Open science policy in Norway

The Research Council of Norway

Marte Qvenild

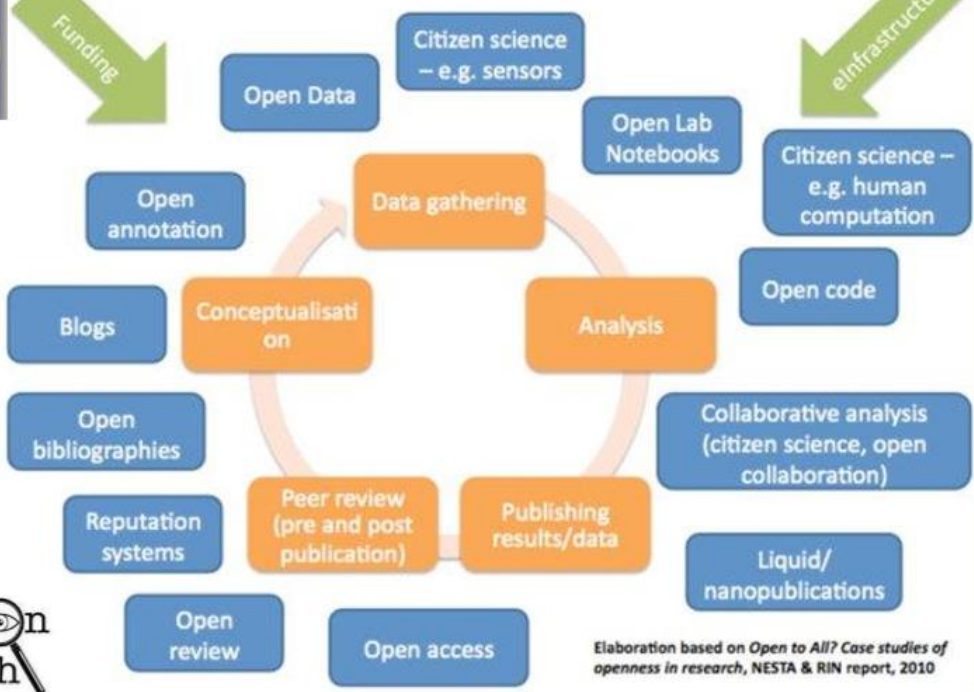FORSKNING FOR **INNOVASJON OG BÆREKRAFT**

European Commission

Open Research Fund: applications submitted

Here you can see a list of eligible applications to the Open Research Fund in 2018, including project proposals.

wellcome

DataCite

scistarter®
Science we can do together.

figshare

DRYAD

Galaxy Zoo

zotero

+AllTrials

experiment

kaggle

arXiv.org

Open annotation

Blogs

Citizen science – e.g. sensors

Open Data

Open Lab Notebooks

Citizen science – e.g. human computation

Data gathering

Open code

Conceptualisation

Analysis

Altmetric

MENDELEY

Impactstory R^G

ORCiD

Open bibliographies

Reputation systems

Peer review (pre and post publication)

Publishing results/data

Collaborative analysis (citizen science, open collaboration)

runmycode

DOAJ DIRECTORY OF OPEN ACCESS JOURNALS

unpaywall

Retraction Watch

Open review

Open access

Liquid/ nanopublications

Elaboration based on *Open to All? Case studies of openness in research*, NESTA & RIN report, 2010

zenodo

PUBPEER
The online Journal club

Peerage of Science

Opening up the full research cycle

Open Science = Systemic transition of science system which affects the way

- research is performed
- knowledge is shared/diffused/preserved
- research projects/results are evaluated
- research is funded
- researchers are rewarded
- future researchers are trained

Affecting the whole research cycle and all its stakeholders

Politics

Knowledge-based politics and management
Solve societal challenges

Science

Increase quality
and relevance
New diciplines
and fields

New research methods	Inclusion
Changes in the research process	
Open access	Research collaboration

Sustainable products
and services
Increased value
creation

Innovation

Democratization and trust

Civil society

Open access to public research results has been on the political agenda in Norway for several years

- Report to the Storting (white paper); *Climate for Research* (2008-2009) and *Long-term perspectives – knowledge provides opportunity* (2012-2013)

- *Digital Agenda for Norway* in 2013 - Report to the Storting (white paper)

- *National strategy on access to and sharing of research data* in 2017

- *National goals and guidelines for open access to research articles* in 2017
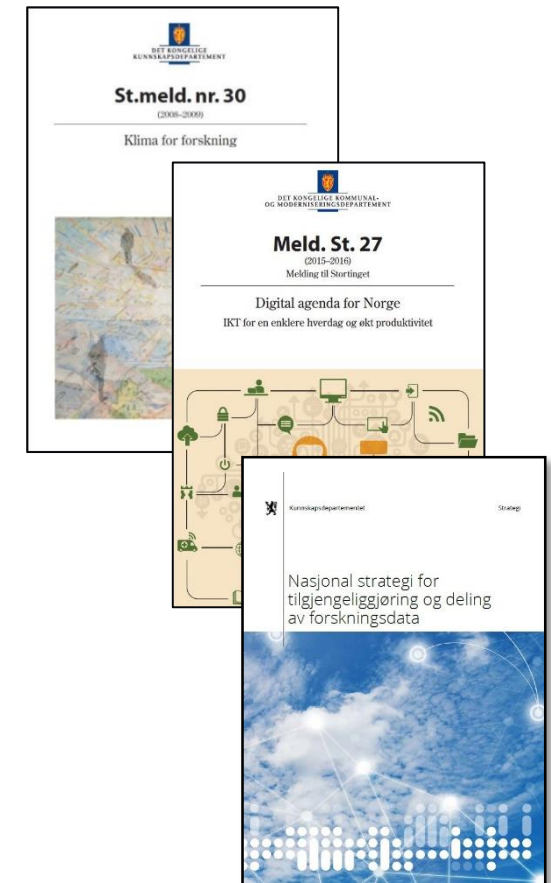
National strategy on access to and sharing of research data

Three 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

2. Research data should be managed and organised to take full advantage of their potential

FAIR Principles

GO FAIR is committed to making data and services **findable**, **accessible**, **interoperable** and **reusable (FAIR)**.

Findable: Metadata and data should be easy to find for both humans and computers.

Accessible: The exact conditions under which the data is accessible should be provided in such a way that humans and machines can understand them.

Interoperable: The (meta)data should be based on standardized vocabularies, ontologies, thesauri etc. so that it integrates with existing applications or workflows.
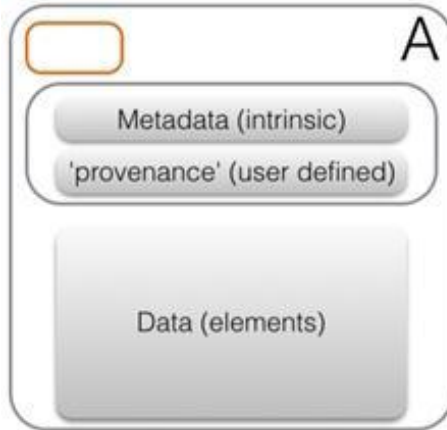
Reusable: Metadata and data should be well-described so that they can be replicated and/or combined in different research settings.
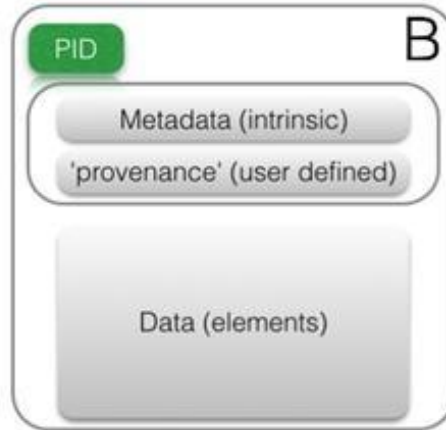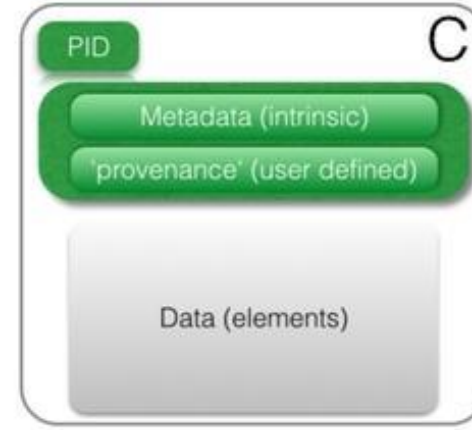
FAIR graphic by SangyaPundir [CC BY

Data as increasingly FAIR Digital Objects
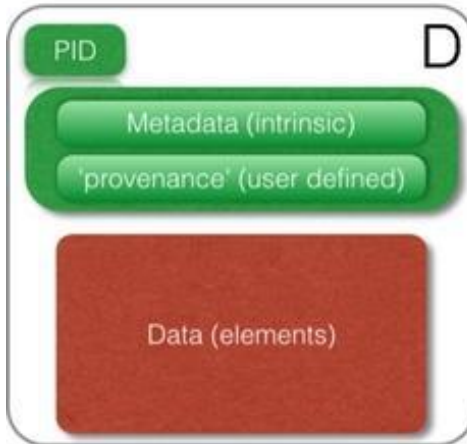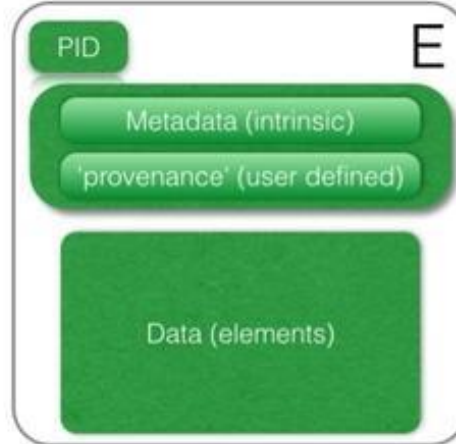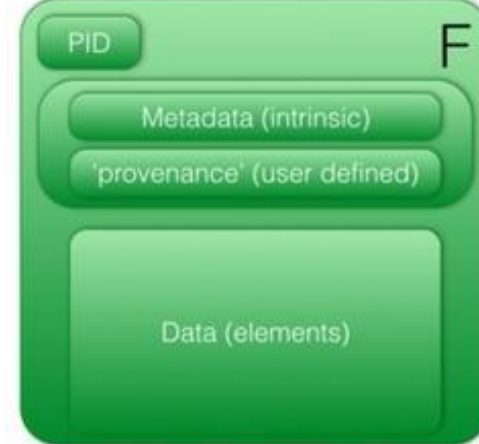
Government expectations and measures related to:

- Change in culture, incentives and competence

- Data management plans (DMPs)

- Better technical adaptation and better national coordination between fields

- Sustainable funding and operation of national research data infrastructure and research data archives

- Better framework for the use of public data in research

- Better interplay between public data and research data

- Easier access to data for research purposes from Statistics Norway

- Easier, more secure access to health data

National goals and guidelines for open access to research articles (2017)

The government's goal is that all publicly funded Norwegian research articles should be made openly available by 2024, and the government has established guidelines and measures for open access to research articles.

National goals and guidelines for open access to research articles

Guidelines:

1. Publicly funded research articles are to be made openly available

2. All publicly funded research articles must be deposited in a suitable academic repository

3. Institutions and consortia that negotiate agreements with publishers shall ensure that these agreements promote open access

4. Institutions that fund research projects shall contribute to cover the costs associated with open access publishing

The Research Council's guidelines and activities

- The Research Council's Principles for Open Access to Scientific Publications (2009, 2014)
  - ➤ The Research Council requires all articles with such funding must be made available in OA repositories
  - ➤ From 2020, open publishing will be required in line with Plan S

- The Research Council's Policy on Open Access to Research Data (revised in 2017)
  - ➤ Research data must be as "open as possible, as closed as necessary"
  - ➤ Research data must be FAIR
  - ➤ Access must be provided at the lowest possible cost, preferably at no more than the marginal cost of dissemination; user-fees eligible cost in any RCN funding scheme

The Research Council's guidelines and activities (continued)

- New principles for evaluation of research and researchers: RCN signed the San Francisco Declaration on Research Assessment May 2018

- The Research Council's technology programs have developed a framework for responsible research and innovation (RRI)

- Principles for rights to results from research and development projects where the aim is to ensure that project results benefit society

- User involvement an integrated work method in programs and activities within health, innovation, energy, climate and the environment

- Activities where citizens are involved in different ways

Why does the Research Council need an Open science policy?

- To highlight Norwegian contributions to the international developments of open science

- To define and clarify roles between the Research Council and the research institutions

- To clarify the Research Council's profile when it comes to open science

- To suggest measures to strengthen open science and open innovation activities

- To rise awareness about open science amongst the Research council's own employees

Open consultation in February 2019

- 47 institutions participated with 74 inputs on the following three topics:
  - ➢ Open innovation (18 inputs)
  - ➢ Open research processes (39 inputs)
  - ➢ Citizen science and involvement of users (17 inputs)

- Amongst the respondents were universities, institutes, organizations, health enterprises, associations and interest organizations which provided input on:
  - ➢ Strengths and weaknesses of the current situation
  - ➢ Objectives and level of ambition
  - ➢ Suggestions for recommendations and measures

Overall impression:

- Most institutions have policies and guidelines in place, but lack culture and routines
- There is a need for coordination across institutions related to
  - ➢ evaluation of data management plans
  - ➢ evaluation of research and researchers (DORA)
  - ➢ incentives for practicing open science
  - ➢ training and expertise
  - ➢ coordination and sustainable financing of infrastructure

- Need testing and piloting open research methodology, innovative concepts and different forms of collaboration through research projects