

Welcome to the Life Science Data Management: Planning workshop



You are encouraged
to turn your video on
while speaking



Use the chat function
for questions



Mute yourself while
not speaking



Use the 'hand up'
function if you want
to contribute directly

Slides will be available on zenodo

1

DIVERSITY



3

FOSTER
TRUST AND
COLLABORATION



2

ACT ETHICALLY
AND WITH
INTEGRITY



4

RESPECT
AND SHOW
COURTESY TO
EACH OTHER





Life Science Data Management: Planning workshop - Introduction



Korbinian Bösl
Data management coordinator
ELIXIR Norway & Centre for Digital Life Norway
05 June 2024

Schedule

05.06.2024

0830 - 0900 Login support

0900 - 0915 Introduction & Requirements from the RCN

0930 - 1000 Parallel session: Local recommendations, storage infrastructures & DMP guidelines

1000 - 1015 Short break

1015 - 1100 Introduction DSW

1100 - 1120 Information on national storage infrastructures

1120 - 1135 Short break

1135 - 1230 Persistent identifiers, Controlled Vocabularies & Ontologies

Schedule

06.06.2024

0900 - 1000 Key legal requirements for research in the GDPR and Health research act

1000 - 1010 Short break

1010- 1050 Relevant deposition repositories/ data archives

1045 - 1100 Short break

1100 - 1115 Licensing of data, biological material and software

1115 - 1300 Hands on training and assistance to generate a data management plan



Espen
Åberg



Nazeefa
Fatima



Federico
Bianchini



Arturo Vera
Ponce De
Leon



David
Dolan



Korbinian
Bösl



CENTRE FOR
DIGITAL LIFE
NORWAY

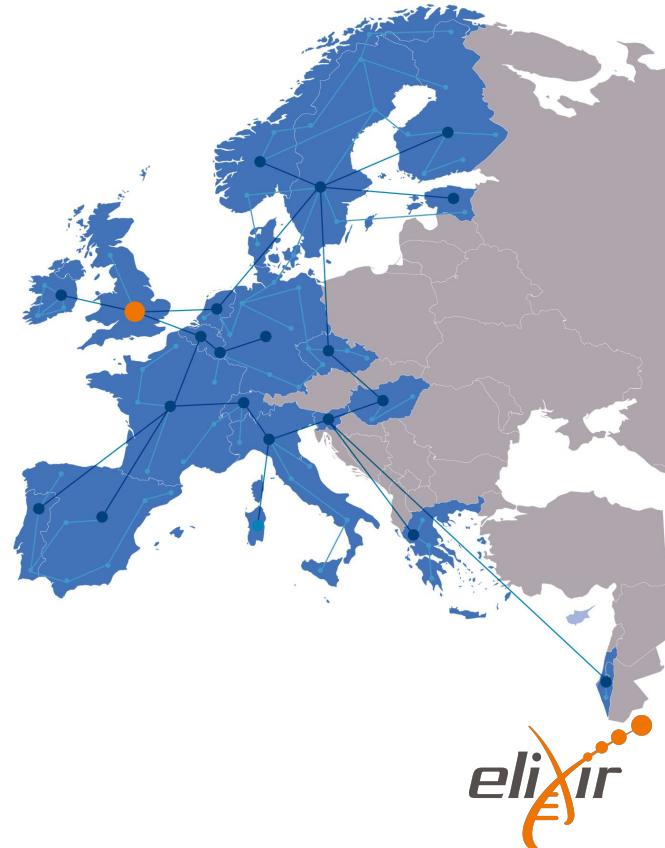
ELIXIR

ELIXIR is an intergovernmental organisation that brings together life science resources such as **databases**, **software tools**, **training materials**, **standards** and **compute resources**, from across Europe.

The goal of ELIXIR is to **coordinate life science resources from across Europe so they form a single infrastructure**.

This makes it easier for scientists to:

- Find and share data
- Exchange expertise
- Agree on best practices in scientific research



ELIXIR Services



Data deposition:
ENA, EGA, PDBe, EuropePMC, ...



Data management:
Genome annotation
Data management plans
RDMkit



Added value data:
UniProt, Ensembl, OrphaNet, ...



Data Interoperability:
FAIRSharing, identifiers.org, OLS,
Bioschemas, ...



Compute:
Secure data transfer, cloud computing, AAI



Bioinformatics tools:
Bio.tools, Benchmarking: OpenEBench



Industry:
Innovation and SME programme
Bespoke collaborations



Training:
TeSS, Data Carpentry, eLearning





UiB node
Sushma Grellscheid
Head of Node
Ingeborg Winge
Node coordinator
Kjell Petersen
Technical coordinator
Korbinian Bösl
Data Management
coordinator
David Dolan
Support lead



NTNU node
Pål Sætrom
Node leader



UiO node
Eivind Hovig
Rein Aasland
Node leaders



NMBU node
Simen Rød Sandve
Node leader



UiT node
Erik Hjerde
Node Leader
Espen Åberg
Service Coordinator
Erin Calhoon
Training Coordinator



ELIXIR Structure

The Norwegian node of ELIXIR Europe

Currently funded by:

The Research Council of Norway

The involved institutions; UiB, UiO, NMBU, NTNU and UiT

Users

Services to national users

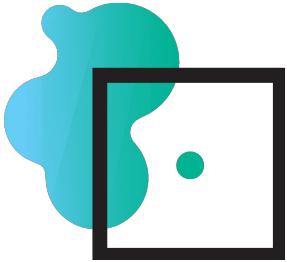
Infrastructure, support and training

National helpdesk

Deliverables to ELIXIR Europe

Tools and databases





Centre for Digital Life Norway (DLN 2.0)

facilitates transdisciplinary research, innovation, and education in Life Science



Transdisciplinary collaborations

www.digitallifenorway.org



Education and career development



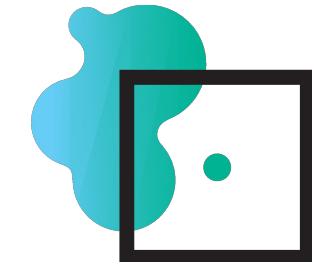
Responsible research and innovation



Innovation and commercialisation

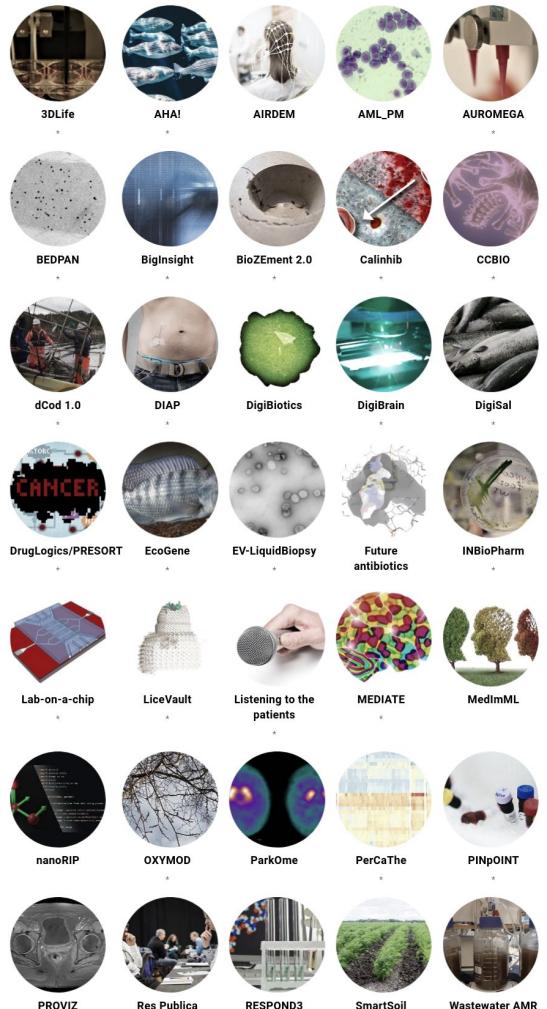


Data management

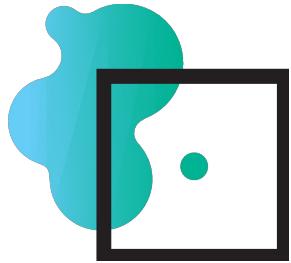


>40 transdisciplinary biotechnology projects all over the country.

Biotechnology with digital technology: health, aquaculture, agriculture & industrial biotechnology.



Join us!



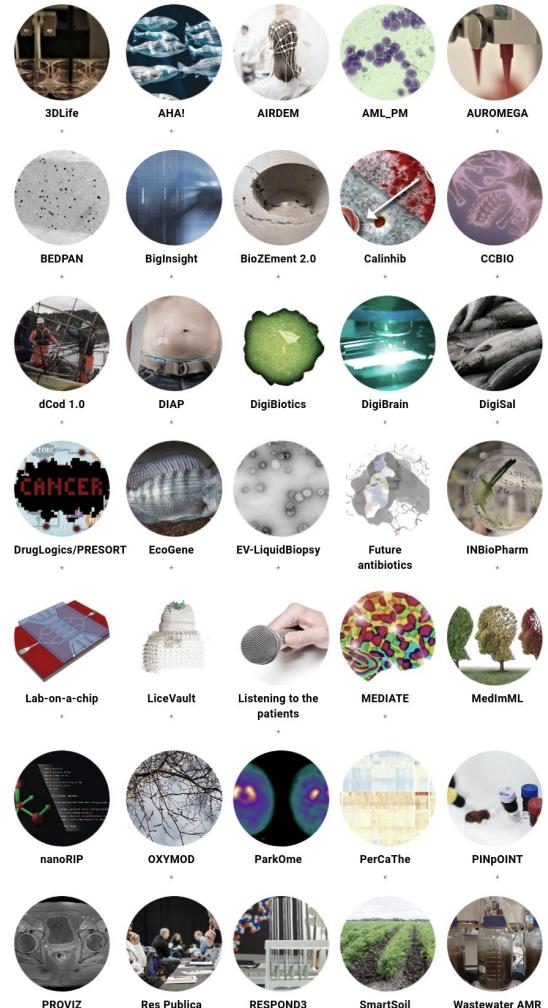
Open call for Digital Life Norway project membership

contact@digitallifenorway.org

**... and join the DLN Research School at
any time**

<https://www.digitallifenorway.org/news/open-call-project-membership.html>

<https://www.digitallifenorway.org/research-school/membership/index.html>



Life cycle



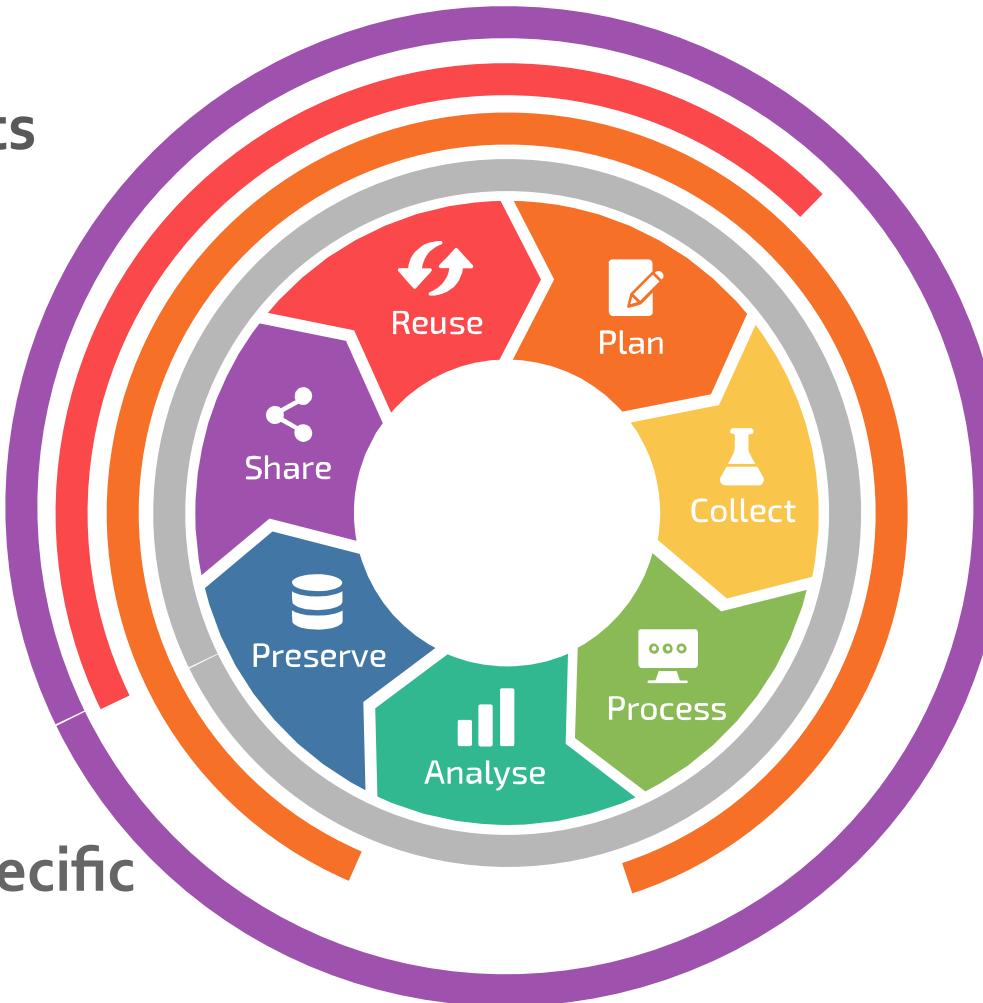
Requirements

Funder

Project
& Domain specific

Ethical & Legal

Institutional



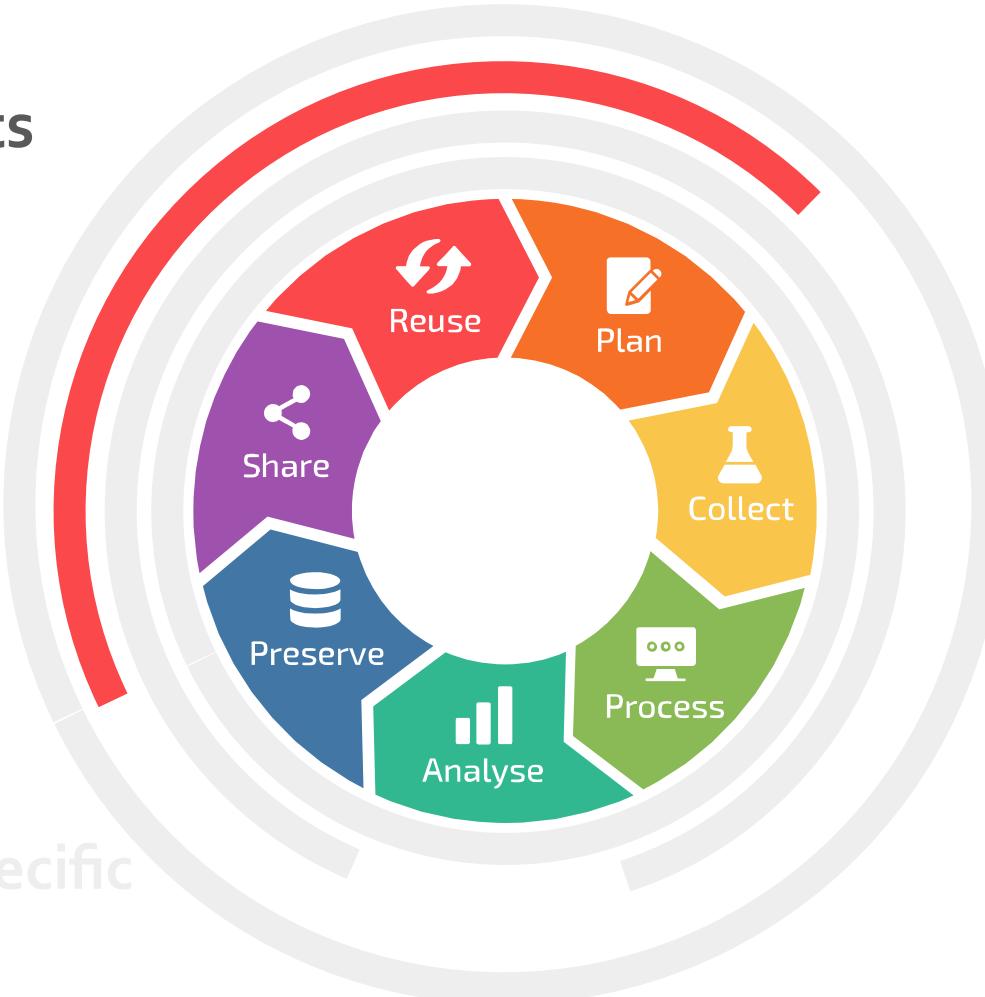
Requirements

Funder

Ethical & Legal

Project & Domain specific

Institutional





“National Strategy on access to and sharing of research data”

2017



Norwegian Ministry
of Education and Research

Strategy

National strategy on
access to and sharing
of research data



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.

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.



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

Original 2014, updated 2017



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

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



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.



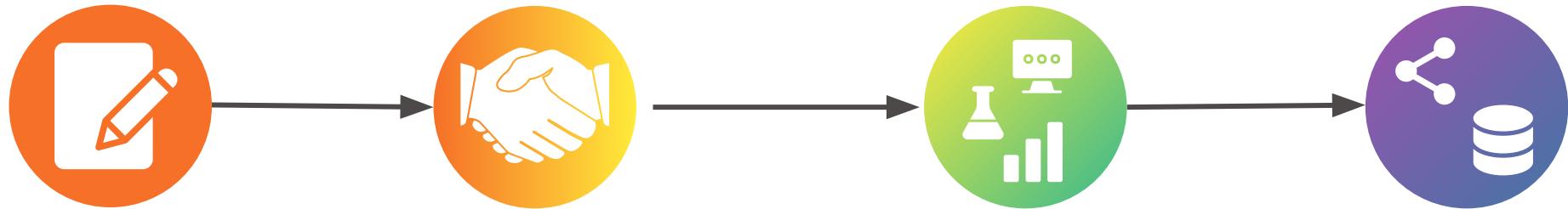
... must be described in a data management plan

Open Data

F findeable A ccessible I nteroperable R euseable



“As open as possible - as closed as necessary”





2023

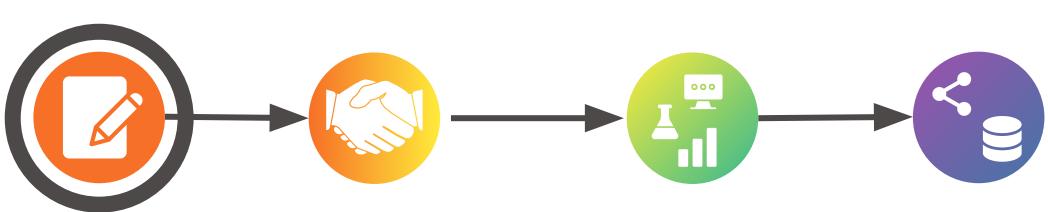


Potential impact of the proposed research

The extent to which the planned outputs are openly accessible to ensure reusability of the research outputs and enhance reproducibility

FAIR, available and reusable data [software, algorithms, protocols, models, workflows, electronic notebooks, and other tools]

Early sharing through pre-registration and preprints, open access to software, workflows, tools, etc



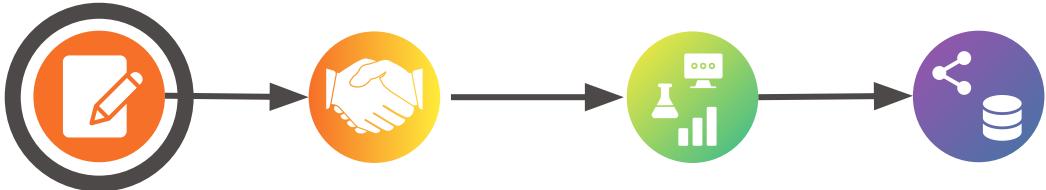
2023

Communication and exploitation

The extent to which the appropriate open science practices are implemented as an integral part of the proposed project to ensure open sharing and wide distribution of research outputs.

Early and open sharing (preprints or pre-registration and/or registration reports)

Full and immediate open access publication

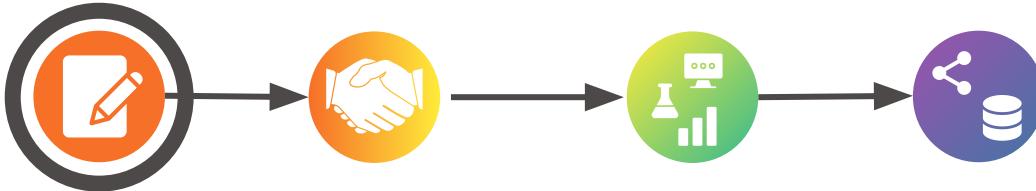


No full DMP required (- but helpful)

You should consider:

- §§ Ethical and Legal issues
- Storage and computing (budgeting?)
- Budgeting for RDM-personnel & time effort

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



§§Ethical and Legal issues

REK approval necessary (for sharing of data?)

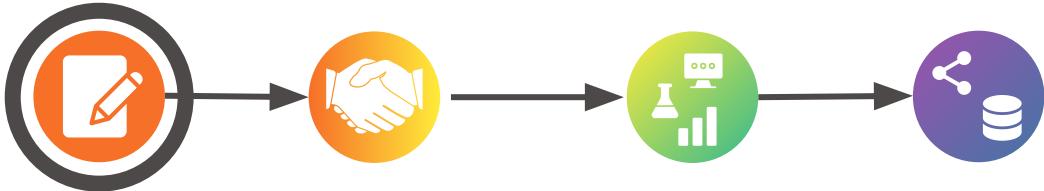
GDPR considerations

IPR aspects

Which Research Ethical Guidelines apply for this project?

RRI

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

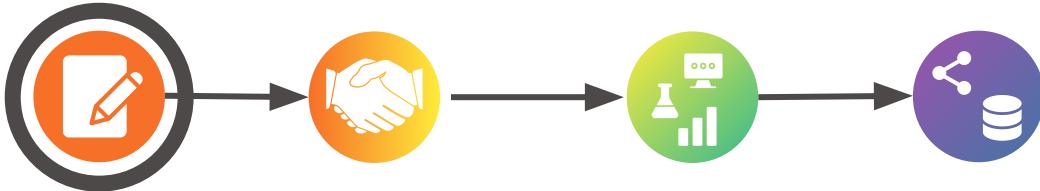


Storage and Computing

Is access to computing/storage secured?

Will we have to pay for data storage (of sensitive data?)

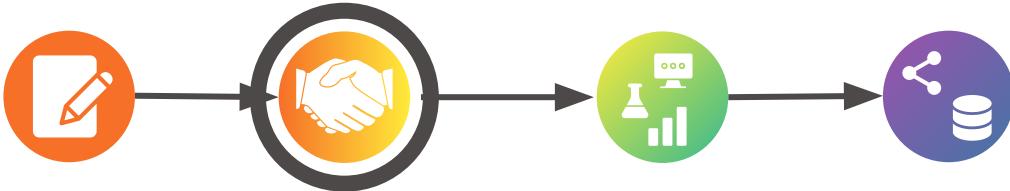
How will data be accessed & transferred?



Budgeting for RDM-personnel & time effort

Will we need help from a Data Steward (and budget for this)?

Will we need with data analysis, data warehousing or deposition?



2018

When awarded funding

Full DMP required

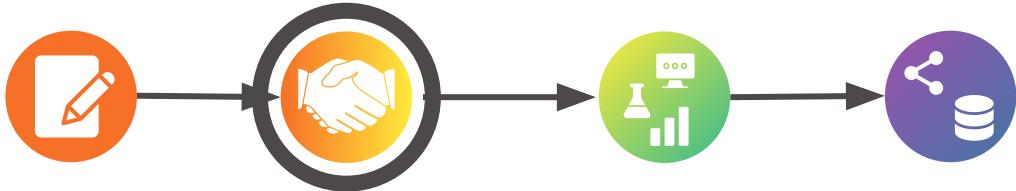
If you decide that a data management plan is not needed, you must provide an explanation.

I don't know of any - do you?

Even if you only reuse others data, you should describe where and how it is accessible & how your processed data can be accessed or reproduced?

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





When awarded funding

Full DMP required

Documentation, formats, volume

Quality assurance including Metadata standards

Backup during project

Sharing & Preservation

Ethical and Legal aspects - including IPR

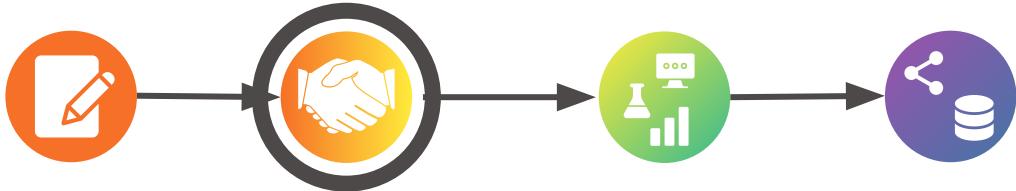
Who is responsible in the project?

To which trustworthy repository will the data be submitted?



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

<https://www.scienceeurope.org/our-resources/practical-guide-to-the-international-alignment-of-research-data-management/>



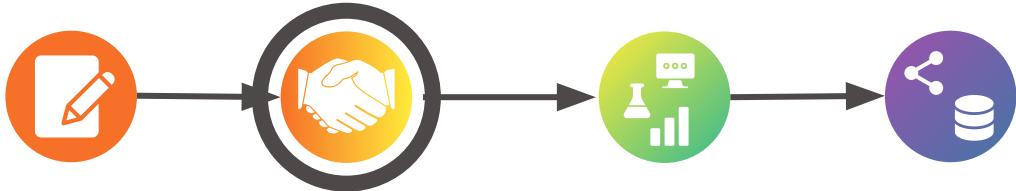
When awarded funding

Full DMP required

The Research Council of Norway does not assess the content of submitted plans. It is the responsibility of the Project Owner to approve that the plan is in line with the institution's requirements and guidelines before it is submitted.

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

<https://www.scienceeurope.org/our-resources/practical-guide-to-the-international-alignment-of-research-data-management/>



Full DMP required

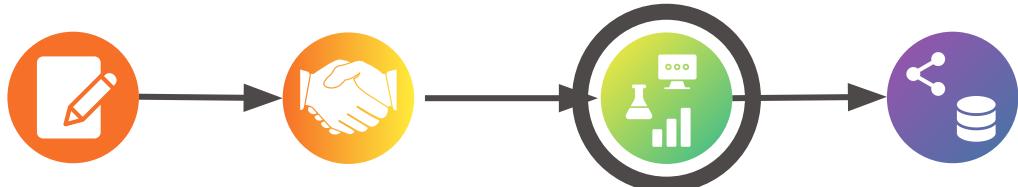
Data management plans are to be made public and openly accessible.

Different possibilities:



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

<https://www.scienceeurope.org/our-resources/practical-guide-to-the-international-alignment-of-research-data-management/>



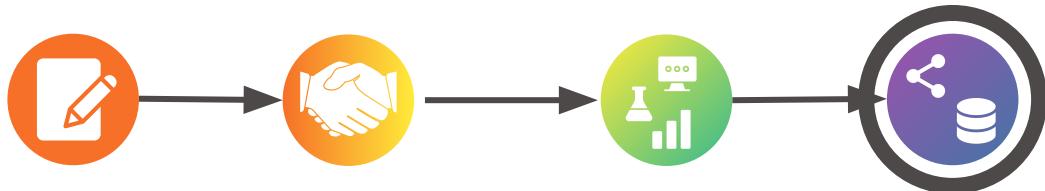
DMP is constantly updated

Changes do not have to be reported to RCN

Early deposition & sharing

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

<https://www.scienceeurope.org/our-resources/practical-guide-to-the-international-alignment-of-research-data-management/>



Final version of the data management plan in connection with the final report of the project.

Data is deposited to trustworthy repository

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

<https://www.scienceeurope.org/our-resources/practical-guide-to-the-international-alignment-of-research-data-management/>



A user-oriented guide to the FAIR RDM practices in life sciences



increase
self-sufficiency



support researchers
to know and utilise
RDM services



build capacity and
skills in every
research institute



pool the expertise of
the community for
the community

To support the data needs of Europe's estimated **500,000** life scientists

<https://rdmkit.elixir-europe.org>

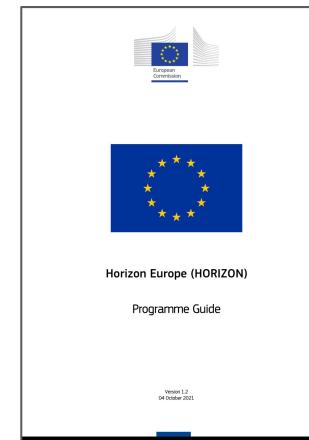


Recommended by:

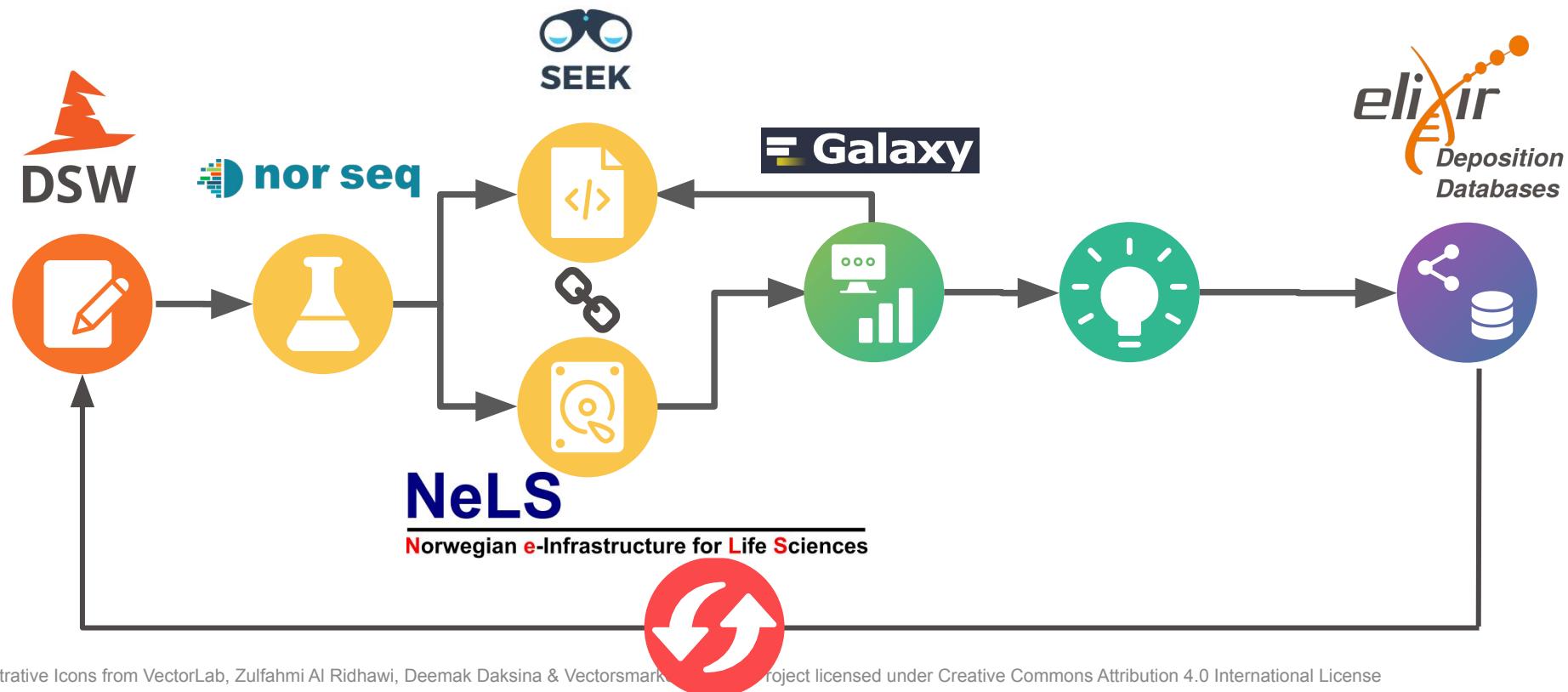
EC: Horizon Europe Program Guide

ERC: Research Data and Data Management Plans

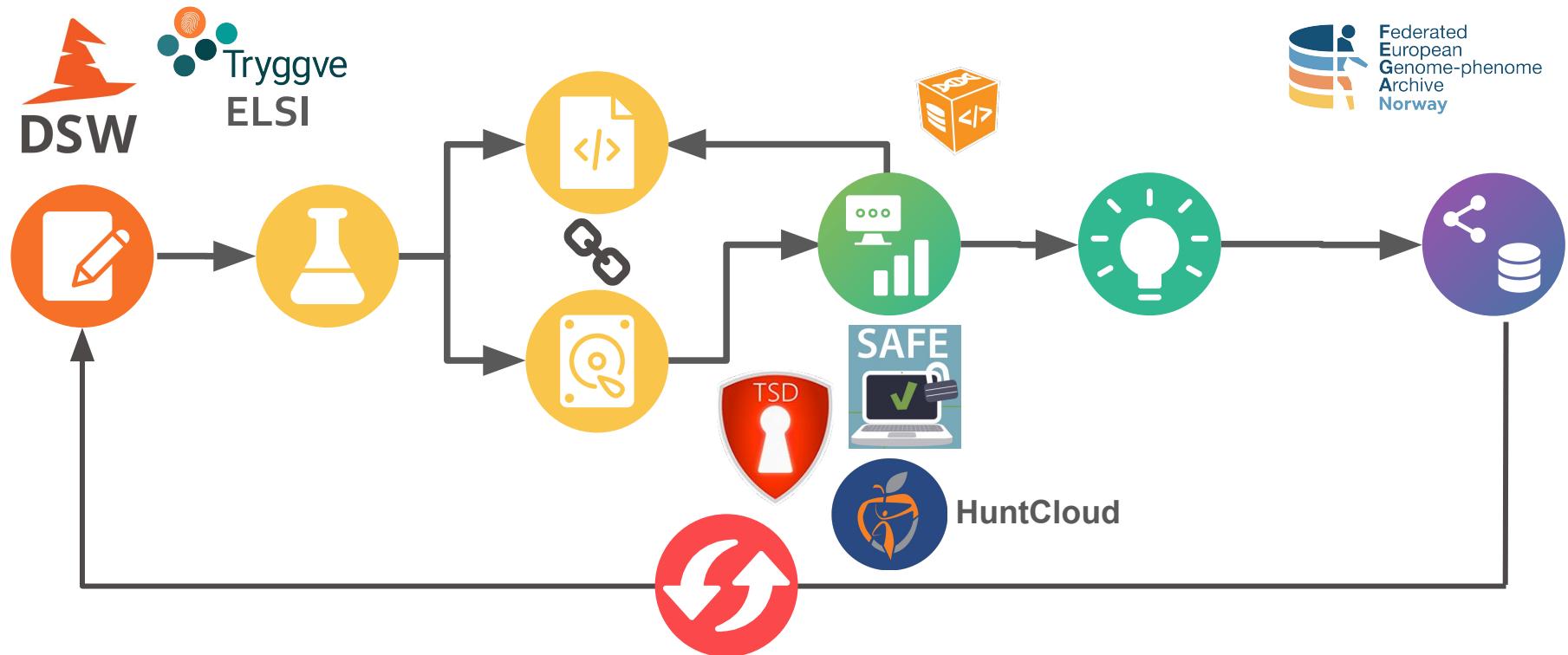
Research Council of Norway



Norwegian RDM tool assembly



For sensitive data



Please contact us!



Horizon Europe

Open Science (OA, RDM, citizens engagement etc.) embedded throughout HE

- 14. Dissemination and exploitation of research results &
- 16. Open science

- “*Open science practices are addressed and evaluated under ‘excellence’ as they are considered a part of the methodology.*”
- “*Data management plans are mandatory for all projects generating or reusing data and should be aligned with the D&E plan.*”

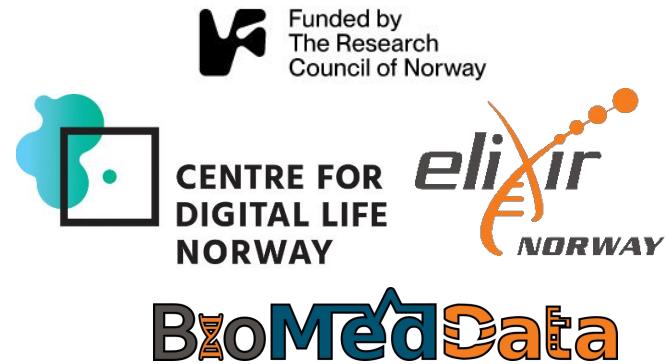
https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/programme-guide_horizon_en.pdf

https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/agr-contr/general-mga_horizon-euratom_en.pdf

Joint effort across 5 institutions
More than 50 people involved:
Software developers
Bioinformaticians
Coordinators
Researchers



Co-funded by
the European Union



UNIVERSITY OF BERGEN



UiO : University of Oslo



UiT The Arctic University of Norway



NTNU

Norwegian University of
Science and Technology



Norwegian University
of Life Sciences



elixir.no



contact@elixir.no



elixir-norway



@elixirnorway