Research Commons - An Opportunity for European Research Infrastructure

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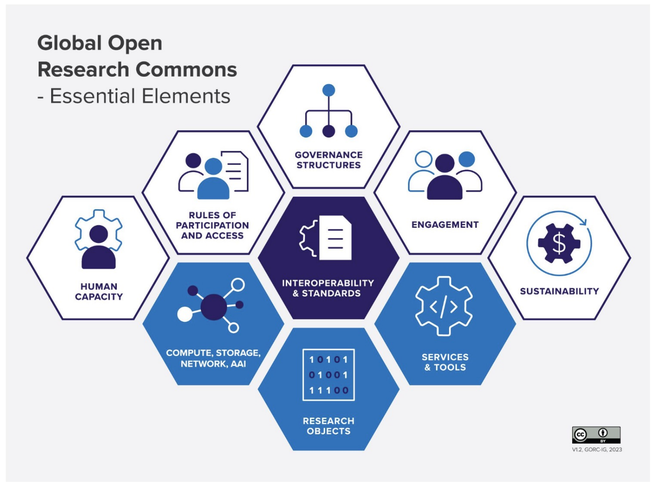
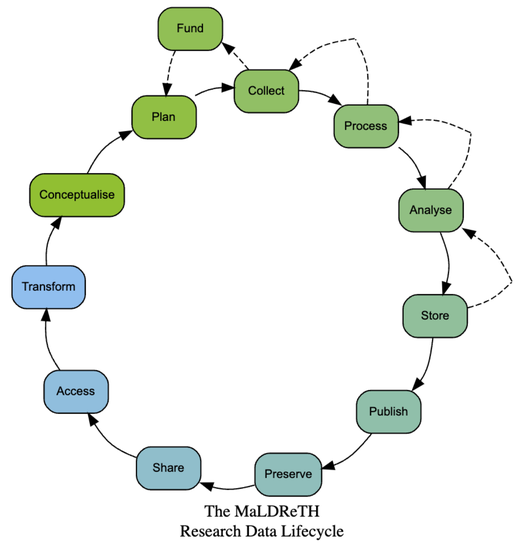
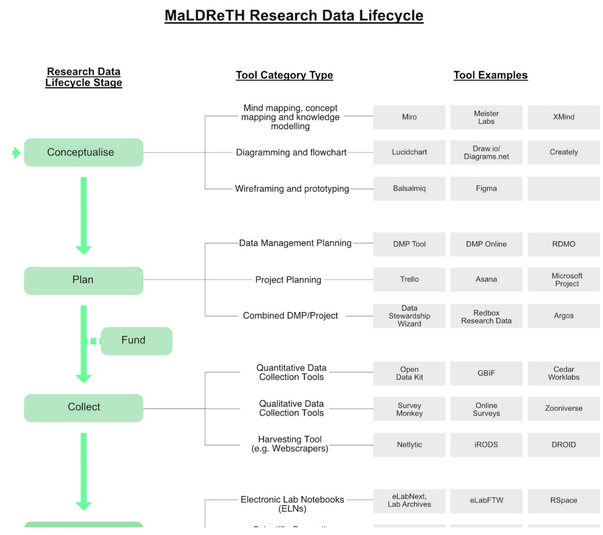
Towards a Global Research Commons through (Inter-)national Infrastructure and Vertical Interoperability

> ”Bring together data with cloud computing infrastructure and commonly used software, services and applications for managing, analyzing and sharing data to create an interoperable resource for a research community”
>
> *Scott Yockel, Harvard University*





The MaLDReTH
Research Data Lifecycle

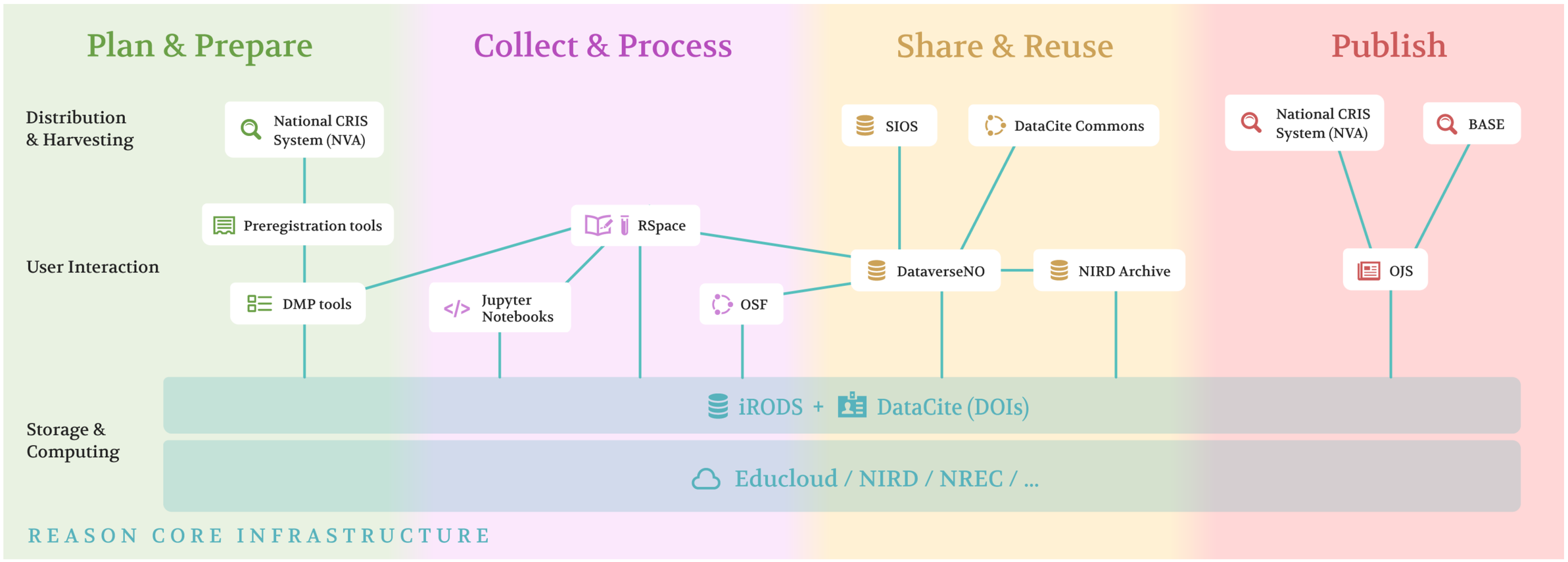


The publication by the RDA Global Open Research Commons Working Group [1] in October, 2023 of the Global Open Research Commons International Model (GORC Model) made available a fully featured template for a Research Commons [2]. National organizations in Sweden, the Netherlands, Germany, and elsewhere, and ELIXIR, are using the GORC Model to explore establishing Research Commons.

The newly developed MaLDReTH model [3] (Mapping Landscape Digital Research Tool Harmonized) supports Research Commons initiatives to identify tools and address vertical interoperability with a harmonized map and categorization of digital research tools across different disciplines and domains and in relation to the research lifecycle. Key elements of the model include:

- A standardized taxonomy or classification system for research tools
- Metadata schemas for describing tool characteristics
- Mappings between different existing tool catalogs or registries

REASON – The Proposed Norwegian Research Commons Using the GORC Model With Reference to the Research Data Lifecycle

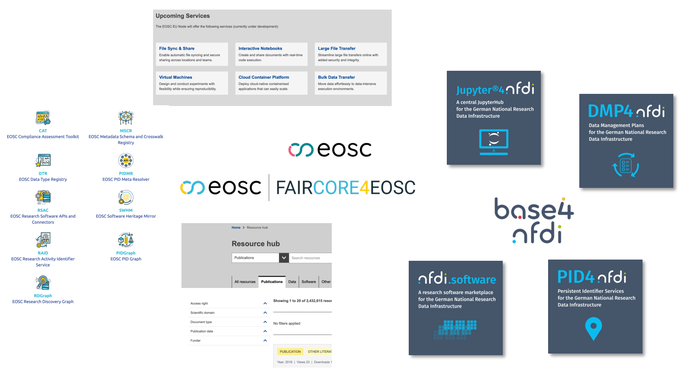


Technical core of REASON [4]: Two key features of Research Commons generally and including REASON are: first, they offer researchers access to an **integrated series of complementary services accessible from a single platform**; second, the platform is explicitly designed **with reference to the research data lifecycle**. The services offered are associated with different phases of the lifecycle, are interoperable, and facilitate passage of data and metadata between tools throughout the research lifecycle. The national repository DataverseNO, RSpace for active data management, iRODS for policy-based data management, data management plans, and Diamond Open Access publishing services combine to provide most of the essential technical elements needed in a Research Commons.
The REASON infrastructure will consist of all nine essential elements of the GORC Model. The services and tools element focuses on enabling end user functionalities and will **bring together Research Objects (ROs) with cloud computing and storage infrastructure and software, services and applications for managing, analyzing and sharing RO**s to create an integrated set of interoperable and complementary research resources.

Learning From REASON – From local Initiatives to a Global Open Research Commons?

Infrastructure providers such as EOSC and NDFI offer an extending set of generalist and specialist services for their communities, including services that are part of the technical core of REASON. REASON is the first detailed conceptualization of a Research Commons based on the GORC Model and is being used as a reference by many groups exploring the establishment of Research Commons. Besides EOSC and NFDI there is a growing momentum for generalist and community specific Research Commons initiatives:

- UK / BioFAIR
- Canada / Alliance Cloud Connect Pilot
- USA / New England Research Cloud (NERC)
- Australia / Australian BioCommons
- The Netherlands / SURF
- Sweden / SUNET
- ...



- How can a Research Commons be offered in an integrated researcher-focussed workflow-oriented way?
- How should a Research Commons offered by NFDI/EOSC relate to other research infrastructure, e.g. university infrastructure?
- What are the requirements for tools and providers of services to enable a Global Open Research Commons?
- How might individual Research Commons interoperate globally to facilitate sharing research objects beyond borders and communities?
- ...

References

[1] GORC working group at the Research Data Alliance: https://www.rd-alliance.org/groups/gorc-international-model-wg/
[2] Woodford, C., Treloar, A., Leggott, M., Payne, K., Jones, S., Lopez Albacete, J., Madalli, D., Genova, F., Dharmawardena, K., Chibhira, N., Åkerström, W. N., Macneil, R., Nurnberger, A., Pfeiffenberger, H., Tanifuji, M., Zhang, Q., Jones, N., Sesink, L., Wood-Charlson, E., & RDA GORC International Model WG. (2023). The Global Open Research Commons International Model, Version 1 (1.0). Zenodo. https://doi.org/10.15497/RDA00099
[3] https://www.rd-alliance.org/groups/rda-ofr-mapping-landscape-digital-research-tools-wg/forum/topic/re-rda-ofr-mapping-landscape-digital-tools-re-rda-ofr-maldreth-draft-deliverable-1-for-wg-review/
[4] Conzett, P., & Macneil, R. (2023). REASON – A Proposed Research Commons for Norway (1.0). Zenodo. https://doi.org/10.5281/zenodo.10410202

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