

EOSC for  
Physics & Astronomy

session wrap up

**Challenges & open questions**

# EOSC for Physics & Astronomy



- **EOSC**
  - European wide scalable infrastructure
  - Services supporting collaborative science
  - Cross domain fertilization
- **Radio Astronomy case**
  - **Data-intensive** distributed data processing services
    - Adaptable portable data-aware processing workflows
    - Connected storage & compute, minimizing data transfers
    - Sustainable science data repositories for open & FAIR sharing
  - **Low threshold access for worldwide community**
- **LOFAR as pathfinder for SKA**
  - Demonstrate Radio Astronomy Science Data Center services
  - ASTRON partner in ESCAPE

- **Use of licensed software libraries** (MATLAB, IDL, NAG,...)
  - Not sure how to deal with this in a generic way
  - Porting some IDL to Python
- Resource Types
  - Need access to not just x86, but HPC and GPU (and possibly others)
- Some codes difficult to containerise; need a container library (EOSC could provide based on Harbor?)
  - Could also allow common code used across disciplines to be containerized once!
- Widely varying performance at different sites

- Federated Authentication and Authorisation
  - Being worked on, but currently all sites have their own policies
- Standard Metadata Model
  - Each site has their own. Tailored to the needs of fusion community (lots of TLAs and xTLAs)
- No common standard format
  - Some sites use open format, some have specifically designed formats
  - No Standard access APIs
- Not not ALL Bad news – ITER is having a major impact
  - Standard Data Model and Data Dictionary

## Questions to EOSC (Hub)

- Will the EOSC (via EOSC-hub) provide computing resources and how will the federation be organised in this case?
- How deep will be a repository be integrated into the catalogue of services, who will take over maintenance and preservation of the repository?
- How will the interfaces between EOSC-hub and the EOSC clusters be established and how will they be defined (e.g. for AAI and usage of computing and hosting resources)?
- To which extent can science communities access compute and storage resources, and other services EOSC Hub provide?
- How can use cases of different user communities affect the practical design of EOSC Hub interfaces?
  - As the volunteer use case is quite different to that of a policy maker or a practicing scientist.

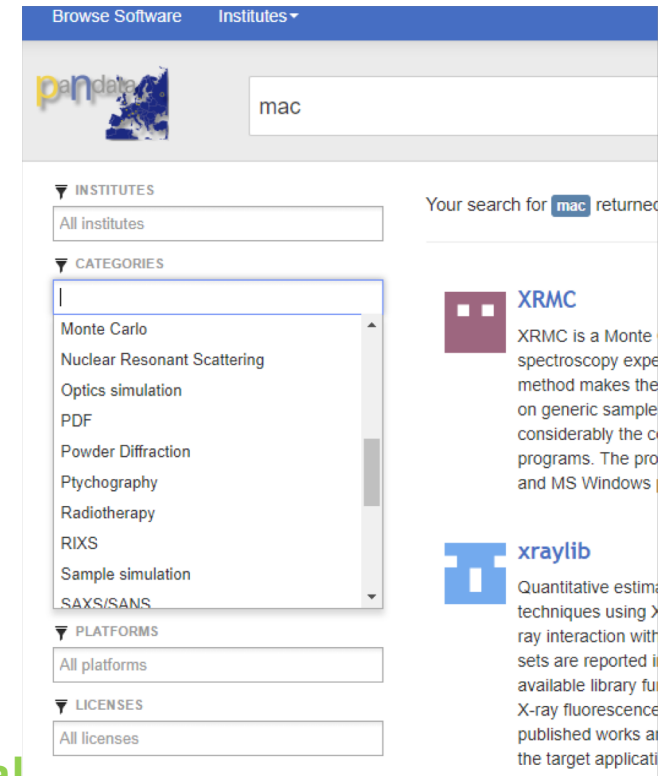


# EOSC Portal, integrate model?

In its current form, it looks very much like an IT service portfolio



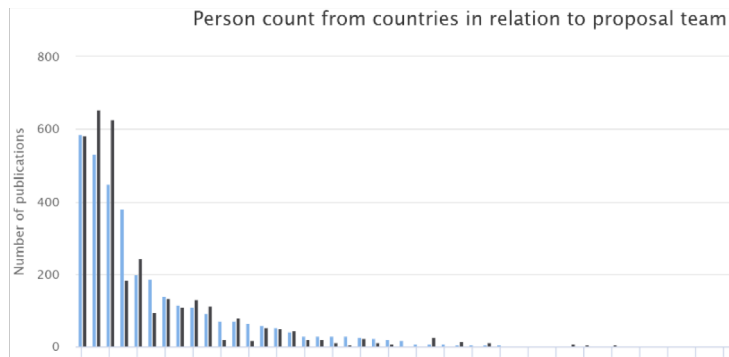
- **How do we integrate this Portal?**
  - **At the Service Level?**
  - **Do we link to our community portals?**
  - **Do we integrate into other communities' portal.**
  - **IS EOSC a way to help us to build our community portal?**





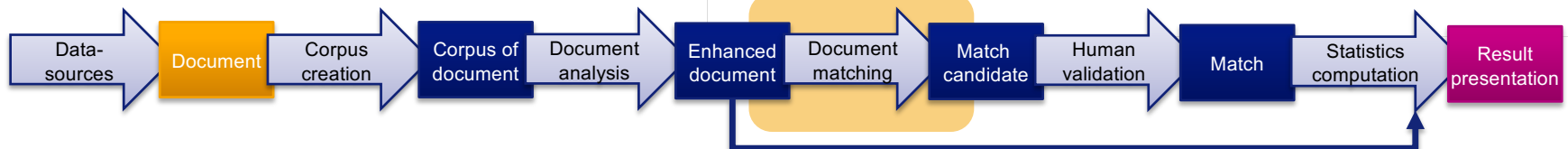
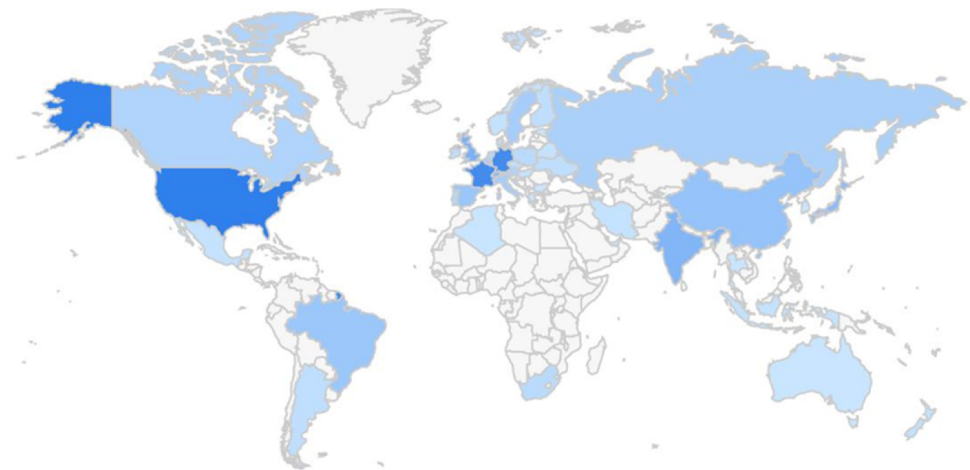
# Sustainability?

- Sustainability will come if FAIR data are re-used and contribute to increase knowledge at a reasonable cost.
- How to prove evidence?
- We had to develop our of tool to track usage of data. (not limited to OpenAccess)
- Is it not of general interest?



Publication count where country is not included in proposal

Country is affiliated with an author of the publication



# Further discussions

- Is EOSC for big communities, or for the long-tail?
- Performance monitoring - Who, when?
- EOSC portal - one or several or many? Involve Scientists at design level
- How to get 'good metrics' that would incentive funding agencies to fund the infrastructure?
- We are EOSC!  
EOSC is not 'them'. We should all contribute to EOSC, and the question is what should happen within the disciplinary communities, what should happen 'centrally' for everybody (See also the Commissioner's point about whether EOSC is a coordination layer or an operational delivery project).