

# Applying GORC to the PaNOSC Node

by Andy Götz (ESRF+EOSC-A)



**RDA France 2025**

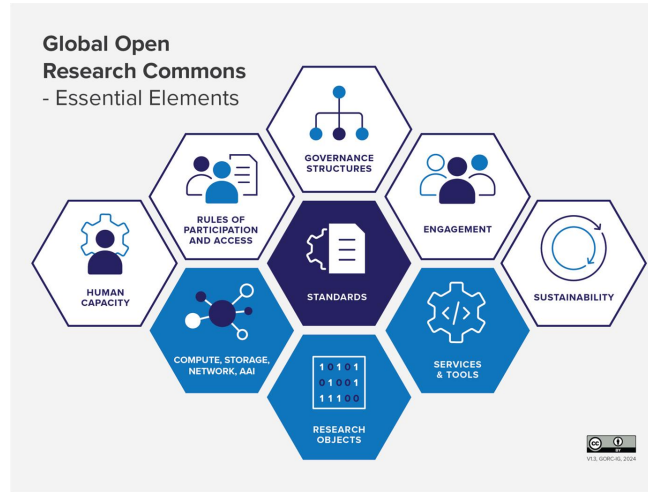
8e Réunion annuelle de **RDA France**

**Ateliers et webinaire**  
12 au 28 novembre

**Réunion plénière**  
Lundi 17 novembre

# PaNOSC Node

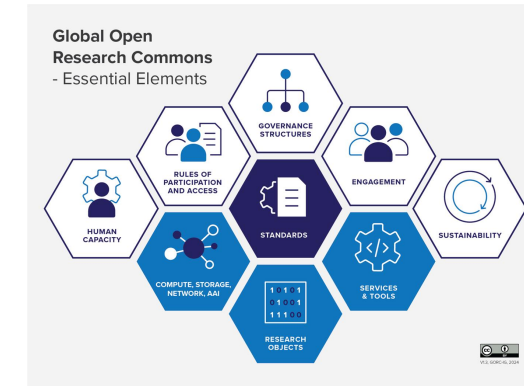
<https://eosc.panosc.eu/>



# PaNOSC - adoption of GORC in 3 steps

## Step 1:

→ Attracted by the GORC diagram we applied the GORC diagram to the PaNOSC Node



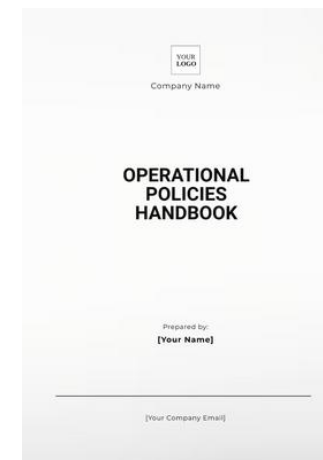
## Step 2:

→ Digging deeper into the GORC model we have started to apply the GORC spreadsheet tool to PaNOSC

The screenshot shows a complex spreadsheet titled 'GORC International Model V10 - Commons Model V11'. It contains multiple tabs and a large table with columns for 'Category', 'Subcategory', 'Indicator', 'Policy', 'Example', 'Competency Level', and 'Primary Source'. The table is filled with detailed text and data, representing the GORC model's structure.

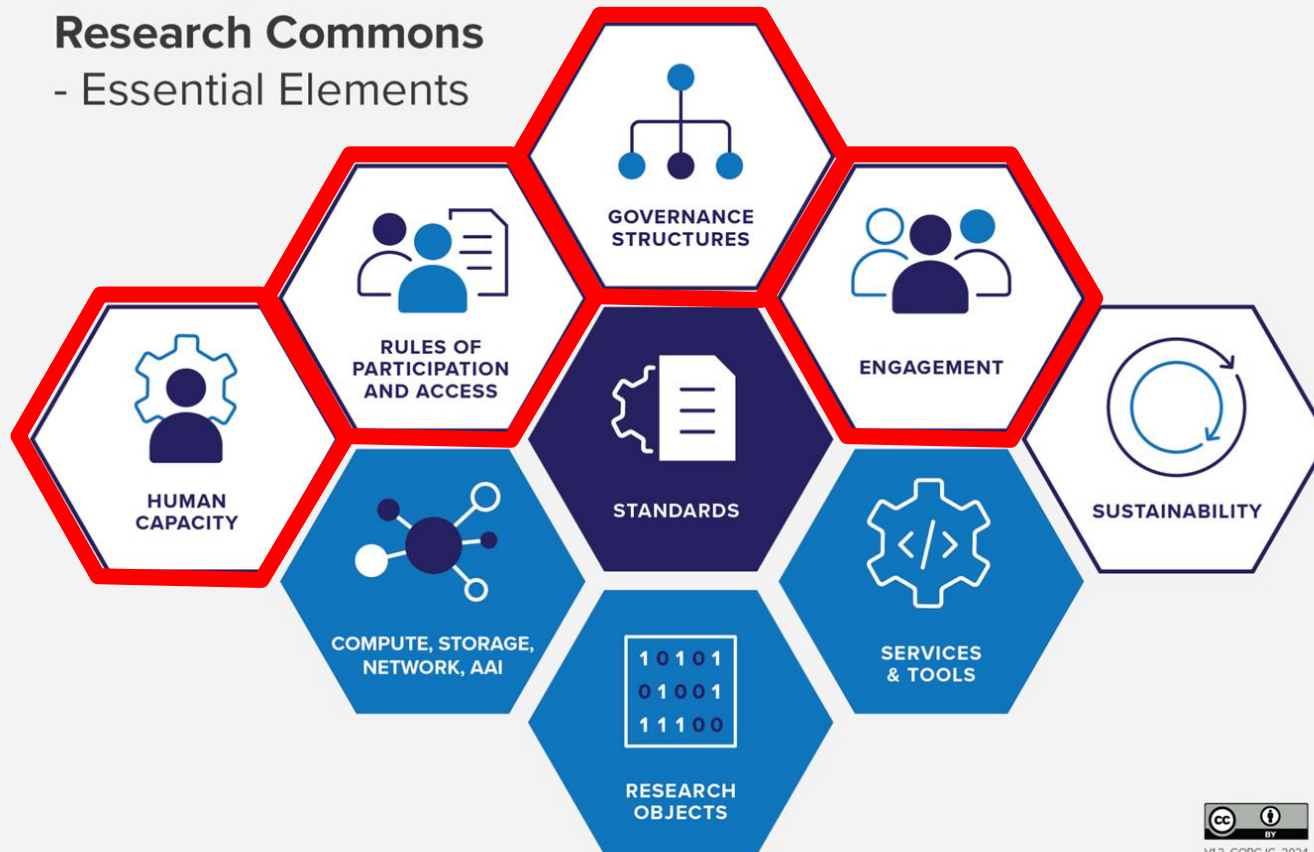
## Step 3:

→ Plan to use the GORC spreadsheet to develop the PaNOSC Operation Handbook (WIP)



# Governance structures

## Global Open Research Commons - Essential Elements



CC BY  
V1.3, GORC-IG, 2024



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



# PaNOSC Node Governance, Human Capacity

- Project charter converted to **Project Plan** (followed up in weekly meetings):

- Definition of PaNOSC **Node roles**

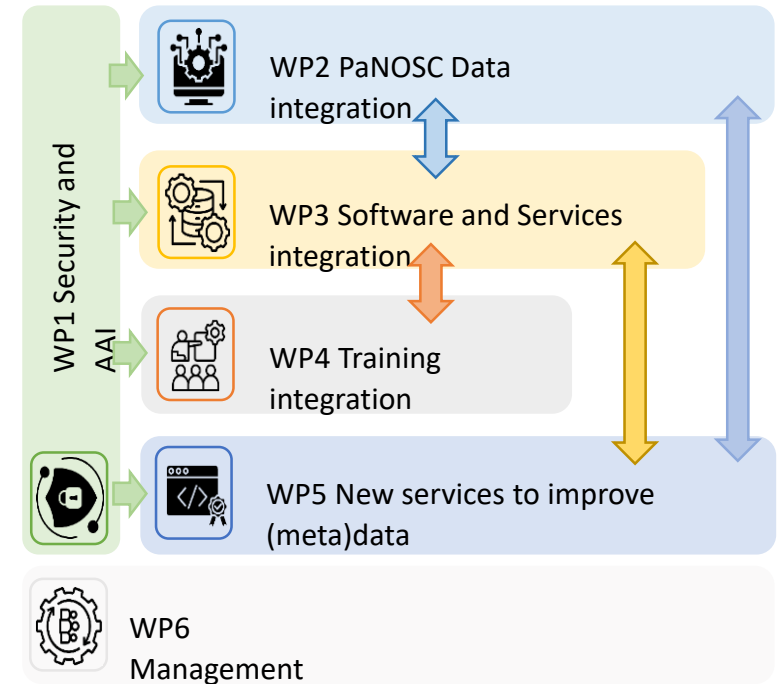
- **Coordinator** (Andy Götz - ESRF)
- **Operation Manager** (Oliver Knodel - HZDR)
- **Technical Coordinator** (Erwan Le-Gall - ILL)
- **Security Officer** (Jean-Francois Perrin - ESRF)
- **Scientific Officer** (Zdenek Matej - MAX IV)
- **Communications Officer** (Nicoletta Carboni - CERIC)
- **Legal Officer** (Renata Gibson - ESRF)

- **Engagement**

- **Letter of Intent signed by** each institute with ESRF (host)
- **All partners to participate in work packages**

## Next steps :

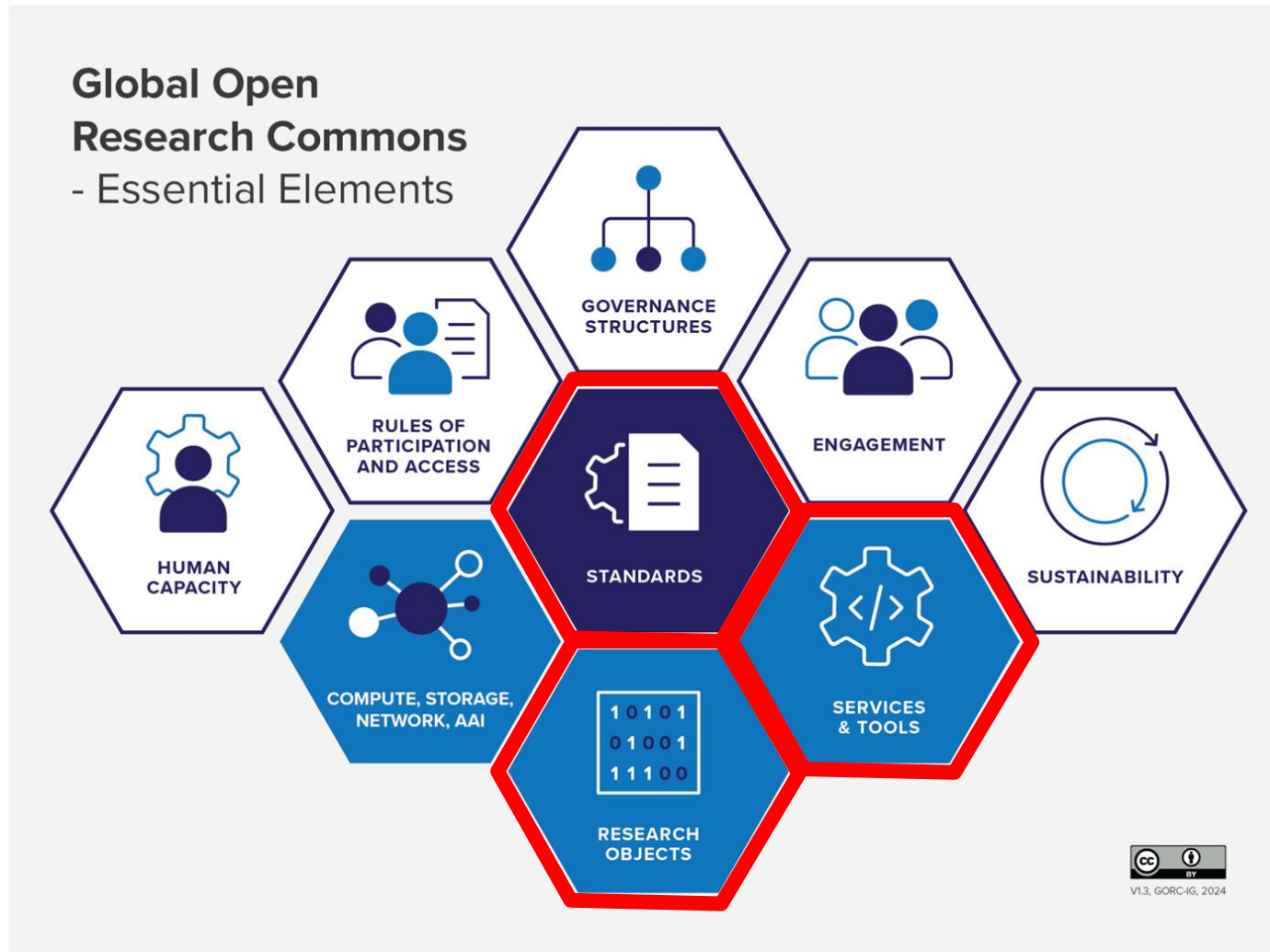
- ESRF will sign the **EOSC Federation MoU** on behalf of the PaNOSC Node
- Partners to agree on **Governance** structure and **Operations** manual
- **PaNOSC MoU** to be signed by all PaNOSC Node partners



**Project Management**  
missing from GORC?



# Research Objects, Services & Tools



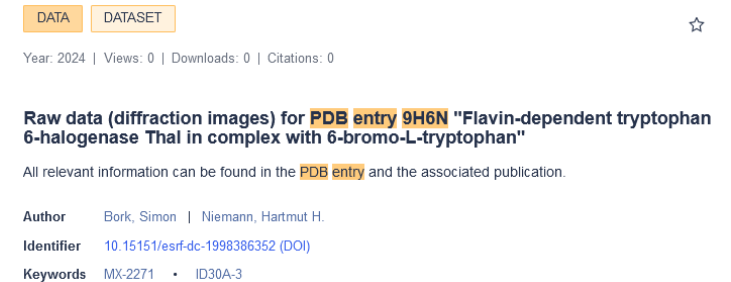
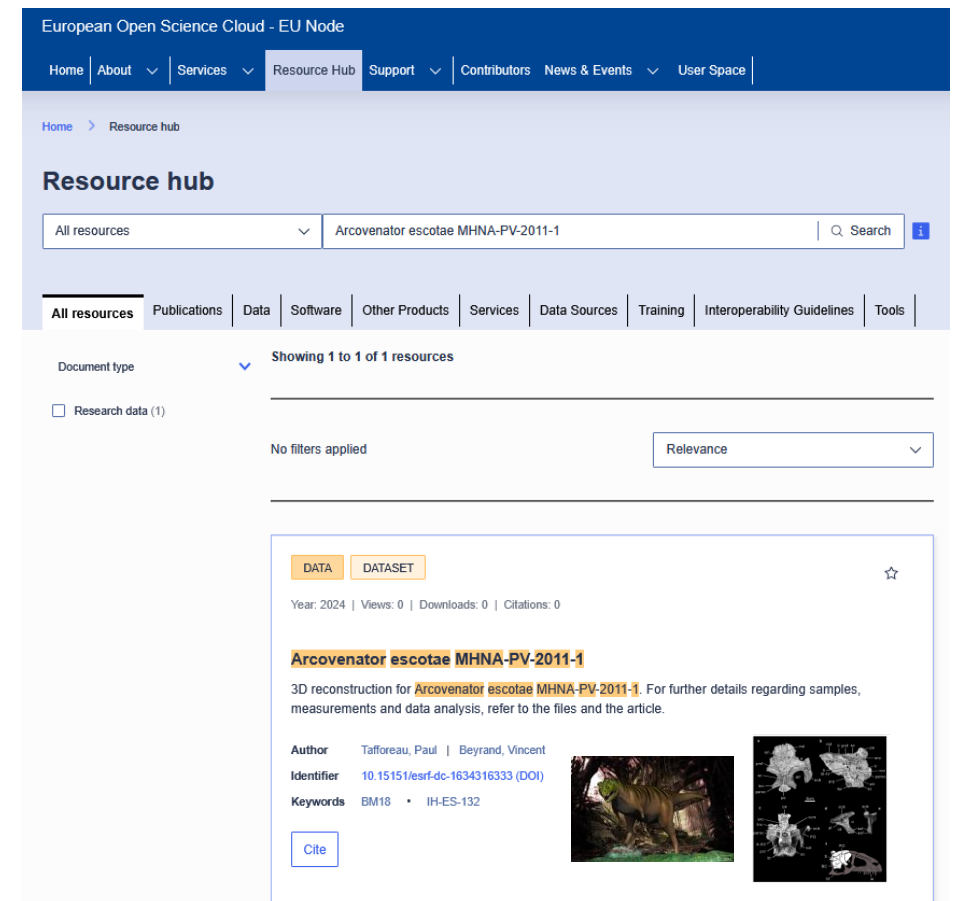
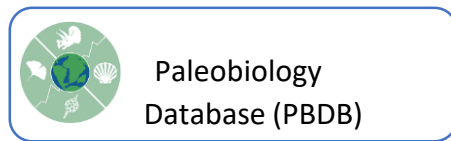
# PaNOSC Node main Resource = FAIR data

## Data catalogues

- Datasets of all PaN facilities catalogues are indexed by the EOSC Resource Hub ( via DataCite )
- Associate the data catalogues to the PaNOSC Node ( via OAI\_PMH protocol )

## Next steps :

- Link datasets to other community catalogues




# PaNOSC Node Resource

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

## Next steps :

- Integration of EOSC AAI
- Open to other community databases
- PaN-Finder - TRL8 → TRL9



Search through scientific datasets and research publications

List datasets related to Alzheimer disease

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
> <a href="https://doi.org/10.5291/ILL-DATA.8-04-751">10.5291/ILL-DATA.8-04-751</a>	Interaction of amyloid beta with native mitochondrial membranes	ILL
> <a href="https://doi.org/10.15151/ESRF-ES-1967389302">10.15151/ESRF-ES-1967389302</a>	Study the structural polymorphism in the brain tissues from Alzheimer's disease	ESRF
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> <a href="https://doi.org/10.15151/ESRF-ES-1669841750">10.15151/ESRF-ES-1669841750</a>	Human Butyrylcholinesterase in complex with ligands	ESRF
> <a href="https://doi.org/10.15151/ESRF-ES-1838133064">10.15151/ESRF-ES-1838133064</a>	Human Butyrylcholinesterase	ESRF

Show all 20 results



# PaNOSC Node Resource

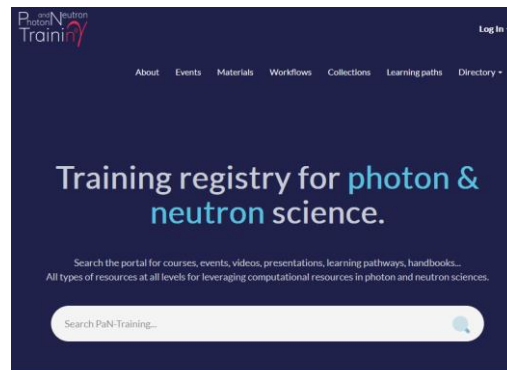
## PaNOSC Training catalogue:

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

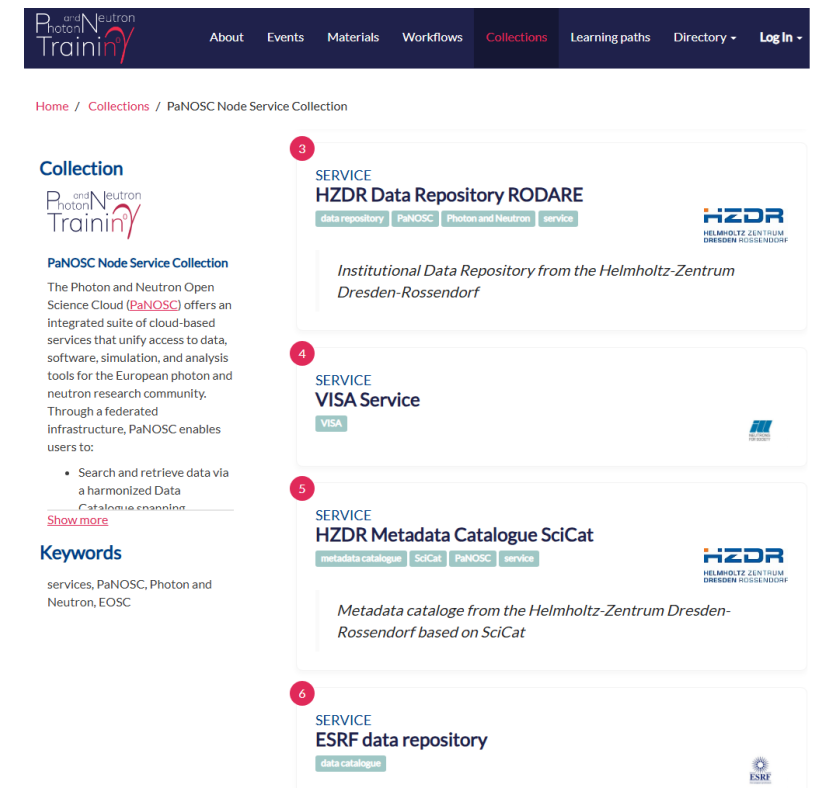
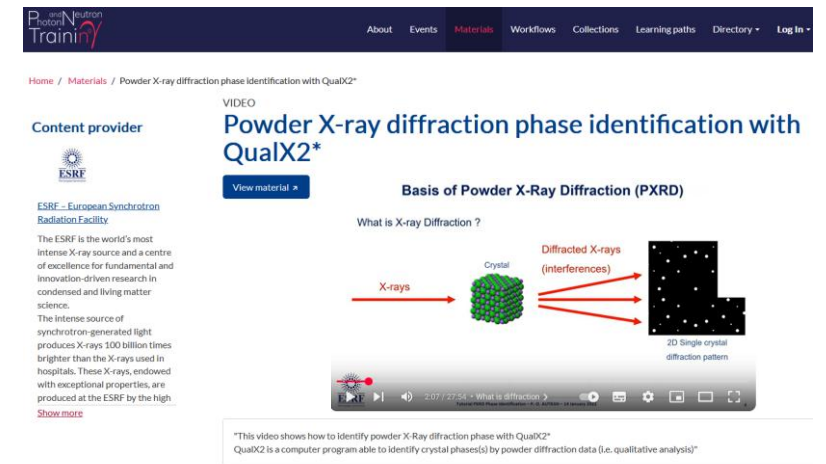


## Next steps

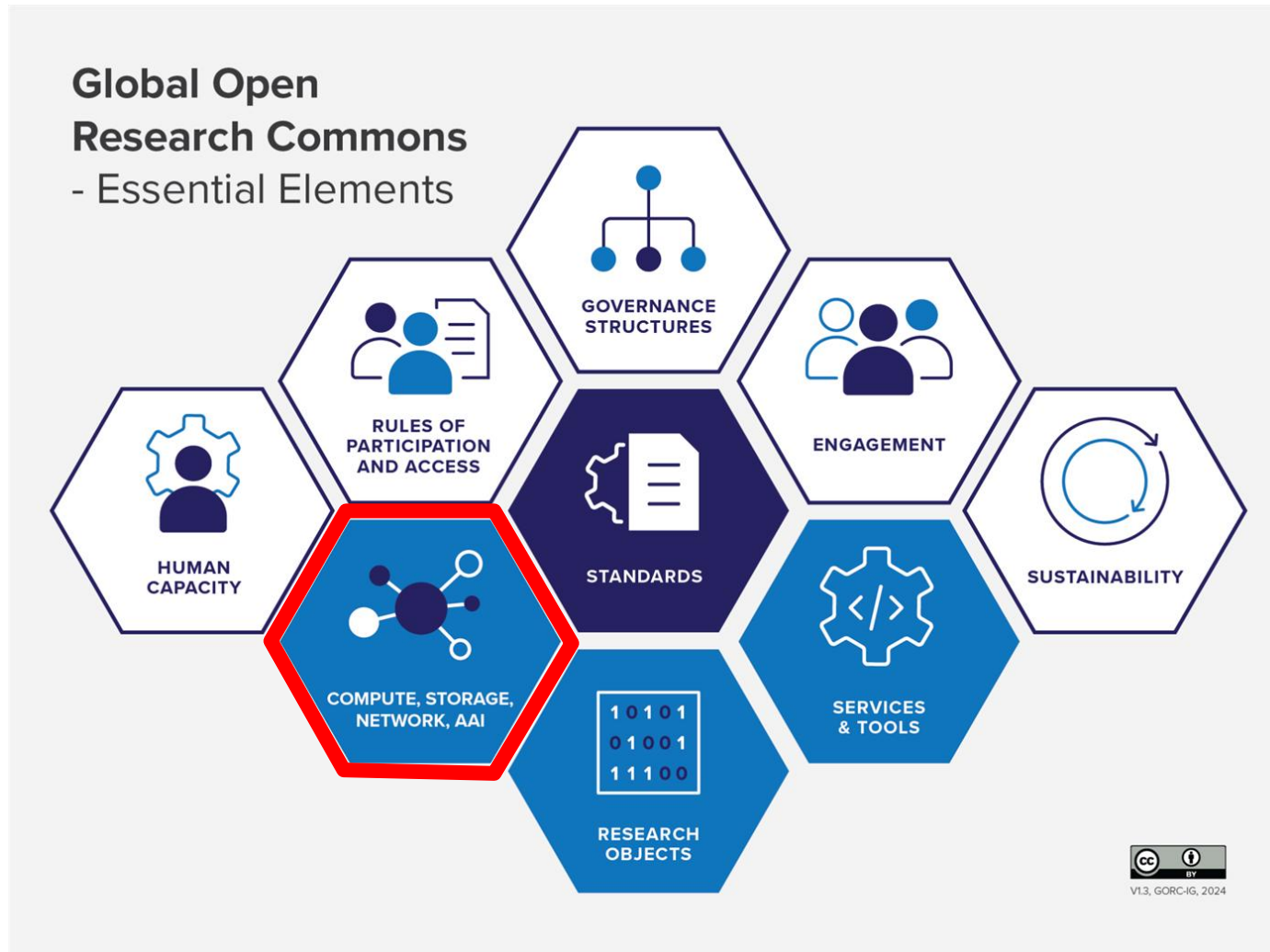
- Federation with other TeSS catalogues



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



# Compute, Storage, Network, AAI



# PaNOSC Node capability - AAI

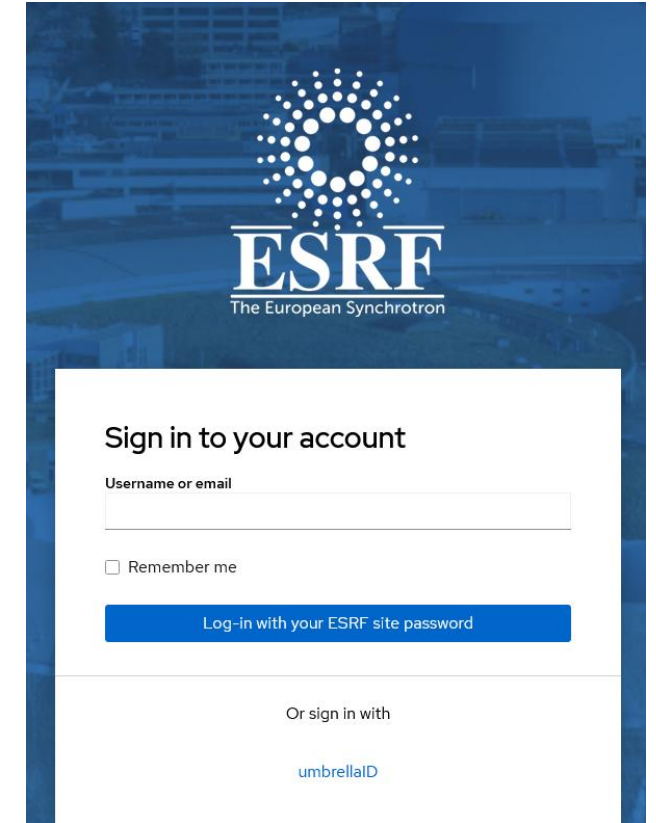
## PaNOSC AAI service

- Provides user with an SSO experience with EOSC AAI
- User Group management
- Collaboration with GEANT (AAI provider for EOSC EU Node)
- UmbrellaID integrated successfully in 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 capability – Computing

  
VISA

  
Home

  
Support

  
Help

  
Sign out

Andrew's compute instances

CREATE A NEW INSTANCE

Filter instances by experiment...

My instances 1 Instances shared with me 0

workable\_magnesium active



Desktop (Ubuntu 24.04)

esrf.medium: 8 GB · 8 VCPUs

Instance 5602 created on 21 Oct 2025 and due to expire on 20 Dec 2025

SettingsConnect

PaNOSC VISA - Virtual Research Environment:



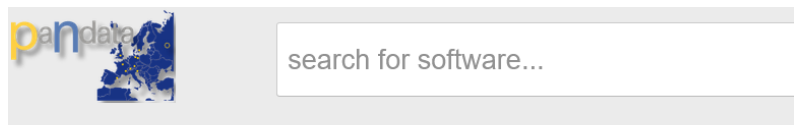
# PaNOSC Node Resource - Software

## 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.

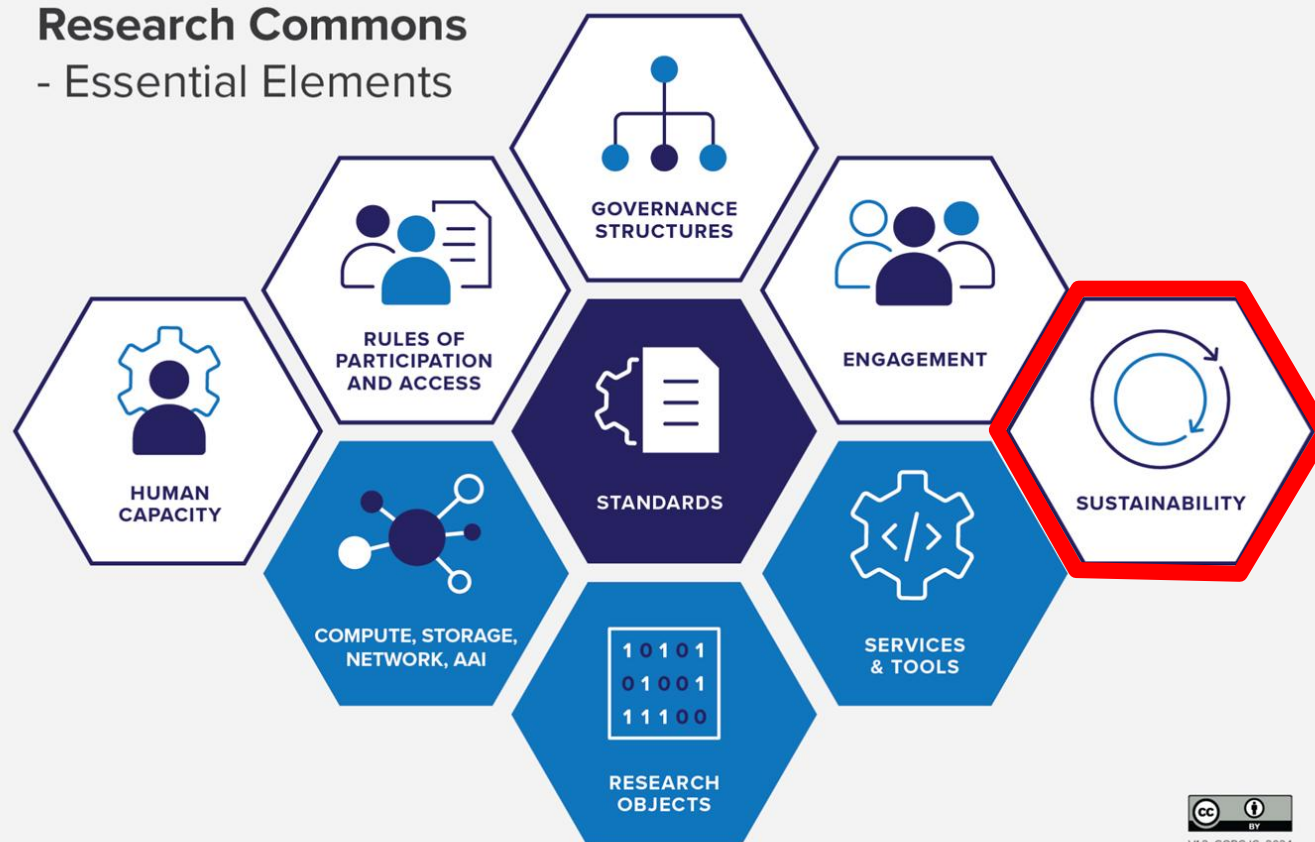


PaNdata Software Catalogue



# Sustainability

## Global Open Research Commons - Essential Elements



# PaNOSC Node Sustainability

## Vision:

- Work together to provide data and services which provide added value to users + researchers
- **Make FAIR data a permanent resource** managed at and by the PaNOSC partners

## PaN umbrella organisations:

- LEAPS - <https://www.lens-initiative.eu/>
- LENS - <https://lens-initiative.org/>
- All PaNOSC Partners are members of these organisations working together



## Sustainability:

- **PaNOSC services integrated in the operation of the PaNOSC facilities**

## Funding:

1. PaN facilities have received **~22 million euros** from INFRA-EOSC projects (PaNOSC, ExPANDS, OSCARS, FIDELIS)
2. EU projects + federation can help develop the PaNOSC Node further

# Conclusion

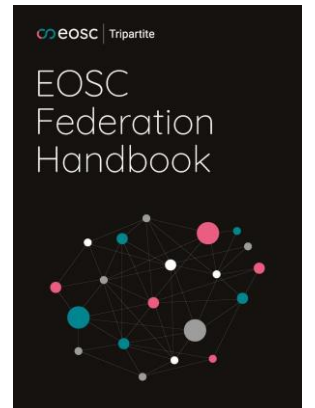
## Impact of applying GORC to the PaNOSC Node:

1. Helps improve the structuring of the PaNOSC Node
2. Adopting a common standard makes it interoperable
3. Helps providers and funders to sustain the PaNOSC Node

**GORC brings a common approach into the EOSC Federation for creating, documenting and federating EOSC Nodes**

→ **Proposal: GORC to be adopted by all EOSC Nodes** and added to the EOSC Federation Handbook as a recommendation for Nodes

→ **Todo: provide training** on how to apply GORC



**EOSC Nodes need a step-by-step guide on how to adopt GORC**