

PaNOSC use cases

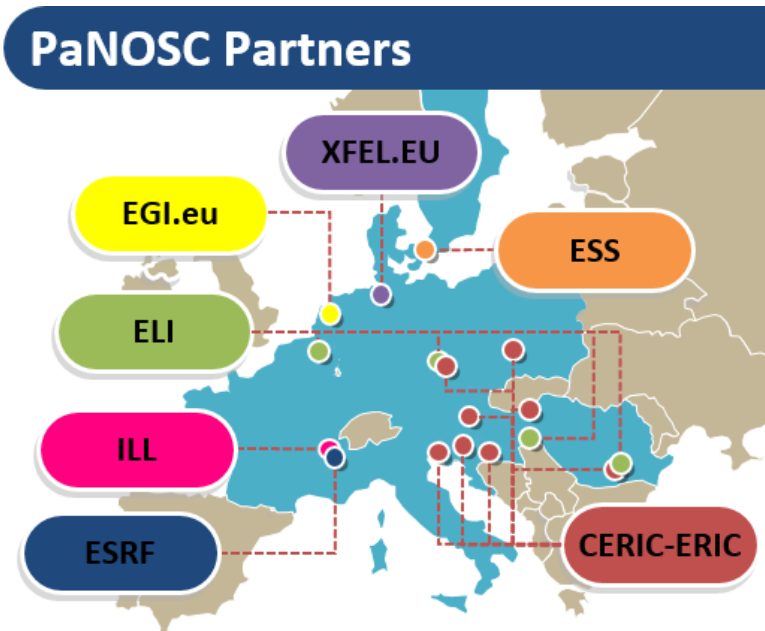
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PaNOSC



The Photon and Neutron Open Science Cloud (PaNOSC) is a cluster of ESFRI Research Institutes which proposes to align the efforts of the existing and new photon and neutron sources to make FAIR data a reality and link up to the European Open Science Cloud.

<https://github.com/panosc-eu/panosc/wiki>



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 82385

The community

- **50,000 users** – Biology, Medicine, Materials, Chemistry, Nuclear Physics, Particle Physics, Cultural heritage, Geology ... and **industrial** applications.
- **State of the art Large Scale Facilities** – 5 ESFRIs + 25 national RIs (PaNs)
- **Data policies** implementing FAIR principles – [PaNdata data policy](#)
- **10s of Petabytes** of scientific data, curated and archived for 5-10+ years
- **PaNs** manage and provide access to data from experiments across Europe
- **Working together** PaNOSC + ExPANDS



KPIs – Before PaNOSC - 2018

	ILL	ESRF	CERIC	XFEL	ELI	ESS
Data / yr	200 TB	8 PB	1 PB	3PB	< 1 PB	0
Data Policy	2011	2016	2014 (3/8)	2017	In progress	2017
Metadata catalogue	Local	Icat	Local	myMdC	No	SciCat
Metadata definitions	Nexus	Nexus	custom	myMdC	?	Nexus
DOI	2012	2018	No	2018	No	2018
Open Data	Yes	Yes	No	Yes	No	No
Data analyses Services	Pilot	In progress	Remote	In progress	?	In progress
Common data API	No	No	No	No	No	No
User training	No	No	No	No	No	No



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KPIs after PaNOSC – 2023

	ILL	ESRF	CERIC	XFEL	ELI	ESS
Data / yr	600 TB	50 PB	15 PB	100PB	10 PB	<1PB
Data Policy	2011	2016	2019	2017	2019	2017
Metadata catalogue	Local	Icat	Icat	myMdC	[TBD]	SciCat
Metadata	Nexus	Nexus	Nexus	Nexus	[Nexus]	Nexus
Metadata collection	All BLs	All BLs	All BLs	All BLs	All BLs	All BLs
DOI	Yes	Yes	Yes	Yes	Yes	Yes
Open Data	Yes	Yes	Yes	Yes	Yes	Yes
Common API	Yes	Yes	Yes	Yes	Yes	Yes
User training	Yes	Yes	Yes	Yes	Yes	Yes
Data Services	Prod	Prod	Prod	Prod	Prod	Prod
EOSC	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated



Photon and Neutron AAI - Umbrella

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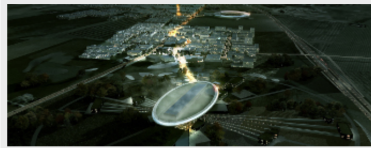
umbrellaID: Confidentiality for a lifetime

A federated identity system for the users of the (European) large neutron and photon facilities.



umbrellaID: _THE_ DIGITAL IDENTITY FOR PHOTON AND NEUTRON USERS

umbrellaID is a digital identity, developed for use by **Photon and Neutron users**. Globally



Nice! How can I use it?

umbrellaID is built on top of the existing local IT infrastructures and it **links its identity** in a once-only action directly to the local identity at the respective facility.



Great! Where can I use it?

To see where **umbrellaID** can be used at have a look at following [list](#).



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Data transfer use cases

- From RIs repositories to user services
 - E.g. EGI Jupyter notebooks / EGI data hub / OneData
- From RI repository to an external archive (e.g. STFC archive – 1pb per year)
- User driven on-demand transfer (e.g. GLOBUS online, OneData ...)
 - We will need to take into account data embargos
- Access data from a common PaNOSC portal for analyzing data
 - Combine datasets from multiple institutes
 - Jupyter containers and remote desktops
- Working with DESY, STFC, CESNET, EGI, GEANT
- Fortnightly telco
 - Open
 - <https://tinyurl.com/y3fmb5eb>

