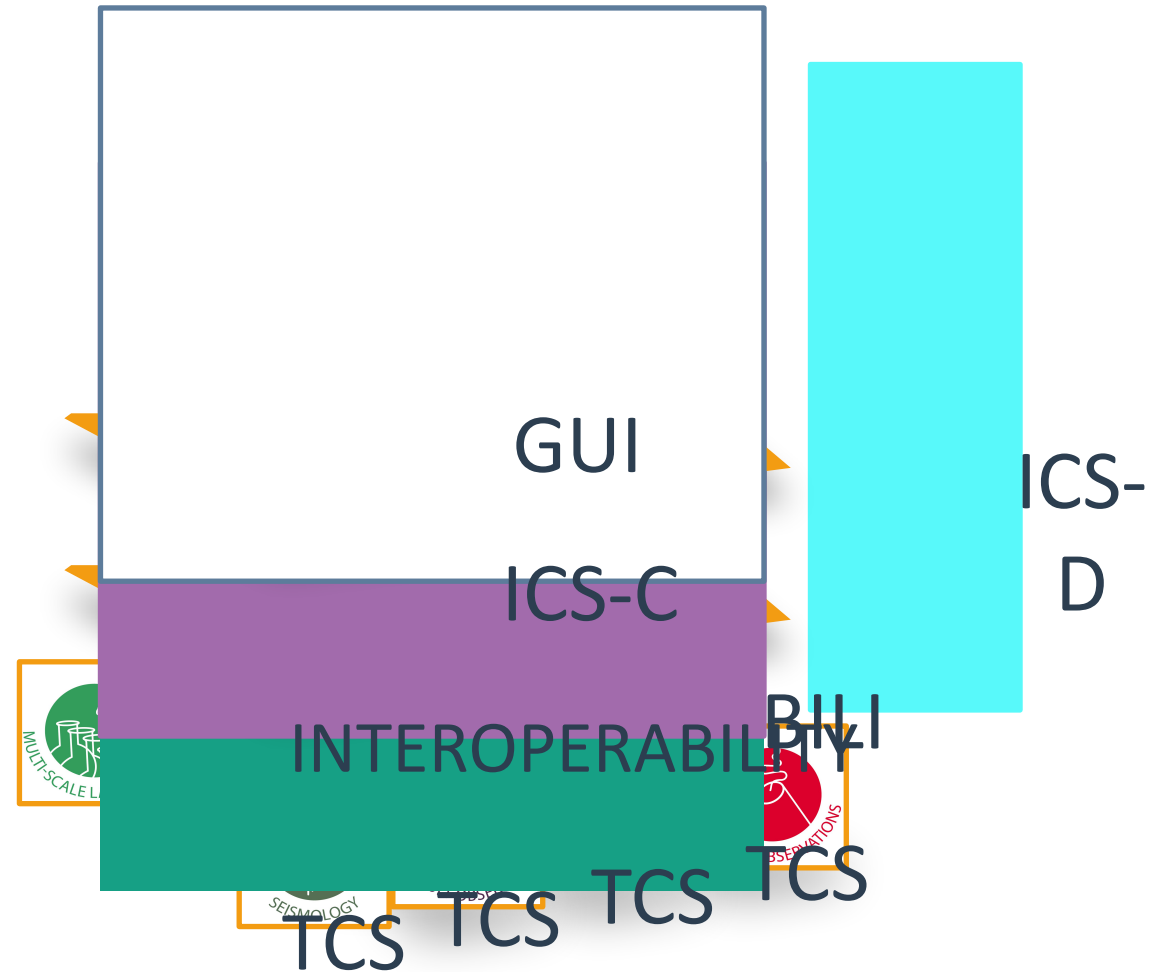# EPOS and Other RIs

Keith G Jeffery

Background

Background

- The EPOS IT architecture desiderata:
  - To be open (i.e. can be supplemented/improved)
  - To be FAIR (open science)
  - To be based on appropriate standards
  - To be flexible (component replacement)
  - To be independent of any e-Infrastructure (to maximise choice and resilience)
  - To be driven by metadata (to avoid software code changes and to allow TCS/asset suppliers to specify what a user 'sees')
  - To exhibit appropriate performance (careful module and interface design)
  - To support governance (as it developed)

GUI

ICS-C

INTEROPERABILITY

ICS-D

TCS TCS TCS TCS TCS

EPOS demonstrated

- From EPOS-PP
- Through EPOS-IP
- And now with EPOS-ERIC
- EPOS has been demonstrated to other RIs

- JERICO (a consortium concerning ocean littoral and with successive EC funded projects) requested more detailed discussions (Jay Pearlman, J&F Enterprises)
- Led to a MoU
- JERICO has adopted the EPOS architecture
  - Different metadata content for their asset suppliers

Current State

JERICO

- Not only implemented EPOS (Miguel Charcos Llorens, SOCIB, ES)
  - With some assistance from the EPOS IT team
  - Generally, it went very smoothly
- But also using it with real use cases
- Currently deploying onto Datarmor (French supercomputing, IFREMER, Bretagne)
  - Minor changes to facilitate dockerisation

- ILIAD (Arne Berre, SINTEF, NO)
  - Recently funded digital twin project: Ocean
  - Planning to use EPOS architecture for some parts
  - Discussions ongoing – related to ICS-D in EPOS
  - Possible links with DT-GEO

- Note some intersection with partners in ENVRI cluster in both JERICO and ILIAD
  - Wider adoption of EPOS architecture reinforced

ENVRI

- In ENVRIPlus EPOS contributed much to **architecture**:
  - Specification of Catalog interoperability and catalog pilots
  - Specification of Curation
  - Specification of approaches to Provenance

- In ENVRI-FAIR EPOS contributes much to **policy**
  - Co-leadership WP4 on policy (Helen Glaves)
  - Keith contributes from EPOS Policy Group work to policy and policy training (ENVRI policy model)
  - Keith provided training on Privacy/GDPR to ENVRI RIs

- In ENVRI-FAIR EPOS contributes much to **architecture**:
  - Leadership of Catalog TF (Daniele/Keith)
    - Accepted the EPOS ingestion pipeline: conversion to EPOS-DCAT-AP hence CERIF catalog
    - Provided training and assistance
  - Leadership of AAAI TF (Daniele/Keith)
    - Principles for EPOS AAAI accepted in ENVRI
    - Implementation planning in parallel
  - Co-leadership in TF on licensing, usage (Keith)
    - Ensuring metadata contains appropriate attributes for licence
    - Ensuring metadata includes attributes required in AAAI to match licence
    - Ensuring acknowledgement/citation
  - Strong influence in design of **ENVRI-Hub**
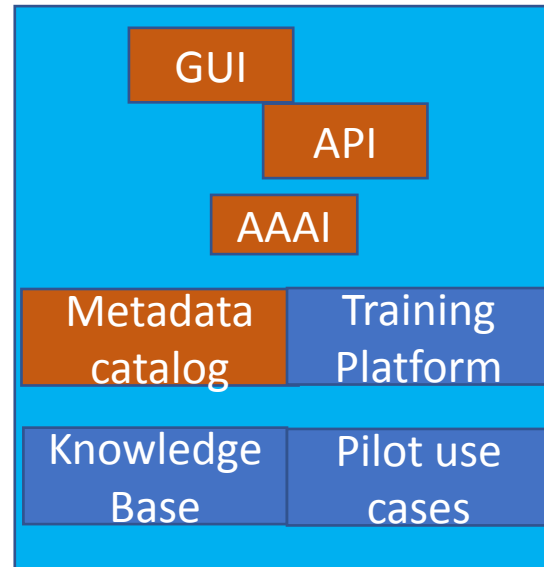   - providing harmonized access across RIs
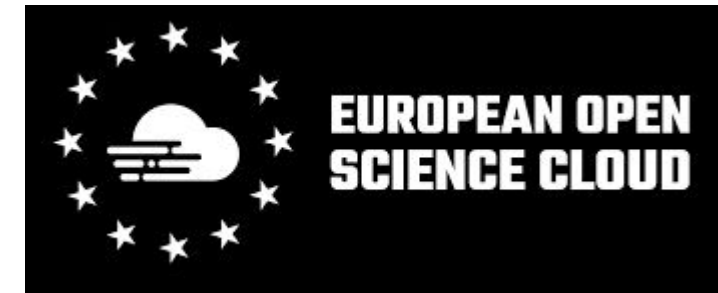   - and to EOSC

ENVRI-Hub

ENVRI Community | ENVRI-Hub | EOSC

INGESTION

ONBOARDING

GUI

API

AAAI

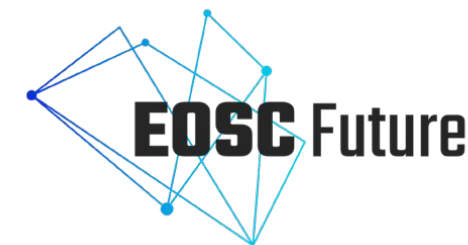| Metadata catalog | Training Platform |
| Knowledge Base | Pilot use cases |

■ = EPOS Major Contributions

Interest from other RIs led to

- The idea of
  - "EPOS in your Pocket" (Daniele)
  - Open-Source EPOS

- Advantages:
  - Offer to other RIs
    - Immediate interoperation ☐ multidisciplinary science
    - Sharing of effort on co-development, knowledge sharing
    - 'many eyes' identifying any problems
    - Publicises EPOS "brand"

- Disadvantages:
  - Offer to other RIs
    - Effort to make the offered system appropriately robust, easy to install, well-documented, with associated training, assistance (but making it open source mitigates much of this)
    - Potential appropriation of EPOS Intellectual Property (but protected by licence)

EPOS EUROPEANPLATEOBSERVINGSYSTEM

THE EPOS SP PROJECT HAS RECEIVED FUNDING FROM THE EUROPEAN UNION'S HORIZON 2020 RESEARCH AND INNOVATION PROGRAMME UNDER GRANT AGREEMENT N° 871121
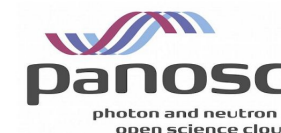
EOSC Clusters of RIs

- In the context of EOSC-Future
  - Work with other clusters (despite EOSC-Future being chaotic)
  - Set up a Metadata Working Group
  - To persuade EOSC architects to adopt the requirements of the RIs in the clusters for rich metadata
  - To permit cross-disciplinary/multidisciplinary science beyond ENVRI from 26 RIs to >1000 (MERIL database)

Clusters of Research Infrastructures

e-Infrastructures

The European catalogs of RIs MERIL□CATRIS - like EPOS and ENVRI-Hub - use CERIF

CONCLUSION

Our joint work in EPOS is having a beneficial effect much more widely than geoscience