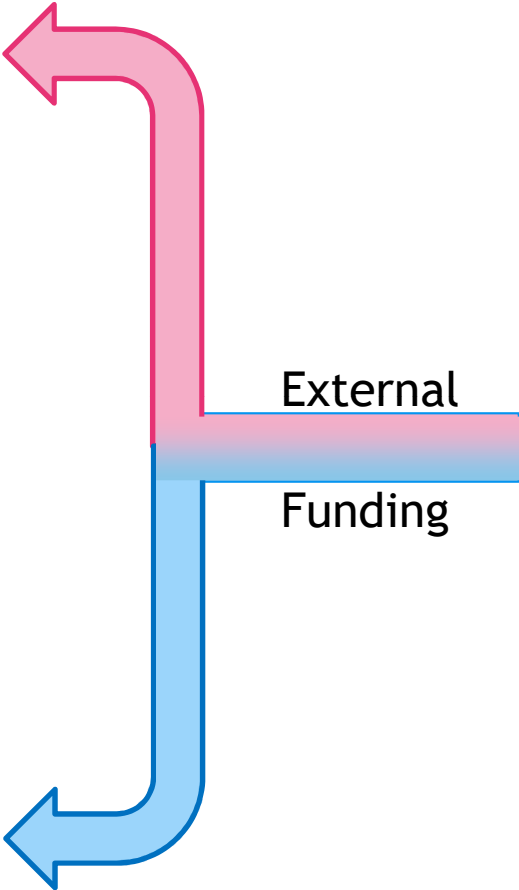
Science level



Administrational level



Operational level





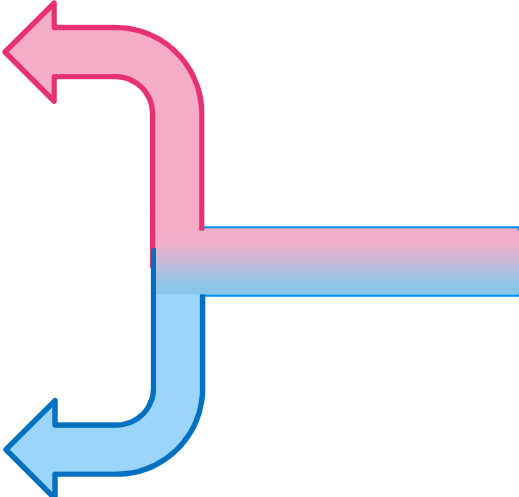
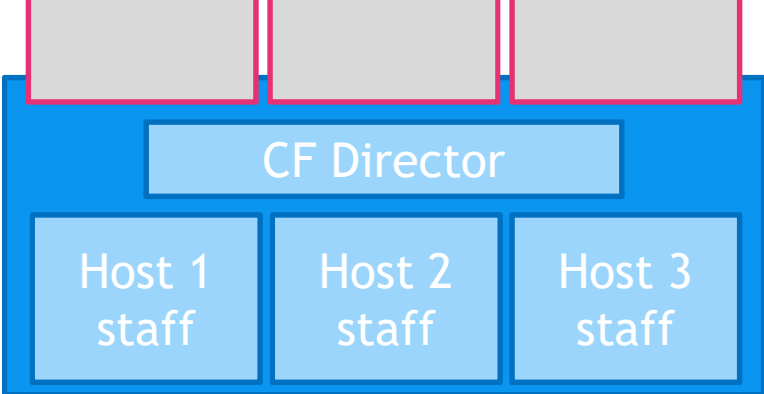
Science level



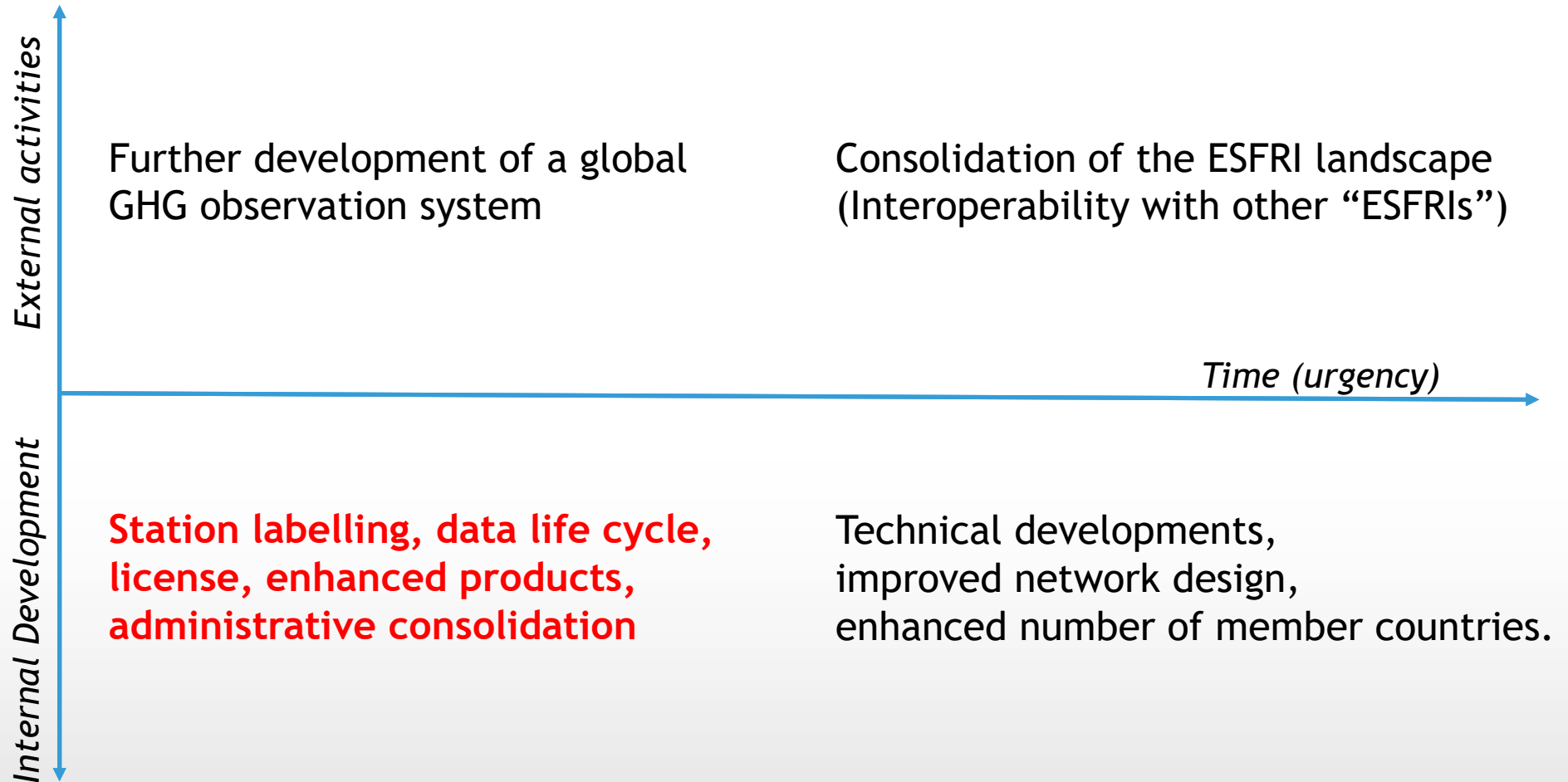
Administrational level



Operational level



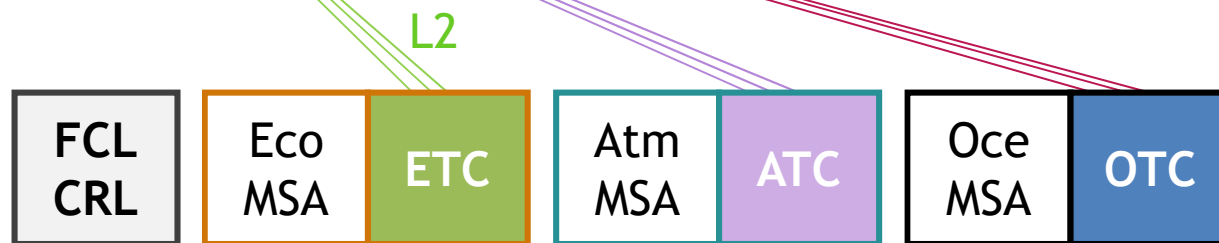
ICOS will have four main activity fields



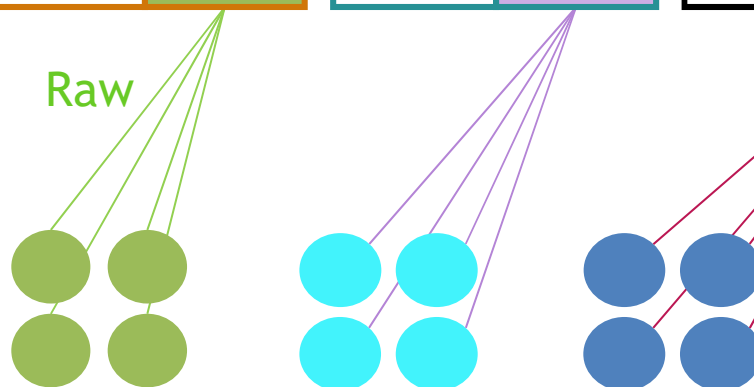
Three levels of ICOS / data



ICOS ERIC
Overall management,
data management

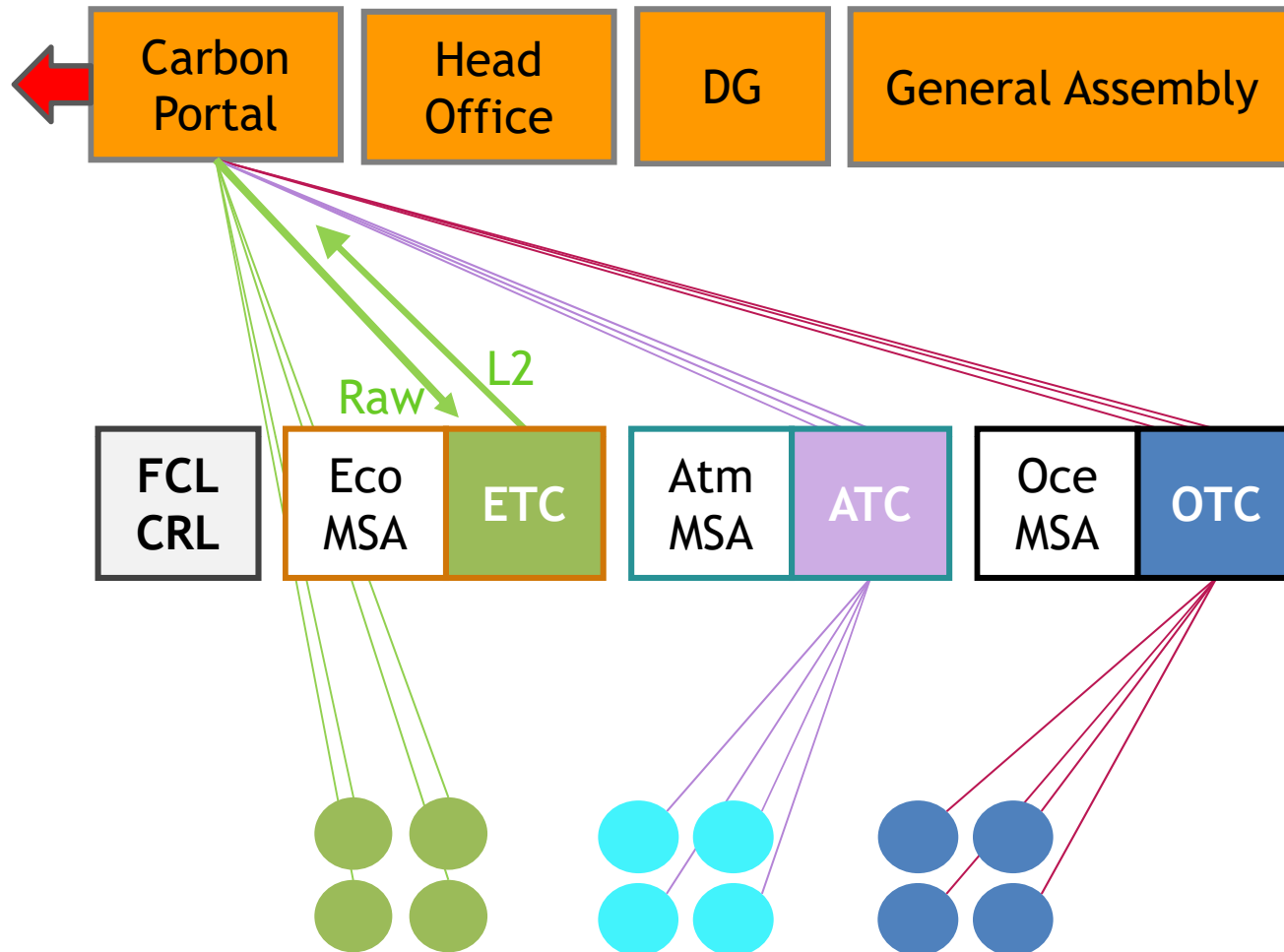


**Central Facilities
Services**



**National Networks
Observations**

Three levels of ICOS / data

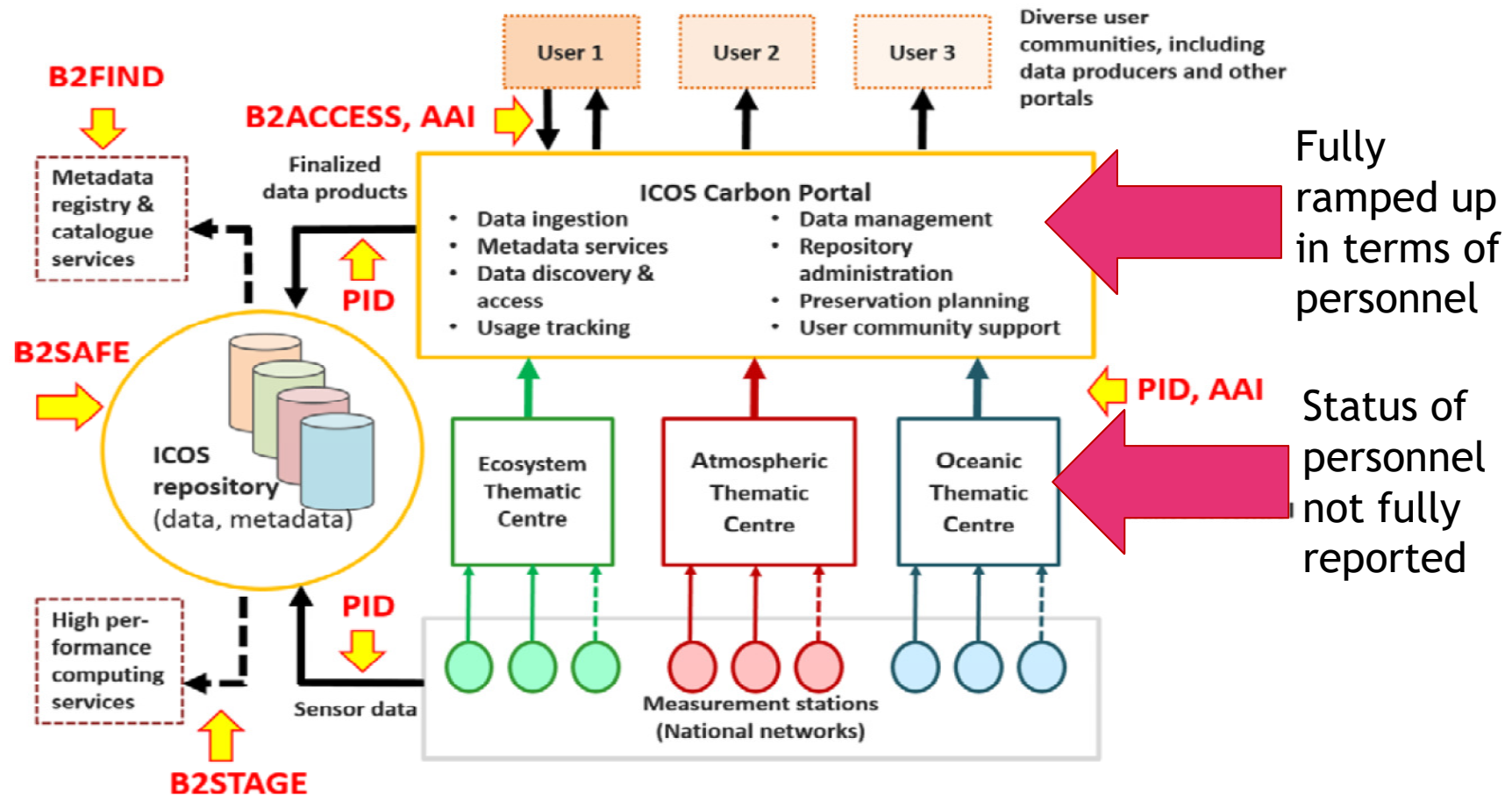


ICOS ERIC
Overall management,
data management

Central Facilities
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National Networks
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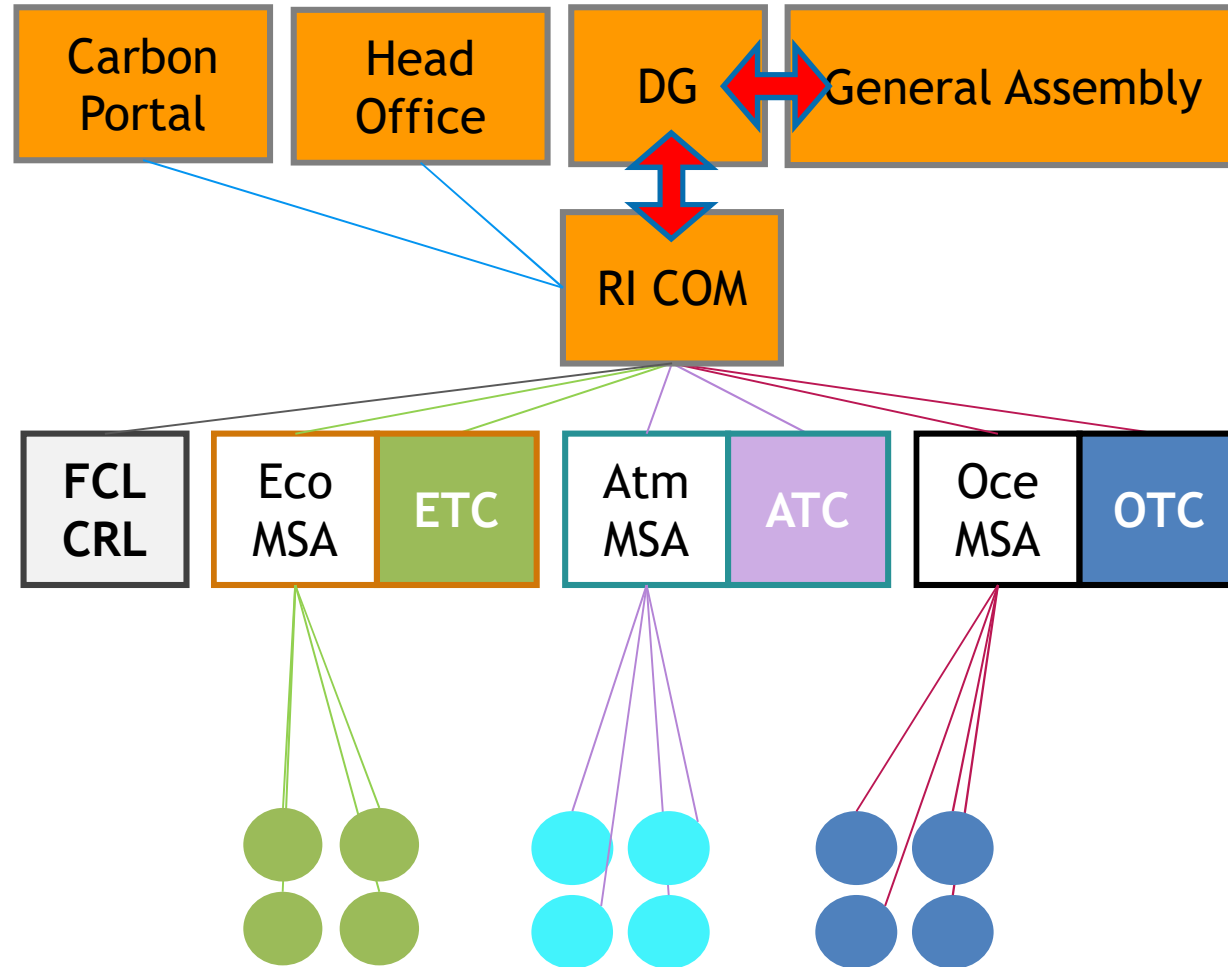
Current status and risks of data lifecycle



Current status and risks of data lifecycle

- Data streams are currently set up between stations and TCs (part of Step 2 of station labelling) and between TCs and CP.
- In parallel, the CP is setting up metadata ontologies and prepares persistent identifier and landing page.
- Goal is to become operational by end of the year.
- Risks may occur from limited capacities of TC to serve demands from sites during Step 2 and in the same time to connect to the CP.
- Minor risk may come from the fact that the e-infrastructure of ICOS is very distributed and difficult to connect (e.g. the firewall of a nuclear organisation has different requirements than that of a University)

Three levels of ICOS / information and representation



ICOS ERIC
Overall management,
data management

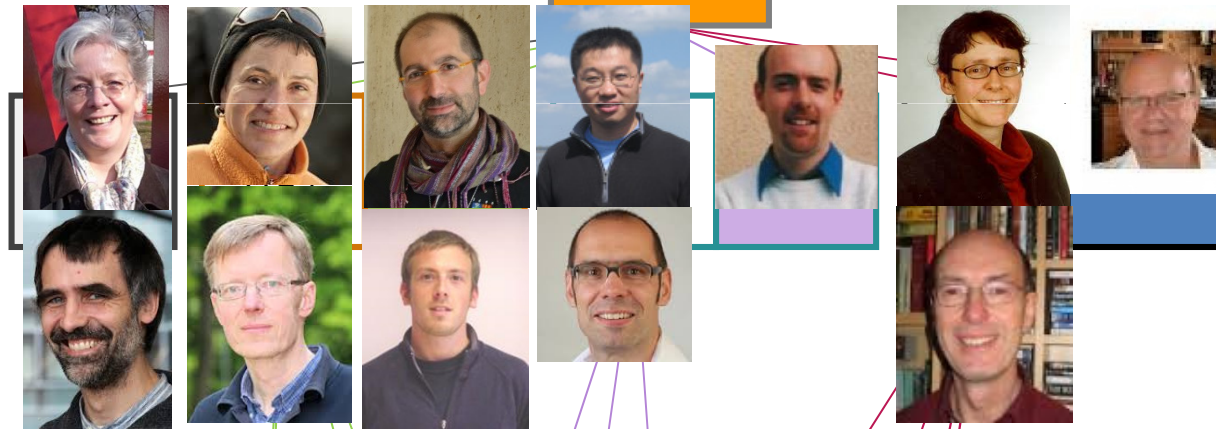
**Central Facilities
Services**

**National Networks
Observations**

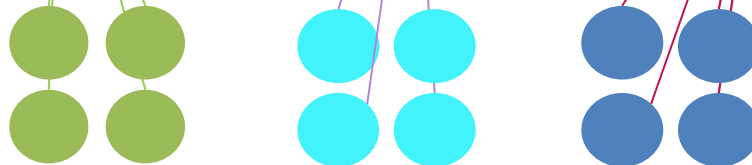
Three levels of ICOS / information and representation



ICOS ERIC
Overall management,
data management



**Central Facilities
Services**



**National Networks
Observations**

ICOS

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Thank You!