



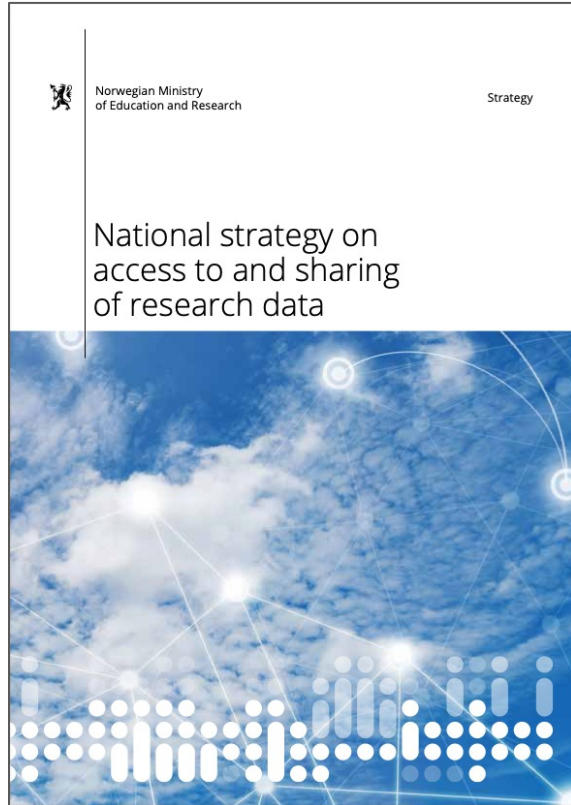
Data Management Requirements

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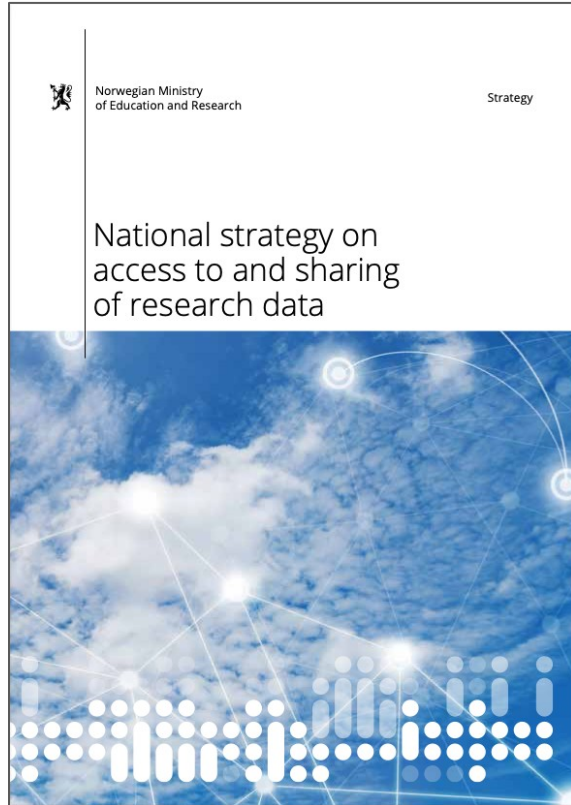
“National Strategy on access to and sharing of research data” 19/12/2017



Publicly funded research data refers to:

- (i) **data collected or generated** for use for or as a result of publicly funded research, and
- (ii) **data underpinning publications** that are the result of publicly funded research, regardless of the source of the data.

“National Strategy on access to and sharing of research data” 19/12/2017



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- (i) **data collected or generated** for use for or as a result of publicly funded research, and
- (ii) **data underpinning publications** that are the result of publicly funded research, regardless of the source of the data.

Basic principles:

1. Research data must be as open as possible, as closed as necessary.
2. Research data should be managed and curated to take full advantage of their potential.
3. Decisions concerning archiving and management of research data must be taken within the research community.

“National Strategy on access to and sharing of research data” 19/12/2017



Stipulations to draw up data management plans

*Researchers are facing **stricter requirements and greater expectations** concerning research data management from scientific journals, research funders and their own institutions.*

The Government expects:

the research institutions to develop procedures for (i) approving data management plans...

Funder policies on research data

Norges Forskningsråd (Research Council of Norway) is the primary funding body in Norway for research. The research data management policy of RCN requires a Data Management Plan (DMP), preferably also available in the DMP Common Standard as supported by for example by  Data Stewardship Wizard after a positive funding decision for each project. A DMP has to be submitted as part of a final report. RCN recommends following the 'Practical Guide to the International Alignment of Research Data Management' by Science Europe, the organisation of research funders and performers. In addition to advising policies for open science and open access, RCN provides recommendations on how to make research data available. From 2023 and onwards, a project grant application submitted to RCN is assessed for open science best practices.

Institutional policies on research data

We provide here a non-exhaustive list of research institutions with Data Management Policies in Norway:

- Norwegian University of Life Sciences (NMBU)



Institutional Guidelines

Forskningsdata

Retningslinjer for håndtering av
forskningsdata ved NMBU



Personvernombudet ved NMBU



Bruk av personopplysninger i
gradsoppgave



Bruk av personopplysninger i
forskning



Håndtering av forskningsdata



The Research Council of Norway's Policy for Open Access to Research Data

Originally 2014, updated
Dec/2017

New:

“... requiring that R&D-performing institutions or companies should assess whether projects receiving funding from the Research Council must develop a **data management plan**.”

and

“The **FAIR Guiding Principles** for scientific data management and stewardship are included as a main principle in the Research Council's policy”



<https://www.forskningsradet.no/contentassets/e4cd6d2c23cf49d4989bb10c5eea087a/the-research-council-of-norways-policy-for-open-access-to-research-data.pdf>

RCNs guidelines for storage, dissemination and sharing of research data



Research data...



**Research
data...**  **...must be stored/archived in a safe and secure manner.**



Research data...



...must be stored/archived in a safe and secure manner.



...must be made accessible for reuse.



Research data...



...must be stored/archived in a safe and secure manner.



...must be made accessible for reuse.



...should be made accessible at an early stage [latest at publication]



Research data...



...must be stored/archived in a safe and secure manner.



...must be made accessible for reuse.



...should be made accessible at an early stage [latest at publication]



...must be accompanied by standardised metadata.



Research data...



...must be stored/archived in a safe and secure manner.



...must be made accessible for reuse.



...should be made accessible at an early stage [latest at publication]



...must be accompanied by standardised metadata.



...must be provided with a license for access, reuse and redistribution.



Research data...



...must be stored/archived in a safe and secure manner.



...must be made accessible for reuse.



...should be made accessible at an early stage [latest at publication]



...must be accompanied by standardised metadata.



...must be provided with a license for access, reuse and redistribution.

...should preferably be made accessible at no charge.



Research data...



...must be stored/archived in a safe and secure manner.



...must be made accessible for reuse.



...should be made accessible at an early stage [latest at publication]



...must be accompanied by standardised metadata.



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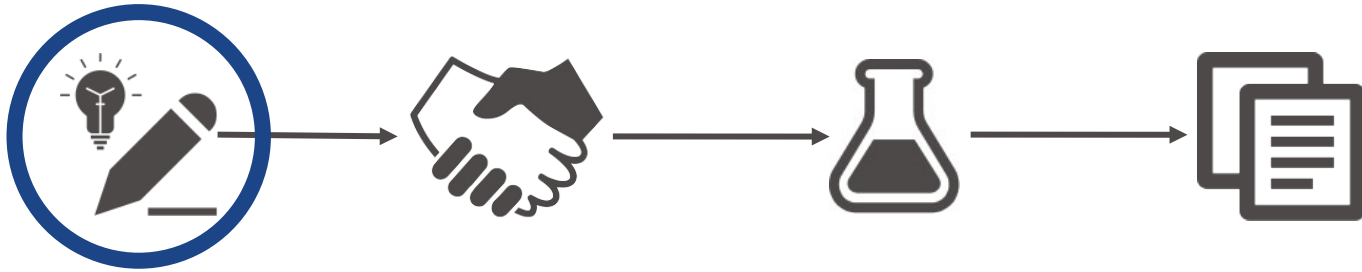
<https://www.forskningsradet.no/contentassets/e4cd6d2c23cf49d4989bb10c5eea087a/the-research-council-of-norways-policy-for-open-access-to-research-data.pdf>

DMP requirements in an RCN project



DMP requirements in an RCN project

Project planning and proposal:
No DMP required

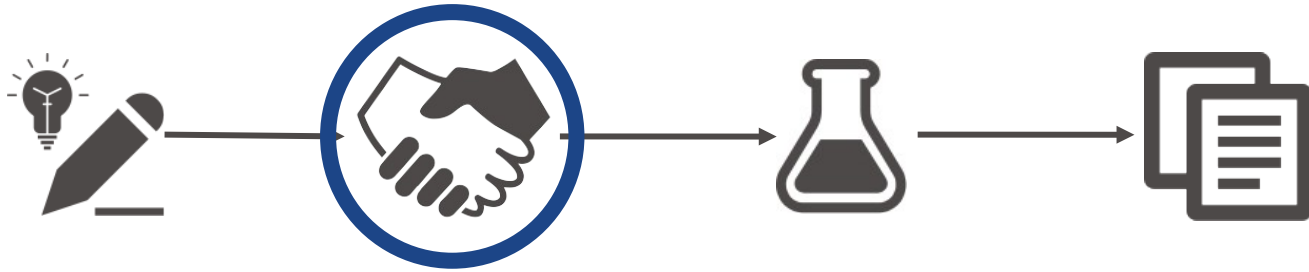


But, you should consider:

- Ethical and legal aspects
- Storage and computing (budgeting?)
- DM personnel and time (budgeting?)

DMP requirements in an RCN project

When awarded funding from RCN:
Full DMP required



“This plan must be delivered in connection with the revised grant application.”

“If you decide that a data management plan is not needed, you must provide an explanation.”

Core requirements to data management plan

Published 2019





Core requirements to data management plan

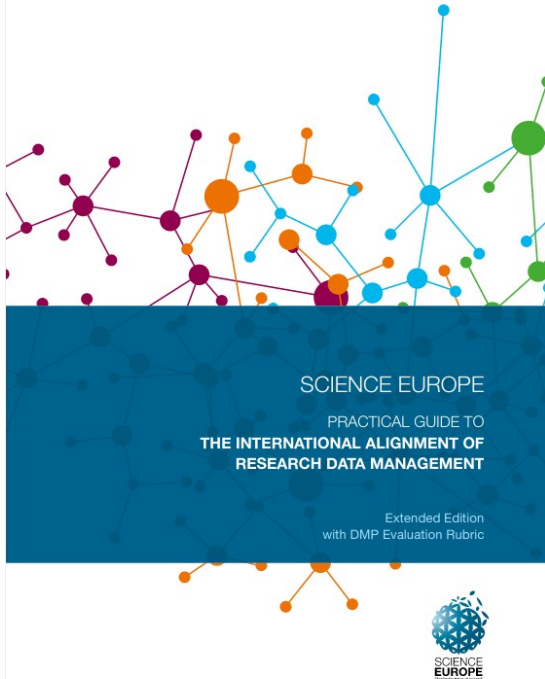
6 core requirements:

Data description & Collection/re-use
Documentation & Data quality
Storage & Backup
Legal & Ethical requirements
Data sharing & Preservation
Responsibilities & Resources





Core requirements to data management plan



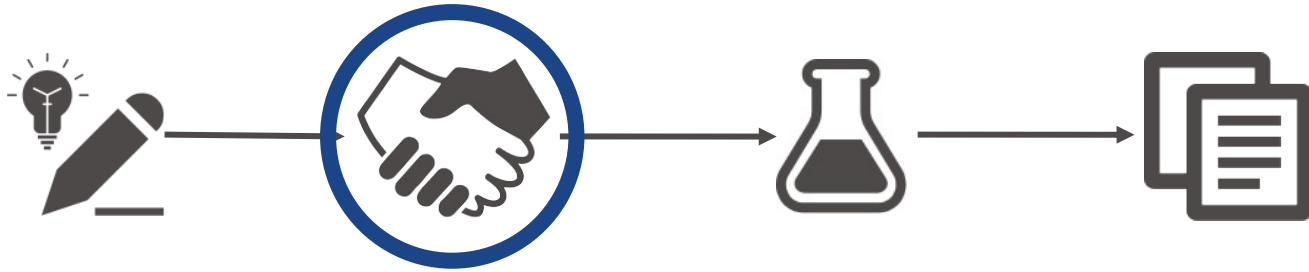
Updated Jan 2021

- Including guidance for reviewers (evaluation rubric)

RCN does not [yet?] refer to the updated guide

DMP requirements in an RCN project

When awarded funding from RCN:
Full DMP required

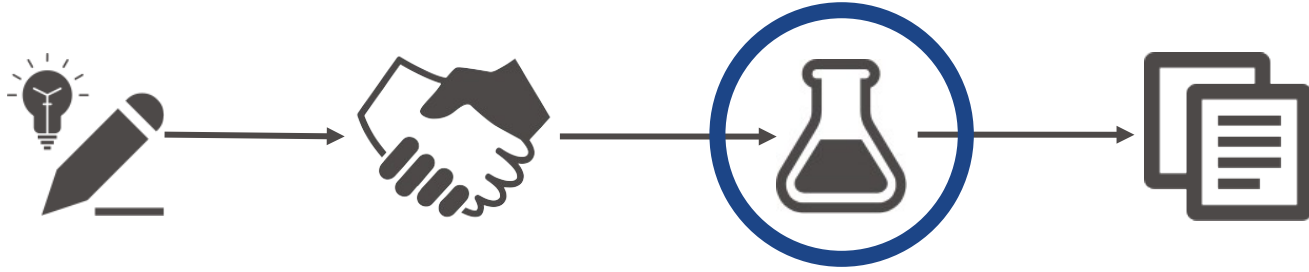


Public and openly accessible!

One possibility is **zenodo**

DMP requirements in an RCN project

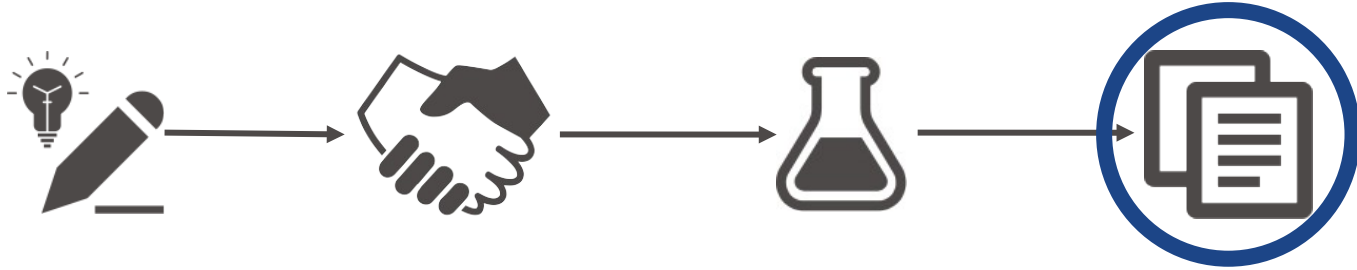
During your project:
Update the DMP



“You will not be asked to report on changes to the plan during the project period.”

DMP requirements in an RCN project

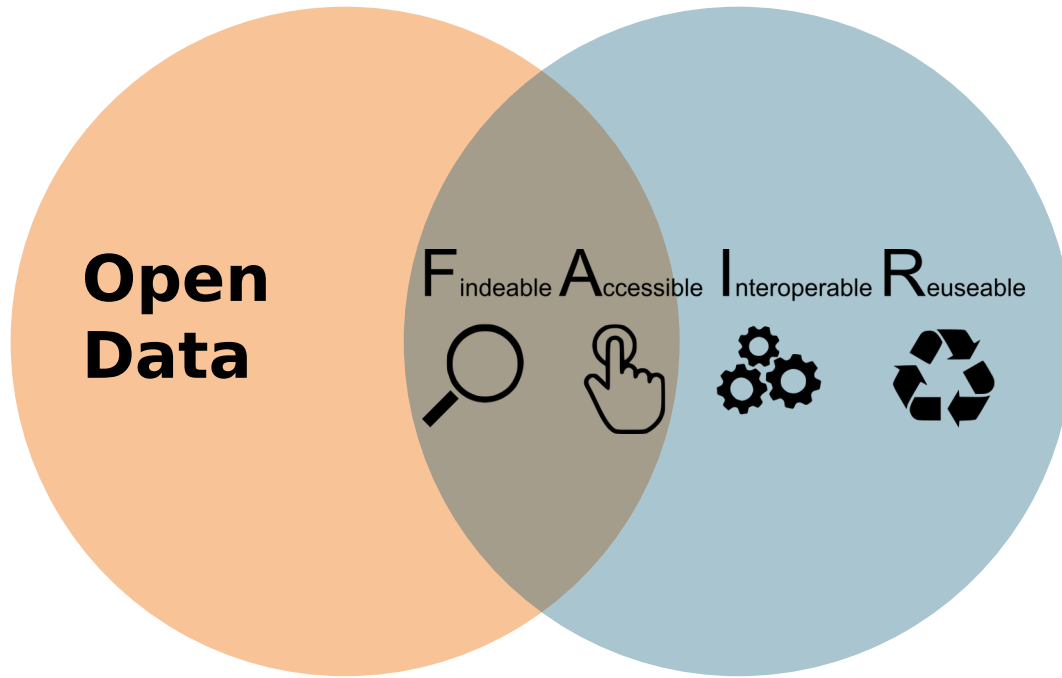
Final report of project:
Final version of DMP



“We will request a final version of the data management plan in connection with the final report of the project.”

Introduction

The FAIR data principles



As open as possible and as close as necessary

Data that is not open should also be FAIR

A system for authentication and authorisation should be in place

FAIR: Findable Data



Metadata are crucial: the data are found through the metadata.

Deposition on a repository is one of the FAIR principles, such an (external) service has to be in place.

FAIR: Accessible Data



Technical implementations for accessing data, authentication and authorisation (FAIR not OPEN).

Metadata always available, also when the dataset no longer exist.

FAIR: Interoperable Data



Adoption of community-defined standards and definitions.

Consistent metadata annotation allows linking across datasets.

FAIR: Reusable Data



To ensure successful reusability, you need:

- Rich metadata
- License
- Data “history” (experimental technique, author, publication)
- Community standards (e.g. from domain repository of choice)

Introduction

The Machine-Actionable DMP standard

The machine-actionable DMP standard (maDMP)

Machine-actionable:

- Information structured in a consistent way so that machines can be programmed against the structure.
- Formats such as JSON, XML, RDF


Standard:


- Contains “minimum information”, but can also be customised.
- All tools supporting this format become interoperable


Research Data Alliance (RDA) working group (WG)


WG


DMP Common Standards WG


 Taxonomy:



Posts



Create Wiki index



Events


Repository


Outputs



Case Statements



Plenaries


Members

create new content

▼

Group Status:  WGs Maintaining deliverables (maintenance group)

 Join Group



<https://www.rd-alliance.org/groups/dmp-common-standards-wg>

What a data management plan should include

The Research Council recommends using a service for data management plans that allows the project to generate a machine-actionable data management plan, for example according to the [RDA Common Standard](#). Until further notice, the project must upload the data management plan in the format of pdf, .doc(x) or similar. We are working on developing our systems to facilitate machine-actionable data management plans. We also recommend assigning your data management plan a persistent identifier, such as a DOI. Several services for data management plans offer this.

<https://www.forskningsradet.no/en/research-policy-strategy/open-science/research-data/>

Who recommends/requires a maDMP 2

December 12, 2022

Report

Open Access

UB-BOTT-samarbeid om datahåndteringsplaner: kartlegging og anbefalinger

 Gabrielsen, Ane;  Kvale, Live;  Ostrop, Jenny;  Sarre, Aili

Project member(s)

 Heggland, Ingrid;  Bertheussen, Lene;  Flatby, Helene;  Bochynska, Agata;  Conzett, Philipp;  Longva, Leif

<https://doi.org/10.5281/zenodo.7428542>

December 12, 2022

Report

Open Access

UB-BOTT-samarbeid om datahåndteringsplaner: kartlegging og anbefalinger

Prosjektgruppen slutter seg også til anbefalingen fra Forskningsrådet om å bruke verktøy som kan generere maskinhåndterbare datahåndteringsplaner (f.eks. etter RDA Common Standard) og publisering av DMPer.

<https://doi.org/10.5281/zenodo.7428542>

JSON schema of maDMP

Properties in 'contact' [↗](#)

Name	Description	Data Type	Cardinality	Example Value
contact_id	Identifier for a contact person	Nested Data Structure	1	
mbox	E-mail address	String	1	cc@example.com
name	Name of the contact person	String	1	Charlie Chaplin

Properties in 'contact_id' [↗](#)

Name	Description	Data Type	Cardinality	Example Value
identifier		String	1	
type	Identifier type Allowed Values: <ul style="list-style-type: none">• orcid• isni• openid• other	Term from Controlled Vocabulary	1	orcid

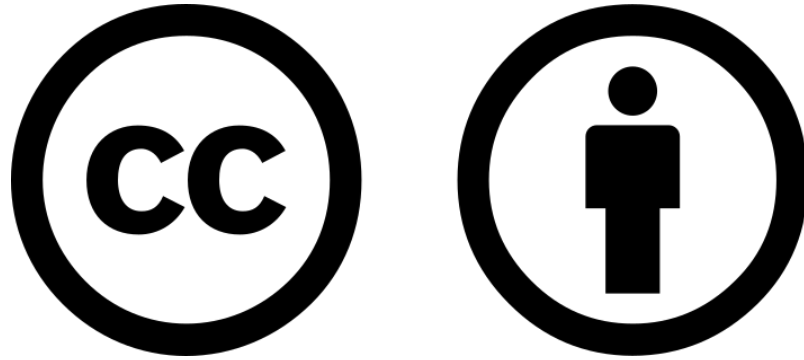
<https://github.com/RDA-DMP-Common/RDA-DMP-Common-Standard>

JSON schema of maDMP

Properties in 'contact' [↗](#)

Name	Description	Data Type	Cardinality	Example Value
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name	Name of the contact person	String	1	Charlie Chaplin

- This specific format is already implemented in DSW.
- Filling out a DMP produces a document compliant with maDMP
- This will be demonstrated in the demo today



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