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## Towards F.A.I.R. data: Research data management at JCNS

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The Jülich Center for Neutron Science (JCNS) institutes conduct cutting-edge experiments leveraging various techniques. These experiments generate diverse and complex datasets, varying significantly in type, format, and volume due to the range of instruments used both within and outside the institutes. The heterogeneous nature of the data—from raw measurements to processed results—creates challenges in ensuring data are properly organized, stored, and accessible for future use.

To address these challenges, we present the initial plan to the development of the JCNS-Jülich Data platform, a (meta)data management system designed to support stakeholders across the research lifecycle—from experiment preparation to data ingestion, analysis, curation, and publication. Aligned with the principles of F.A.I.R. data (Findability, Accessibility, Interoperability, and Reusability), the platform provides a structured and standardized approach to managing experimental data. Additionally, it incorporates guidelines from several neutron science initiatives, such as DAPHNE4NFDI and ExPaNDS, as well as the Helmholtz Metadata Collaboration (HMC), ensuring compliance with community standards and fostering interoperability with broader scientific efforts. This development represents steps towards the digital transformation at JCNS, enhancing the F.A.I.R.-ness of data.

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