



Making FAIR data a reality

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 823852



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About PaNOSC



Subhead

Analyse, use and re-use raw data from PaN facilities, using Jupyter notebooks based data analysis services. Get new scientific insights using technique specific notebook recipes with the advanced technology for remote and cloud access via a user-friendly interface.

Subsubhead

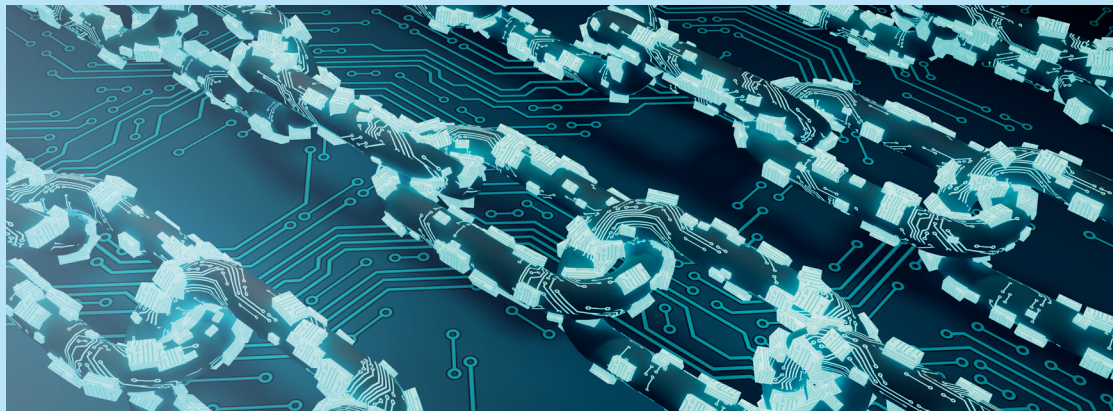
The PaNOSC project, Photon and Neutron Open Science Cloud, brings together six strategic European research infrastructures (**ESRF**, **CERIC-ERIC**, **ELI Delivery Consortium**, the **European Spallation Source**, **European XFEL** and the **Institut Laue-Langevin – ILL**, and the e-infrastructures **EGI** and **GEANT**, with the goal of contributing to the construction and development of the EOSC, an ecosystem allowing universal and cross-

disciplinary open access to data through a single access point, for researchers in all scientific fields.

The mission is to contribute to the realization of a data commons for Neutron and Photon science, providing services and tools for data storage, analysis and simulation, for the many scientists from existing and future disciplines using data from photon and neutron sources. To achieve this aim,

the exchange of know-how and experiences is crucial to driving a change in culture by embracing Open Science among the targeted scientific communities.

This is why the project works closely with the national photon and neutron sources in Europe to develop common policies, strategies and solutions in the area of FAIR data policy, data management and data services.



The PaNOSC project

Services



Data Catalog

Search, find and access data from PaN sources across the federated, cross-disciplinary and cross-border data catalogues infrastructure. Get easy access to the broadest sets of data from the diverse catalogues of European photon and neutron facilities, through the PaNOSC data catalogues using the federated search engine compatible with OpenAIRE.



Data Analysis

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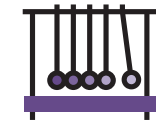
Pan Software Catalogue

Access the PaN software catalogue linked to the analysis and simulation software used in PaN facilities. Find documentation, links and complete examples of data sets and practical information about the scientific instruments used to collect them.



Data Storage

Search, find and access data from PaN sources across the federated, cross-disciplinary and cross-border data catalogues infrastructure, and access scientific open data remotely.



Data Analysis Simulation Data System

Enter PaN cloud-based virtual facility and access the available simulation data services to rapidly prototype and execute (both experimental and simulation) data workflows from designing your beamline (using OASYS) to simulating the data to be produced to better plan your experiment and/or understand the results.



Help Desk

Contact us for any question or clarification about the services developed for the PaN user community.

Data Catalog



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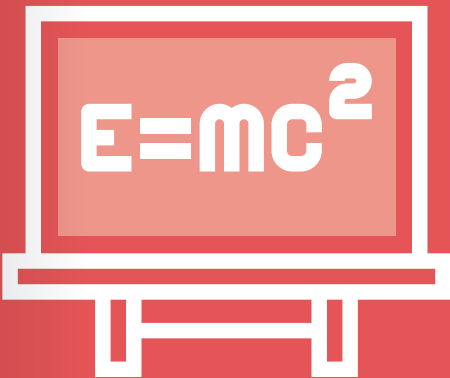
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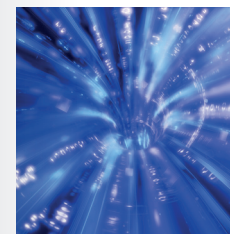
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FAIR Principles

Findable



The first step in (re) using data is to find them. Metadata and data should be easy to find for both humans and computers. Machine-readable metadata are essential for automatic discovery of datasets and services, so this is an essential component of the FAIRification process.



Accessible



Once the user finds the required data, she/he needs to know how can they be accessed, possibly including authentication and authorisation.



Interoperable



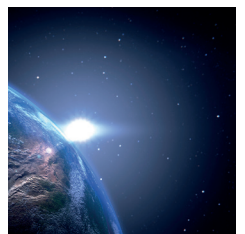
The data usually need to be integrated with other data. In addition, the data need to interoperate with applications or workflows for analysis, storage, and processing.



Reusable



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 823852. The ultimate goal of FAIR is to optimise the reuse of data. To achieve this, metadata and data should be well-described so that they can be replicated and/or combined in different settings.



In 2016, the “**FAIR Guiding Principles for scientific data management and stewardship**” were published in Nature Scientific Data. The authors intended to provide guidelines to improve the findability, accessibility, interoperability, and reuse of digital assets. The principles emphasise machine-actionability (i.e., the capacity of computational systems to find, access, interoperate, and reuse data with none or minimal human intervention) because humans increasingly rely on computational support to deal with data as a result of the increase in volume, complexity, and creation speed of data.

Contact

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