RIC & friends seminar

🐸 Sophie 🐣 - 06.07.2020

Topic of the day: ExPaNDS

1. Some context
2. What it stands for
3. What we did so far and do right now
4. How DESY > RIC > I are involved

Context

An experiment by Herr Röntgen in 1901: ~10 kB in 5 days vs. an experiment today by a fellow DESY user: ~750 TB in 5 days

⇒ we need to share compute and storage resources

Peer-reviewed articles are among the most reliable sources of information

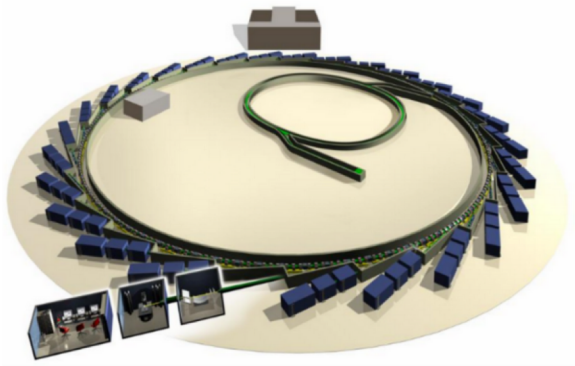
⇒ we need tools easily available to reproduce scientific results

More and more researchers use several facilities for their research

⇒ we need trans-facility search of data

AI is coming

⇒ we need machine-readable and -understandable data



Photon and Neutron

ExPaNDS

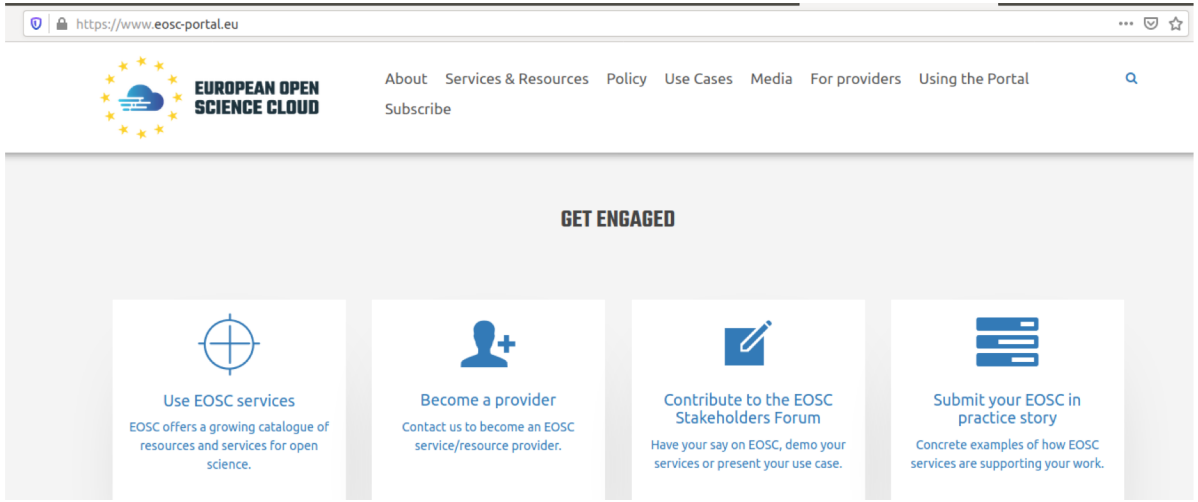
European Open Science Cloud

Data Services

European Open Science Cloud

EU project with funding from the H2020 R&I program, to add to the EOSC services that are valuable to researchers

What is the EOSC right now?



A marketplace with linked services

Trying to get people on board.

Trying to showcase its added value.

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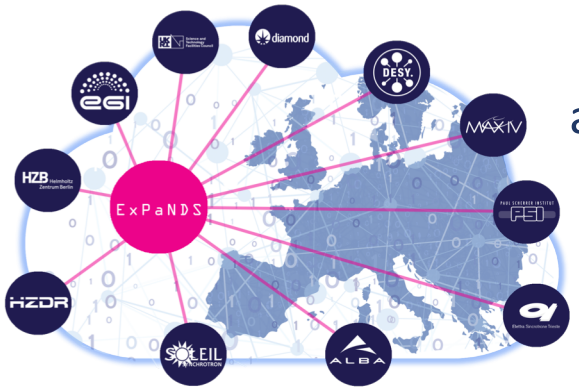

Entire European Photon and Neutron Community

Community standards and tools

- PaN data policy framework
- NeXus data format for neutron, X-ray and muon science
- UmbrellaID, a digital identity for PaN users
- PaN software catalogue
- PaN e-learning platform

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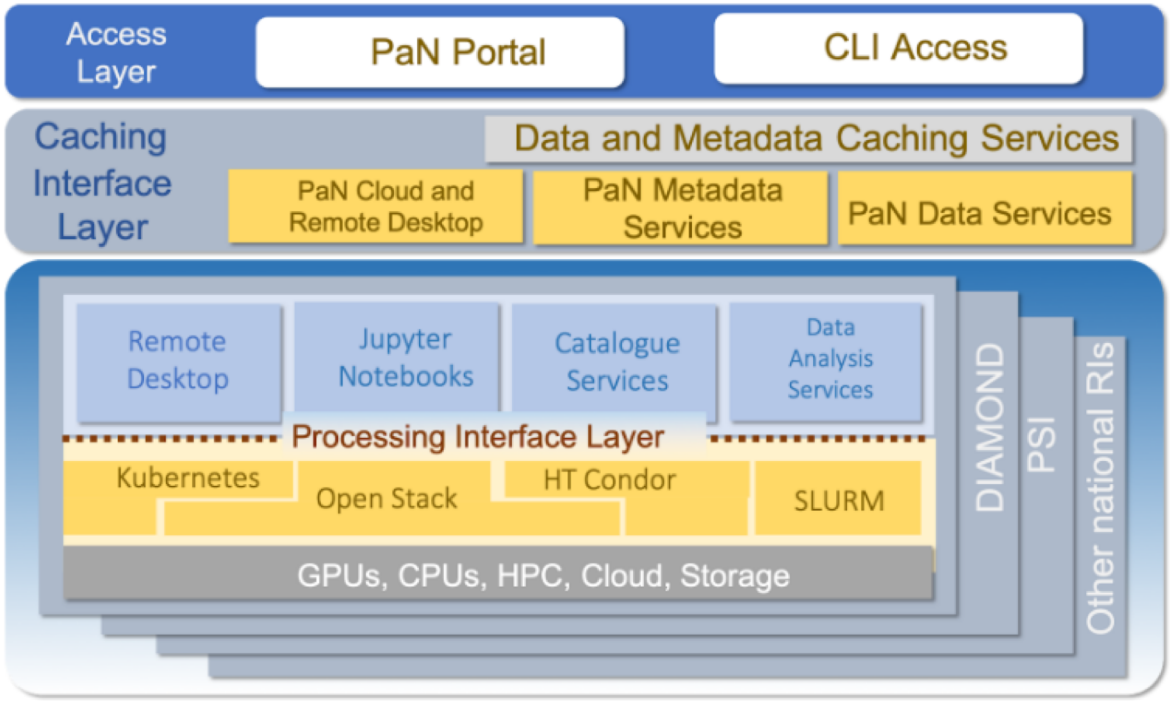
Data Services

Data Services

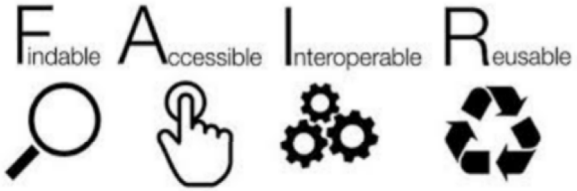
- Catalogue of available datasets and their location
- Catalogue of available data analysis services
- Correlation of which dataset works with which analysis service



Data Services

A few prerequisite

- Have open data generated in the first place
  - 3 out of our 10 facilities had 0 public datasets in Dec. 2019 [1]
- Make it FAIR
  - 2 out of our 10 facilities minted DOIs for their datasets [1]
  - 3 out of our 10 facilities used DMPs defining metadata standards and licences [1]



- Build the different stacks to abstract local catalogues and analysis services

[1] ExPaNDS data landscaping dating from Dec. 2019 DOI 10.5281/zenodo.3673811

Progress and ongoing works

FAIR

- Updating with PaNOSC the 2011 data policy framework to include FAIR principles
- Fostering its adoption by our facilities
-
- Working on PIDs for instruments (HZB)
- Working on maDMPs with RDA

Data catalogues

- Get a state-of-the-art picture of existing agreed vocabulary of techniques in PaN communities (e.g. Pankos, wayforlight)
- Investigate existing ontologies repositories (e.g. BioPortal)
- Survey researchers for their typical search use cases (results soon to be published in GitHub)

Data and analysis services catalogues

- Prepare the stacks to deploy the PaN portal at our facilities
- Select demonstration services to be implemented into EOSC, with matching datasets
  - Serial crystallography: publication
  - 4D full field tomography: publication
  - Terahertz Spectroscopy: publication

Sophie

My contribution

ExPaNDS @DESY

- IT: Patrick, Sophie, Frank Schlünzen, new recruit with Michael
- FS-CFEL: Anton Barty, new recruit
- EUP: Beatrix Bugla
- V-D4: Carsten Porthun (DPO)

- Make sure the quality of what we deliver meets the EU, and our own, expectations
- Follow technical and financial progress and try and make it consistent
- Provide internal communication channels
- Keep up with what's happening in the EOSC ecosystem
  - Other projects doing work we could re-use
  - Important documents we should give feedback to
  - Conferences where we can (be) present
- Write things like project's DMP and POPD
  - Feed Zenodo and GitHub with our public outputs and push for CC licences use
  - Being transparent on what we do with personal data