

PaNOSC Node

EOSC France Tripartite Event 2025/09/11



A few photon & neutron sources...



European Synchrotron
Radiation Facility ESRF - France



Institut Laue Langevin ILL -
France



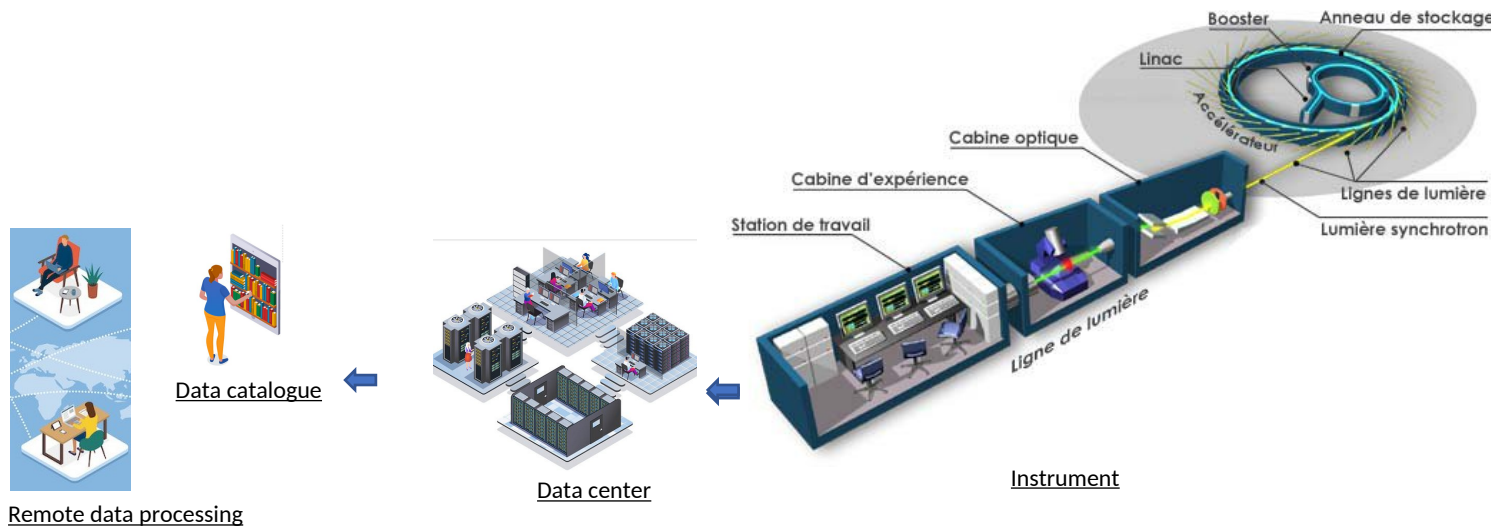
SOLEIL Synchrotron - France



Swiss Light Source - Switzerland



European Spallation Source ESS -
Sweden/Denmark



Photon and Neutron sources are cross-domain research centres i.e. PaN research is cross-domain by nature

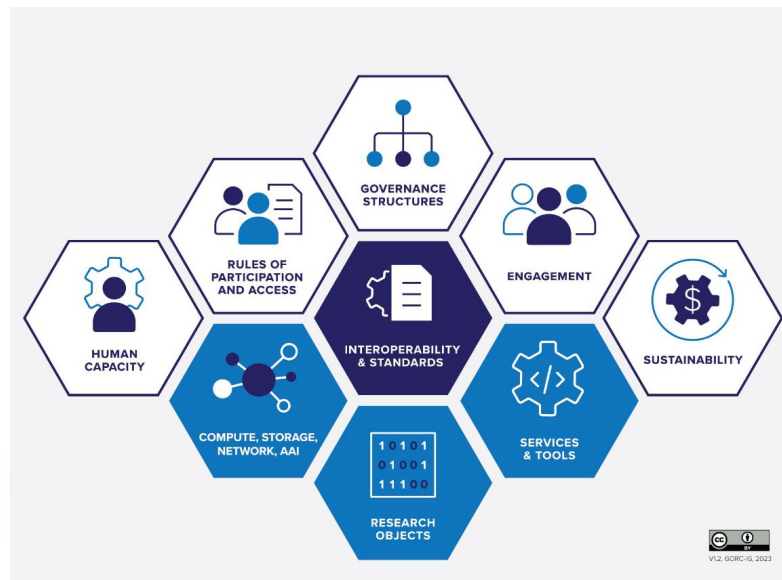
Cross-domain research examples

- Health innovation, overcoming diseases and pandemics
- Materials for innovative and sustainable industry
- Clean energy transition, sustainable energy storage and clean hydrogen technologies
- Planetary research and geoscience
- Environmental and climate challenges
- Bio-based economy and food security
- Humanity and world cultural heritage

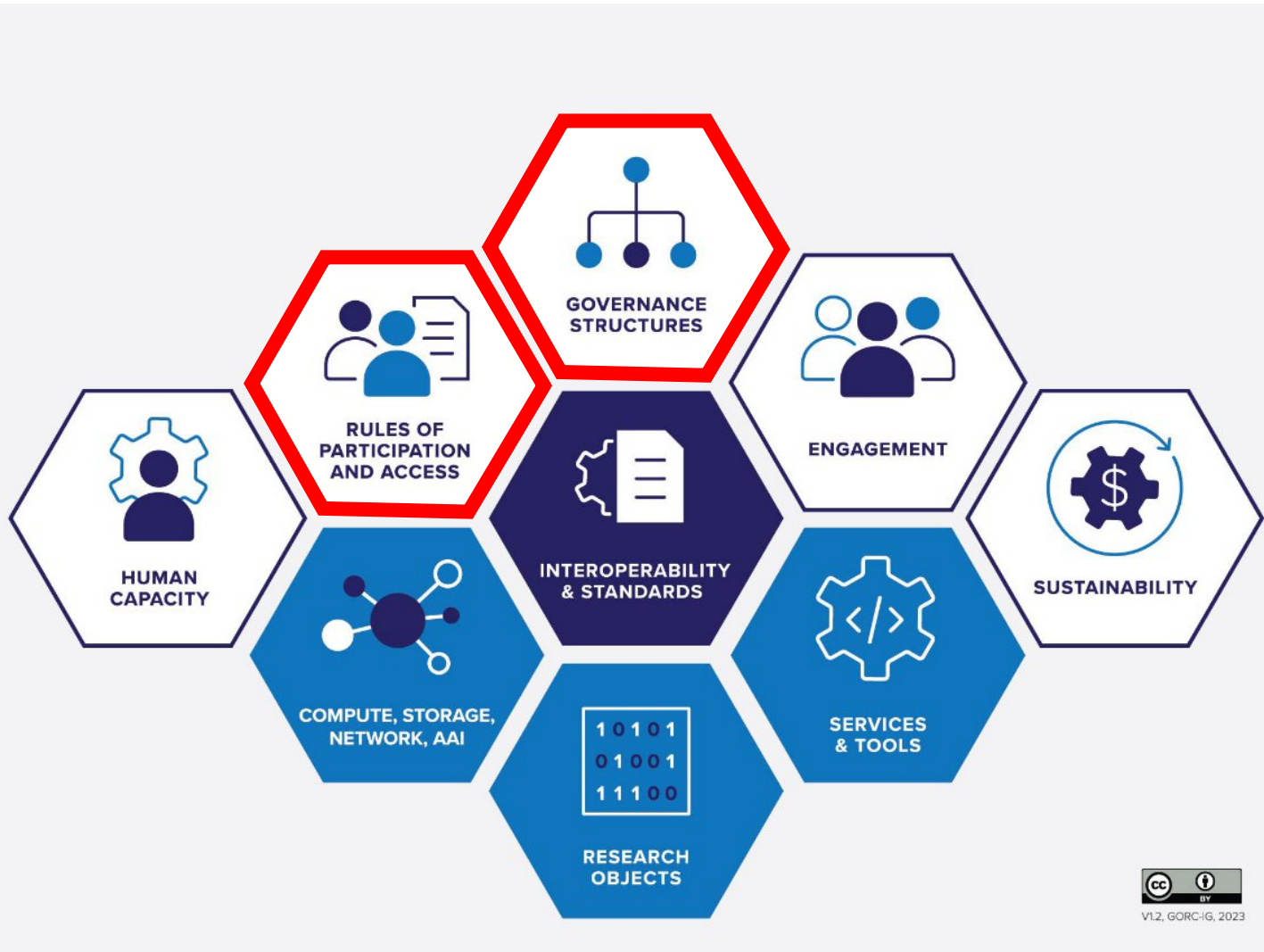


PaNOSC Node

<https://www.panosc.eu/>



Governance structures



- ESRF host organisation
- 9 partners (HZDR, ESS, ILL, DESY, ALBA, ELETTRA, MAXIV, EUXFEL, PSI)



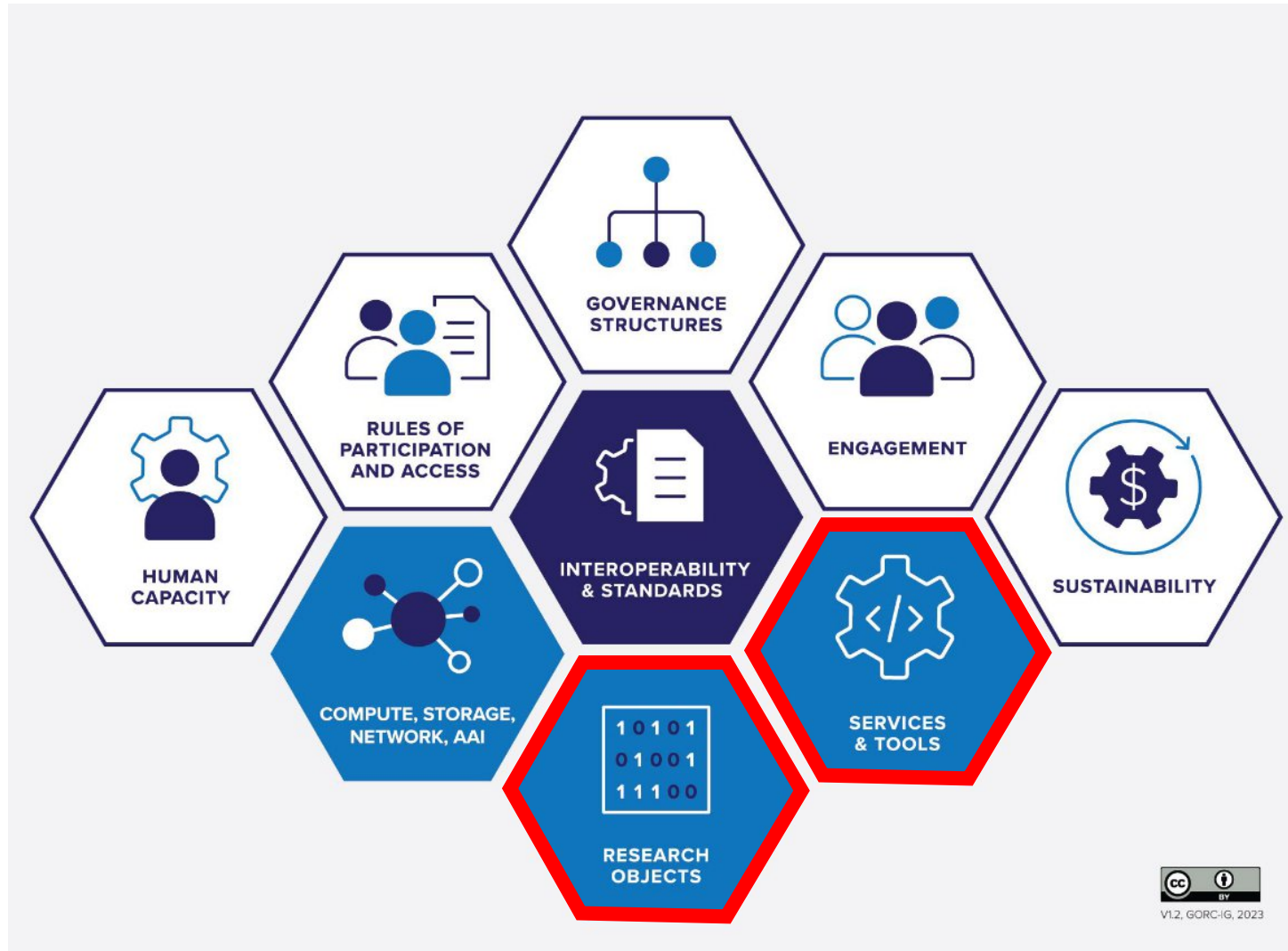
PaNOSC Node Governance & Roles

- Project charter converted to work plan. Follow up on weekly basis.
- Definition of PaNOSC Node roles
 - **Coordinator** (Andy Götz - ESRF)
 - **Operation Manager** (Oliver Knodel - HZDR)
 - **Technical Coordinator** (Erwan Le-Gall - ILL)
 - **Security Officer** (Jean-Francois Perrin - ESRF)
 - **Scientific Officer** (Zdenek Matej - MAX IV)
 - **Communications Officer** (Nicoletta Carboni - CERIC)
 - **Legal Officer** (Renata Gibson - ESRF)
- Letter of Intent of each institute sent to ESRF (PaNOSC Node host organisation)

Next steps :

- Formal agreement will all PaNOSC Node partners.
- ESRF will sign the EOSC Federation MoU on behalf of the PaNOSC Node

Research Objects, Services & Tools



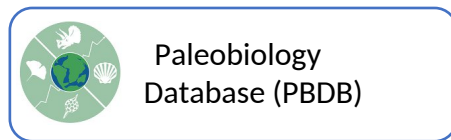
PaNOSC Node Resource

Data catalogues

- Datasets of all PaN facilities catalogues are indexed by the EOSC Resource Hub (via DataCite)

Next steps :

- Associate the data catalogues to the PaNOSC Node (via OAI_PMH protocol)
- Link datasets to other community catalogues



European Open Science Cloud - EU Node

Home | About | Services | Resource Hub | Support | Contributors | News & Events | User Space

Home > Resource hub

Resource hub

All resources | Arcovenator escotae MHNA-PV-2011-1 | Search

All resources | Publications | Data | Software | Other Products | Services | Data Sources | Training | Interoperability Guidelines | Tools

Document type: Showing 1 to 1 of 1 resources

☐ Research data (1)

No filters applied | Relevance

DATA DATASET

Year: 2024 | Views: 0 | Downloads: 0 | Citations: 0

Arcovenator escotae MHNA-PV-2011-1

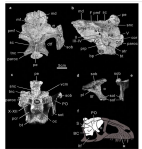

3D reconstruction for **Arcovenator escotae MHNA-PV-2011-1**. For further details regarding samples, measurements and data analysis, refer to the files and the article.

Author: Tafforeau, Paul | Beyrand, Vincent

Identifier: 10.1515/esrf-dc-1634316333 (DOI)

Keywords: BM18 • IH-ES-132

Cite



DATA DATASET

Year: 2024 | Views: 0 | Downloads: 0 | Citations: 0

Raw data (diffraction images) for PDB entry 9H6N "Flavin-dependent tryptophan 6-halogenase Thal in complex with 6-bromo-L-tryptophan"

All relevant information can be found in the **PDB entry** and the associated publication.

Author: Bork, Simon | Niemann, Hartmut H.

Identifier: 10.1515/esrf-dc-1998386352 (DOI)

Keywords: MX-2271 • ID30A-3

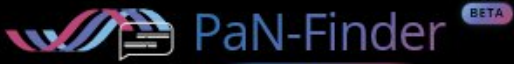


PaNOSC Node Resource

- AI-enabled search engine PaN-Finder.
- Federated PaN dataset database

Next steps :

- Integration of EOSC AAI
- Open to other community databases
- PaN-Finder - TRL9



Search through scientific datasets and research publications

List datasets related to Alzheimer disease

New Search

Relevance Explanation

Most Directly Related Results

- The dataset titled *Interaction of amyloid beta with native mitochondrial membranes* provides focused experimental data on how amyloid beta interacts with mitochondrial membranes, offering insights into mitochondrial dysfunction—a critical factor in Alzheimer's disease progression. (DOI: [10.5291/ILL-DATA.8-04-751](https://doi.org/10.5291/ILL-DATA.8-04-751))

Worth Considering

- *Study the structural polymorphism in the brain tissues from Alzheimer's disease* presents imaging and mapping data of brain tissues, helping to identify fibrillar aggregates and abnormal element deposition linked to Alzheimer's pathology. (DOI: [10.15151/ESRF-ES-1967389302](https://doi.org/10.15151/ESRF-ES-1967389302))
- The dataset *Human Butyrylcholinesterase in complex with ligands* explores the structure of BChE with various ligands, which is relevant for developing treatments targeting Alzheimer's disease. (DOI: [10.15151/ESRF-ES-1654072298](https://doi.org/10.15151/ESRF-ES-1654072298))
- Another dataset, also titled *Human Butyrylcholinesterase in complex with ligands*, provides structural data on BChE-ligand complexes, supporting research into anti-Alzheimer's therapies and nerve agent countermeasures. (DOI: [10.15151/ESRF-ES-1669841750](https://doi.org/10.15151/ESRF-ES-1669841750))

Additional Background & Context

- *μFTIR and nXRF study of the effect of DG4-His-Mal dendrimer encapsulated in liposomes in an Alzheimer Disease transgenic mice model: amyloid* offers preliminary findings on nanoparticle treatments that may reduce amyloid aggregation and improve cognition in Alzheimer's mouse models, providing supplementary data on experimental therapies. (DOI: [10.15151/ESRF-ES-799266138](https://doi.org/10.15151/ESRF-ES-799266138))
- The dataset *3d structure of the human dentate gyrus by holo-tomography: Alzheimer disease vs Control* provides high-resolution imaging of hippocampal tissue, examining structural changes and amyloid plaque relationships in Alzheimer's disease, which adds valuable anatomical context. (DOI: [10.15151/ESRF-ES-406587724](https://doi.org/10.15151/ESRF-ES-406587724))

Most Relevant Documents

> Click rows to view details

20 found

DOI	Title	Facility
> 10.5291/ILL-DATA.8-04-751	Interaction of amyloid beta with native mitochondrial membranes	ILL
> 10.15151/ESRF-ES-1967389302	Study the structural polymorphism in the brain tissues from Alzheimer's disease	ESRF
> 10.15151/ESRF-ES-1654072298	Human Butyrylcholinesterase in complex with ligands	ESRF
> 10.15151/ESRF-ES-1669841750	Human Butyrylcholinesterase in complex with ligands	ESRF
> 10.15151/ESRF-ES-799266138	Human Butyrylcholinesterase	ESRF

Show all 20 results

PaNOSC Node Resource

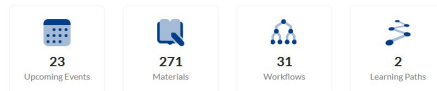
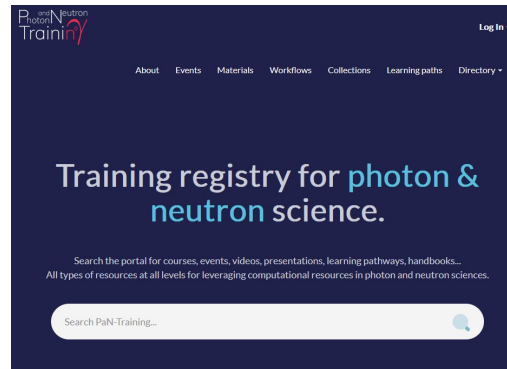
PaNOSC training catalogue:

- Common PaN training resources
- Based on TeSS platform from Elixir

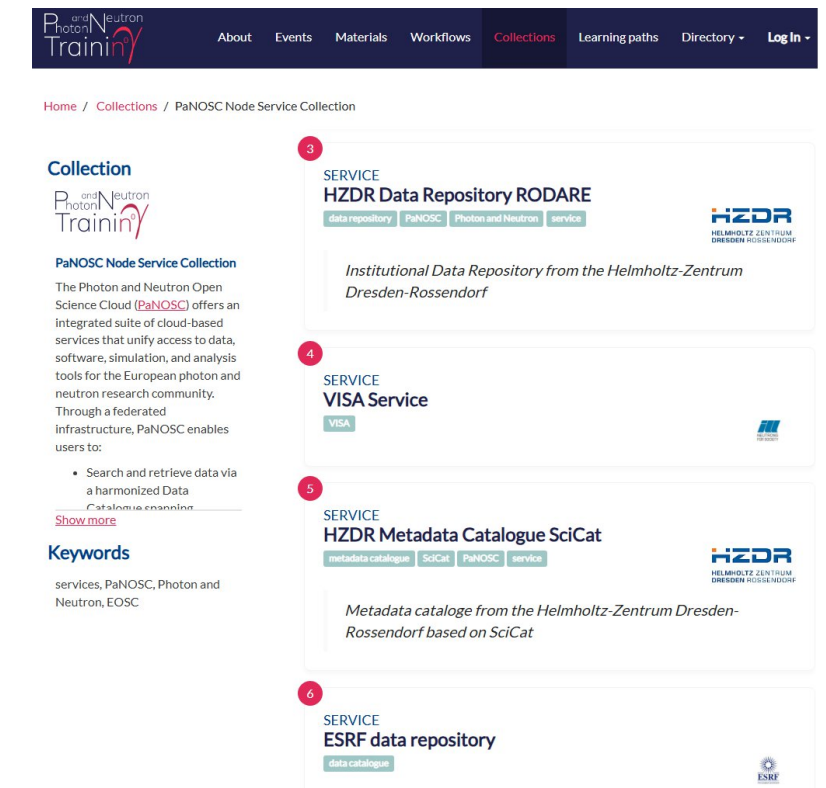
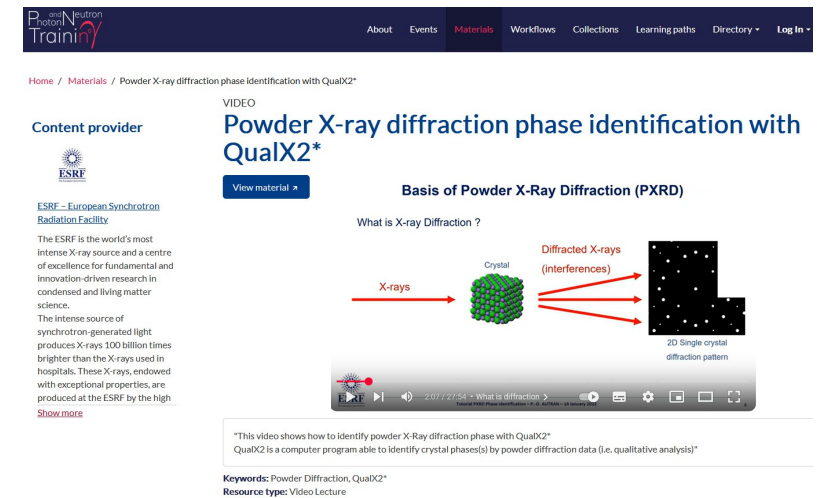


Next steps

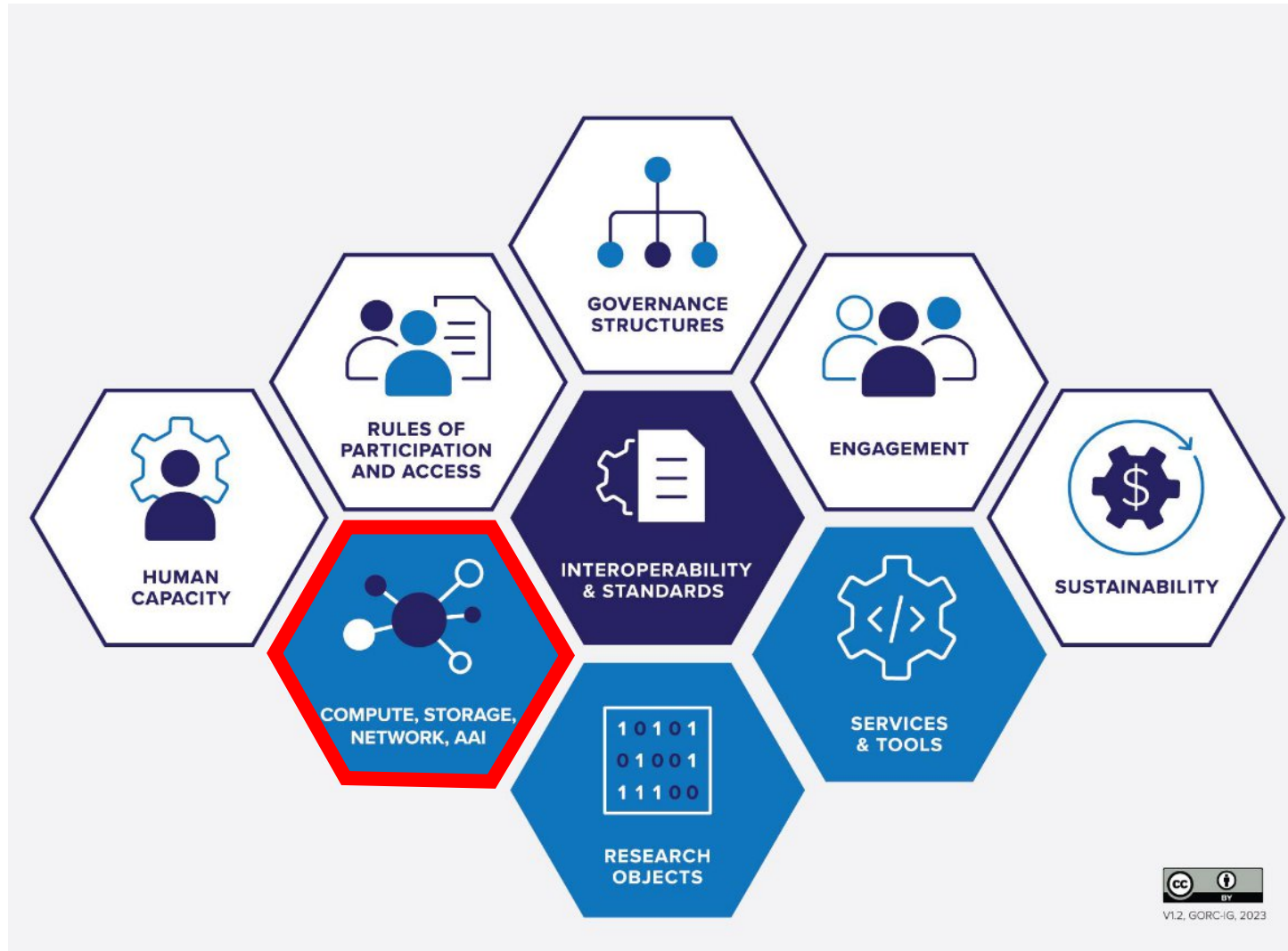
- Federation with other TeSS catalogues



<https://pan-training.eu/> ,
<https://tesshub.hzdr.de>



Compute, Storage, Network, AAI



PaNOSC Node capability - AAI

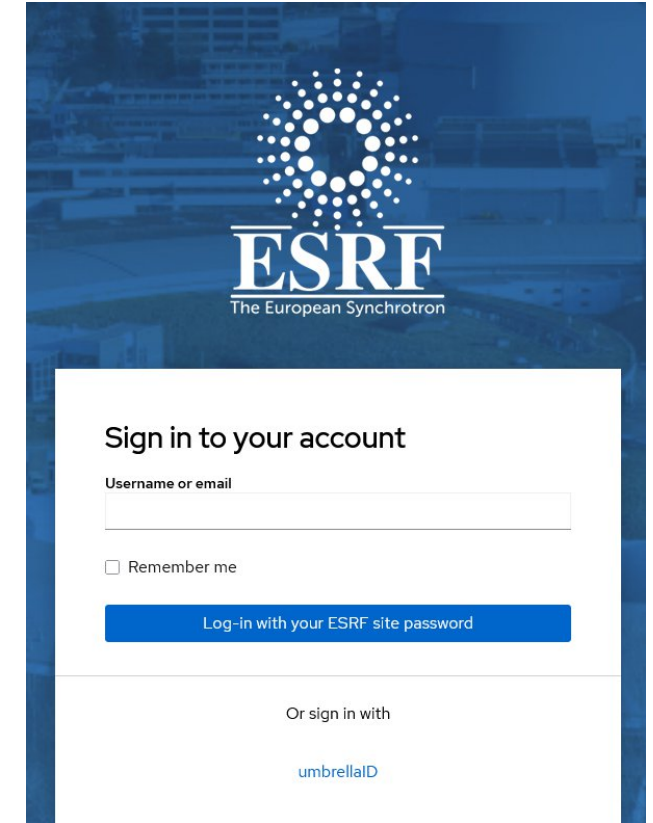
PaNOSC AAI service

- Provides user with an SSO experience with EOSC AAI
- User Group management
- Collaboration with GEANT (AAI provider for EOSC EU Node)
- UmbrellaID integrated successfully summer 2025 with EOSC AAI (acceptance environment)



Next steps

- Move the Community User ID to the *Subject Identifier* provided by the EOSC AAI
- Move to MyAccessId



EOSC AAI Architecture 2025

<https://zenodo.org/records/15388270>



tech lead

PaNOSC Node capability – Computing

PaNOSC VISA - Virtual Research Environment:

- Developed at ILL, runs on OpenStack (same as EU Node)
- Provides VM for remote data analysis with access to **(huge) experimental data**
- Provides VM with desktop and pre-installed software.
- Partners have signed an MoU to collaborate.
- Help desk provided by each facility like for most community services



<https://visa.esrf.fr>

Next steps :

- Integration of EOSC AAI
- Define a common access policy for EOSC Users.
- Interest in the Integration of the federation credits system



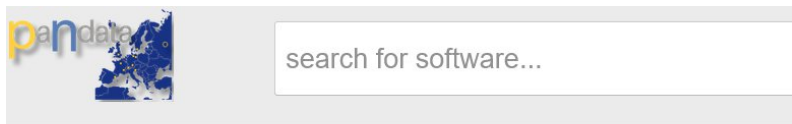
PaNOSC Node Resource

PaNOSC CVMFS service:

- PaNOSC **packages software** for CVMFS (CERN Virtual Machine File System) as containers or modules
- ~100 software packages already
- Shared with other PaN facilities

Vision:

- Share software packages with other EOSC Federation nodes
- Provide CVMFS as a transversal service in the Federation
- Integrate in SW catalogue
- Establish a trust framework.



PaNdata Software Catalogue



Conclusion

The **EOSC Federation** is a unique opportunity for **PaNOSC** to continue the work started over a decade ago on **FAIR data** and **Open Science** and which has changed the way researchers work

Impact of creating the PaNOSC Node:

1. Significantly increase the scientific impact of data from PaNs
2. Improve the IT infrastructure services by adopting common standards
3. Increase the collaborations between PaNs, clusters, communities, world-wide
4. Change the culture of PaN RIs + researchers by preserving FAIR data for the future

PaNOSC brings **scientific resource objects** into the **EOSC Federation** and the **EOSC Federation** provides the **Open Science community!**