Putting the GORC model to work: REASON, the proposed national research commons for Norway

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Dataverse in national research commons - the case of REASON

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Outline

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- Background for the proposal (Philipp)
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- Rationale: Why build REASON (Rory)
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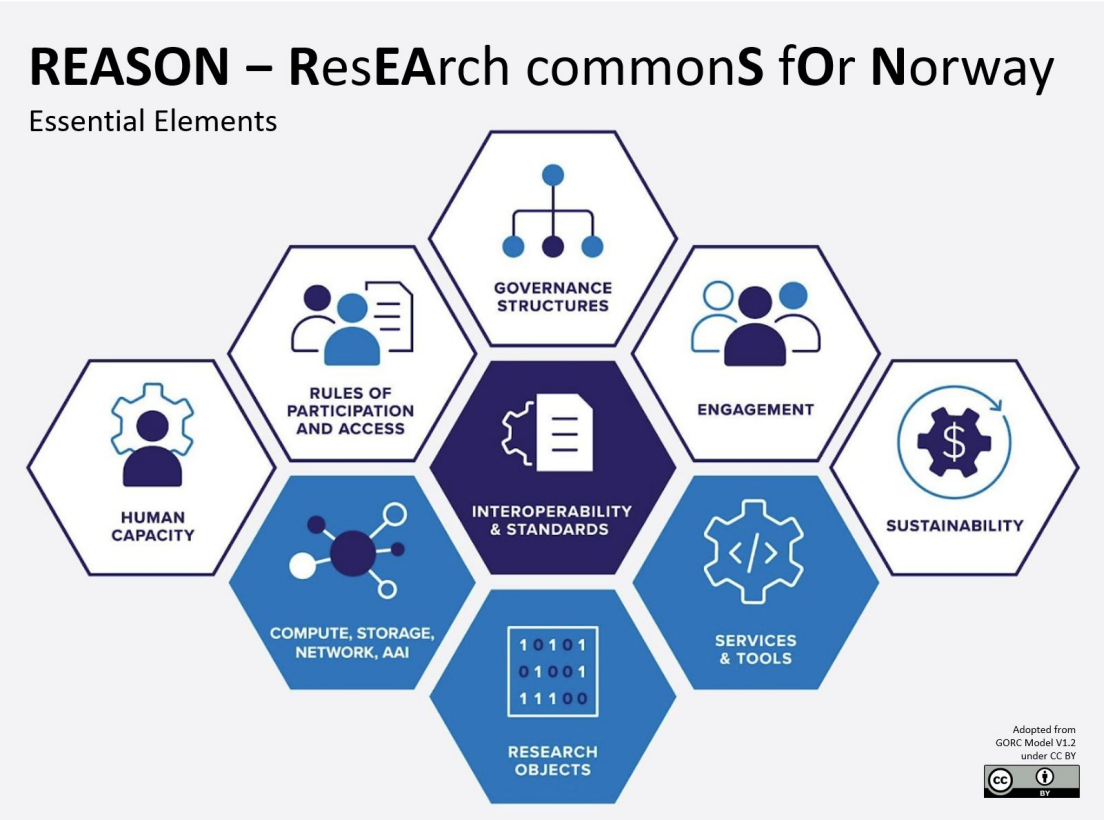
Overview of REASON

- A proposed generalist research infrastructure for Norway
- Complements and supplements domain-specific / specialized infrastructures
- Includes the nine essential elements of the new Global Open Research Commons (GORC) model published by the Research Data Alliance (RDA) late in 2023



Background for the proposal

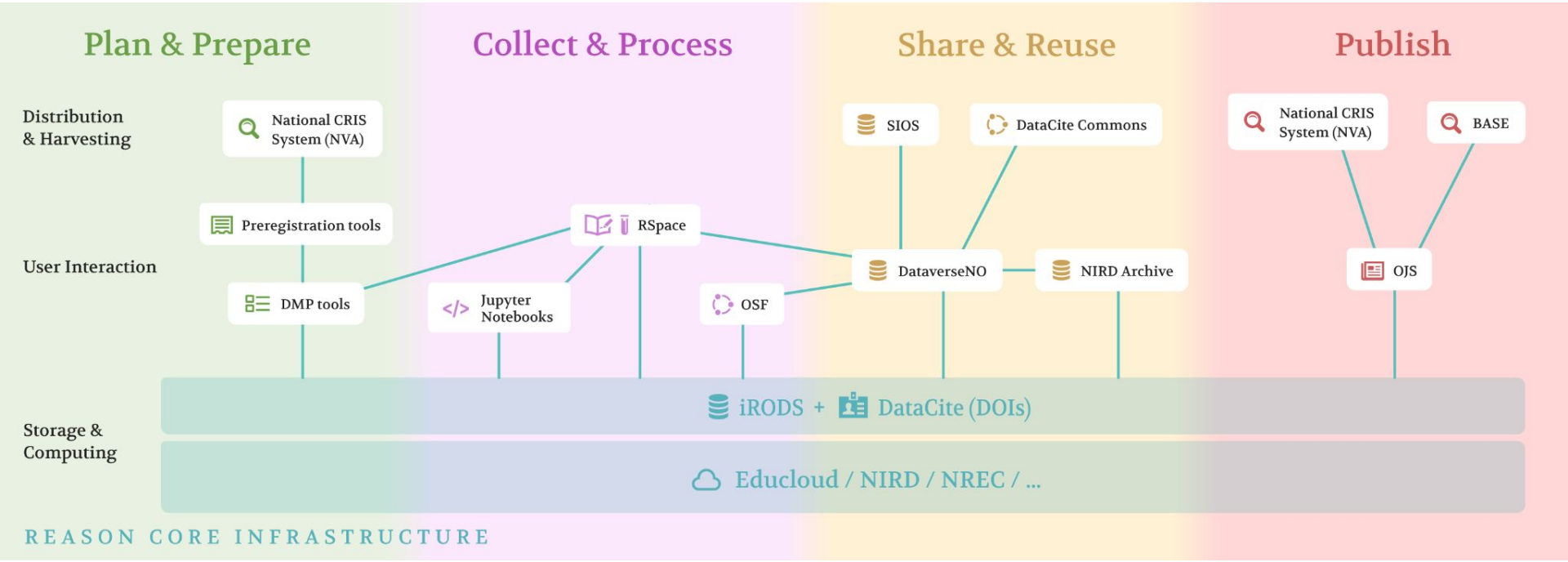
The Research Council of Norway

- National Financing Initiative for Research Infrastructure, administered by the Research Council of Norway, short: INFRASTRUKTUR
- Provide financial support for establishing or upgrading research infrastructure of national importance, including Norwegian participation in international research infrastructures (ESFRIs / ERICs)
- 7.2 billion NOK (~ 0.64 billion euros) allocated since the program was established in 2009. Usually a call every second year.
- Projects to be funded need to be between 2 and 200 million NOK, and up to 5 year (+ 5 y operation)
- Funded projects are included on the Norwegian roadmap for research infrastructure.
- In 2020, UiT and partners applied for funding to upgrade DataverseNO, a national research data repository. Proposal was turned down.
- Considered to resubmit enhanced proposal in 2023, but feedback from project partners and an external consultant indicated clearly that we needed a more ambitious proposal to reach the necessary level of excellence to be considered by RCN.
- Rory pitched the idea of a research commons.

Technical core of REASON

- The REASON infrastructure will consist of the nine essential elements of the GORC Model outlined above.
- Most prominent from a user perspective, the services and tools element focuses on enabling end user functionalities.
- It will connect things across the research lifecycle.
- More specifically, it will bring together Research Objects (ROs) - e.g. DMPs, data, publications - with cloud computing infrastructure and software, services and applications for managing, analyzing and sharing ROs to create an integrated set of interoperable and complementary research resources.
- The technical core of REASON is very roughly sketched in the figure below.

Technical core of REASON



Implementation: the work packages

WP1 Future User Needs Analyses … End user, support staff needs, standards, technical requirements, interoperability, workflows

WP2 Internal Capacities Development … competence, skills, training, technical, administrative, complementary skills

WP3 Enhancing and Developing Interoperable Infrastructures … workflows, services and tools, interoperability

WP4 Commons Engagement … awareness, onboarding, rules of participation, contributions and engagement, citizen science

WP5 Governance of the Commons, Public Services, Policy … governance, standards for operation, upscaling

WP6 Verification, Certification, Technical and User Testing … verification of tools, services, and protocols, demonstration

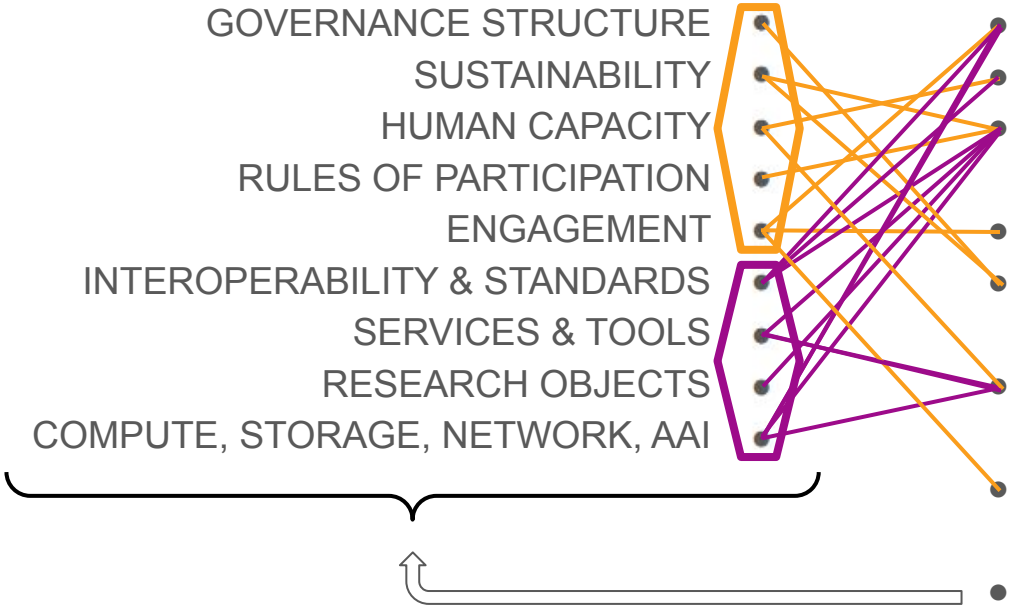
WP7 Dissemination, Communication, Exploitation … dissemination, international collaboration, exploitation, sustainability

WP8 Project Management, Safety, Ethics

Together, these WPs will implement the 9 REASON elements:

REASON Elements

GOVERNANCE STRUCTURE
SUSTAINABILITY
HUMAN CAPACITY
RULES OF PARTICIPATION
ENGAGEMENT
INTEROPERABILITY & STANDARDS
SERVICES & TOOLS
RESEARCH OBJECTS
COMPUTE, STORAGE, NETWORK, AAI



Work Packages

WP1 Future User Needs Analyses
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Implementation: the partners

5 national partner organizations:

- UiT The Arctic University of Norway (project owner)
- The Norwegian University of Life Sciences (NMBU)
- NTNU – Norwegian University of Science and Technology
- University of Bergen
- University of Oslo

9 international partner organizations:

- Data Archiving and Networked Services (DANS)
- DataCite
- Forschungszentrum Jülich
- Harvard University
- KU Leuven
- Research Space
- Simon Fraser University
- Syracuse University
- University of North Carolina at Chapel Hill

Implementation: integration grants

We propose an innovative project/funding tool (at least in a Norwegian / RCN context):

- Cascading / integration grants to facilitate extension of REASON during project period
- Mainly aimed at
  - other research organizations outside the project consortium
  - service and tools providers

Why build REASON

- Research Commons are now seen as the best internationally recognized model for delivery of integrated research services.
- Research Commons are being designed globally at the institutional, national and European level.
- REASON will bring together and enrich formerly insufficiently or unconnected research infrastructure components in Norway, including domain-specific components.
- REASON will establish Norway as a global innovator in the provision of research infrastructure.

Why the timing is right

- The availability of the GORC model provides for the first time a globally accepted template for research commons.
- 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.
- Dataverse is already integrated with RSpace and iRODS, both of which are enthusiastic participants in this proposal.
- The Norwegian research organizations involved in providing DataverseNO collectively possess (a) an understanding of the research infrastructure in Norway and (b) relationships with the organizations involved in providing the infrastructure needed to progress development of the REASON.
- A broad range of relevant expertise, experience and connections is brought to bear by other participants in the proposal, including international universities like Harvard and KU Leuven, and service and core tool providers including DANS, DataCite and PKP, all of which are already collaborating with DataverseNO.

Model/Reference for Others?

- Comprehensive use of GORC Elements
- Detailed instantiation of Services and Tools Element of the GORC model
- Built around around several tools with complementary general usefulness that are all designed to enhance FAIRification of data
- Focus on interoperability of tools, data and metadata
- Encompasses need to interoperate with existing generalist and domain specific research infrastructure
- Combines support of multiple Norwegian universities and national infrastructure providers with involvement of international technology and university partners
- REASON could play a role in a future national EOSC node in Norway