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Memo developed by the working group for artistic research,
Oslo, 24 October 2022

Artistic research and open science

Contents

1. Introduction and overarching principles

In spring 2022, the working group for artistic research affiliated to the strategic unit UHR-Art, Design and Architecture established a project group that was tasked with describing the challenges and possibilities associated with the principle of *open science* for artistic research. The project came about as a result of expectations of transparency in the sector, and the final report on infrastructure and services for FAIR research data ('Infrastruktur og tjenester for FAIR forskningsdata' – in Norwegian only), published 15 March 2022. The project group has consisted of Torben Lai, Kjetil Solvik and Jørn Mortensen (chair), with support from Geir Davidsen and Linda Lien. In the final phase of its work, the group has also received input and advice from the entire working group for artistic research.

This memo may be subject to multiple revisions as the questions and issues raised are constantly changing. It should therefore be understood as a tool for reflection rather than a conclusion.

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For more than a decade, open science has been a key topic on the international research policy agenda. The concept is based on fundamental norms about the democratisation of knowledge, the quality of research, contributions to sustainable development of society, and political justification for public use of resources.

In the Norwegian research policy context, expectations of open science are summarised in the *Research Council Policy for Open Science* (2020). In addition to referring to ambitions of greater transparency, the document underlines the dilemmas that arise for different disciplines. 'In some cases, considerations related to security, protection of personal privacy, copyright, intellectual property rights and trade

secrets will conflict with objectives regarding increased openness. The nature of various disciplines and subject fields means that researchers and research institutions have different traditions and potential for moving towards open science.'[1]

This background has triggered an ambition to gain an overview of the issues 'open science' raise for artistic research. This document seeks to help establish a common understanding of what open science means in the context of artistic research, among the Norwegian institutions that offer higher education in art, architecture and design. It also aims to establish a common understanding of concepts and to propose possible solutions to potential challenges.

In terms of definitions, this document relies on the Research Council of Norway's understanding of open science:

'The concept of open science encompasses the entire research process – from the start-up via funding and implementation of the research through data management, analysis, scholarly publication, scientific synthesis and communication activities. Open science has a wide scope and is also used to refer to open cooperation, open peer review, open working methods, open educational resources, research integrity, accountability, and involvement of users and citizens.'[2]

In other words, open science entails transparency in all parts of research, including objectives, criteria, methods, materials and results. Open science also includes transparency in peer reviews of researchers and research, both when it comes to evaluating the quality of research results and in relation to research funding applications.[3]

The following graphical presentation of the Open Science Taxonomy has been created by Foster Open Science, an EU-funded project for the purpose of promoting open science.[4]

Open Science Taxonomy

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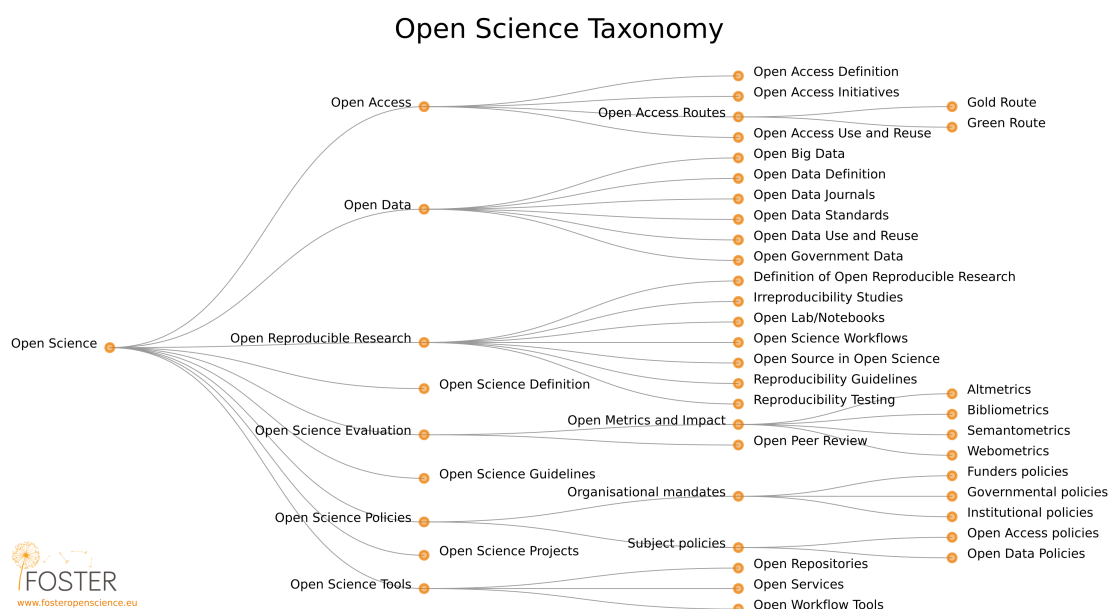
[1] *The Research Council Policy for Open Science* (2020)
[2] *The Research Council Policy for Open Science* (2020)
[3] *The Research Council Policy for Open Science* (2020)
[4] https://www.fosteropenscience.eu/

What challenges do the objectives and definitions of open science entail for artistic research? To start with the challenges, it is of decisive importance to distinguish between the ambition of *open access to results/publications* ('Open Access') and *open access to research data* ('Open Data').[5] This document specifically addresses these forms of openness:

A) artistic research and open access to results/publications ('Open Access')
b) artistic research and open access to research data ('Open Data')

Each of these topics can trigger certain issues for artistic research that will be discussed separately. It could be argued that other categories of the taxonomy map outlined above should also be discussed, but these lie beyond the limits of this memo.

2. Artistic research and open access to publications

2.1 Transparency and limitations

The Research Council of Norway has joined the international coalition, cOAlition S, which is behind the Plan S initiative. Plan S stipulates the following principles for open access to publications:

'With effect from 2021, all scholarly publications on the results from research funded by public or private grants provided by national, regional and international research councils and funding bodies, must be published in Open Access Journals, on Open Access Platforms, or made immediately available through Open Access Repositories without embargo.'[6]

Open access to publications therefore entails making all scientific publications immediately and permanently available to everyone free of charge via the internet. In the context of artistic research, open access to publications can mean *open access to the results of artistic research*.

In principle, there are few *essential* reasons why the results of artistic research should not be made openly available. There are no special characteristics associated with the format of the results that prevent transparency. Quite the opposite. The results can often take a form and be included in contexts (academic and other) where *dissemination* is expressed as an institutional expectation (the concert, gallery, stage etc.). The results may nonetheless often have *qualities* that make open access challenging, and where an exemption may have to be made from the expectations of open access. This concerns results characterised by:

Commercial factors
In cases where the research results have commercial value.

Copyright conditions
In cases where the research results include elements covered by the Copyright Act.

Context-specific conditions
In cases where the research results contain temporal elements, such as a concert or play.

[5] The Research Council of Norway has developed dedicated policies for these two areas: https://www.forskningsradet.no/en/Adviser-research-policy/open-science/
[6] https://www.coalition-s.org/plan_s_principles/

Sensitive personal data
When open access to the research results conflicts with the applicable statutory framework regarding the protection of personal privacy, the research results must not be made openly accessible.

Security concerns
In cases where open access to the research results may threaten personal safety or national security.

The following examples serve to illustrate these challenges:

Example A:

A visual artist works 50% of a full-time position as an associate professor at an art education institution, and is also affiliated to a gallery that, through a research project partly financed by allocated research time at the institution, develops a piece of art that is covered by the Copyright Act and that has commercial value for the artist and gallery.

Example B:

A musician works as a professor at an art education institution and is also affiliated to a record company. The musician/professor develops a piece of music as part of a research project partly financed by allocated research time at the institution. The piece of music is a collaboration with a lyricist who is not affiliated to the educational institution. The work is covered by the Copyright Act and has commercial value for the musician and record company. In many cases, the record company will have commercial interests through the sale of records/streaming, as well as through ownership of the publishing rights.

Example C:

A filmmaker who is a part-time employee at a film school is also the co-owner of a small production company. The filmmaker develops a project partly financed by allocated research time at the film school. The project has commercial value for the film crew, who are partners and not affiliated to the school, and for the production company. Once it is finished, the film will meet its audience both through streaming services and cinema ticket sales.

The part of the research results that the piece of art/music/film constitutes in these examples is covered by commercial interests and/or copyright and entails challenges relating to open access. A work that is a collaborative project can further complicate the open science ambition.

Such results/works may be interesting as *data* for other types of research, however, which could entail a different set of challenges.[7]

> Example D:
>
> *A stage work is to be performed in cooperation with a theatre that, because of expenses in connection with the production, asks a (fairly high) ticket price. This limits access to the work, as the performance will only be shown a few times. Documentation of the work only provides a limited understanding of the result and the experience of aspects that involved audience participation.*

The part of the research results the play constitutes is covered by context-specific conditions that limit open access to the totality of the results.

2.2 Licensing and Creative Commons

Open access to the results of artistic research therefore requires a specification of the degree of openness and closedness. This can be achieved by granting the published results a Creative Commons (CC) licence.[8]

'All variants of Creative Commons licences require the licensee to be attributed when using the licensed work. Over and above this, the licensee may specify as a requirement that the licensed work can only be used for non-commercial purposes, or that the work can also be used commercially. In addition, the licensee may specify that the users shall be entitled to make available an adapted version of the work, or that it may only be made available in its original form. The licensee may also set as a condition for use of the work that the licensed material shall be shared by others on the same terms as the work was originally made available by the licensee.'[9]

There are six different CC licences, ranging from the most to the least permissive, presented here in descending order:

1. *Attribution (CC-BY)*
   This licence allows reusers to distribute, remix, adapt and build upon the material in any medium or format, so long as attribution is given to the creator. This is the least restrictive of all the licences offered, and is recommended for maximum use of the licensed material.

2. *Attribution-ShareAlike (CC BY-SA)*
   This licence allows reusers to distribute, remix, adapt and build upon the material in any medium or format, so long as attribution is given to the creator and the modified material is licensed under identical terms.

3. *Attribution-NoDerivatives (CC BY-ND)*
   This licence allows reusers to copy and redistribute the material in any medium or format for any

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[7] One example is the research project *MusicLab*, where the research data are made up of pieces of music, video recordings of the audience, and sensor data.

[8] Creative Commons is a non-profit organisation that develops various standardised licences for creative and academic works (texts, images, music and videos). The licences indicate the extent to which others may distribute, change and use a particular work, and how the creator of that work should be credited.

[9] Knut Martin Tande – Store norske leksikon

purpose, even commercially. No derivatives or adaptations of the work are permitted, however, and credit must be given to the creator.

4. *Attribution-NonCommercial (CC BY-NC)*
   This licence allows reusers to distribute, remix, adapt and build upon the material, for non-commercial purposes only. Credit must be given to the creator, and only non-commercial uses of the work are permitted, but the modified material does not have to be licensed under identical terms.

5. *Attribution-NonCommercial-ShareAlike (CC BY-NC-SA)*
   This licence allows reusers to distribute, remix, adapt and build upon the material, for non-commercial purposes only. Credit must be given to the creator, only non-commercial uses of the work are permitted, and the modified material must be licensed under identical terms.

6. *Attribution-NonCommercial-NoDerivatives (CC BY NC-ND)*
   This licence is the most restrictive of the six core licences. It allows reusers to copy and distribute the material in unadapted form only, for non-commercial purposes only, and only so long as attribution is given to the creator.

There will also be results that are in the worldwide public domain. They will be designated as *Universal (CC0).* Further, it is possible to see results that are completely closed. They will not be covered by CC licences and are therefore unlicensed. The project group believes that a designation for these results would also be expedient, for example 'CC XX'.

3. Artistic research and open access to research data

3.1 Research data
Already in 2007, the OECD published the report *OECD Principles and Guidelines for Access to Research Data from Public Funding*, which underlined the political ambitions of open access to research data. The OECD's definition from 2007 delimits research data to data used as the primary source for research: 'factual records (numerical scores, textual records, images and sounds) used as primary sources for scientific research, and that are commonly accepted in the scientific community as necessary to validate research findings'.[10]

In a more recent definition from 2020, the Research Council of Norway defined research data as follows:

'Registration/recording/reporting of numerical scores, textual records, images and sounds that are generated by or arise during research projects. These may, for example, be data that are generated through new analysis by combining existing input data, or entirely new data that are generated through new data collection. Research data are always a direct result of research activity, regardless of whether the data are based on input data or whether they are collected from scratch (research-generated data/output data).'[11]

Under this definition, open research data entails a *broader* understanding of data, as all types of materials in all types of media that are generated by or arise during a research project. (In addition, the *Research Council's Policy for Open Access to Research Data* (2017) distinguishes between data that

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[10] *OECD Principles and Guidelines for Access to Research Data from Public Funding*, 2007
[11] 'The Research Council Policy for Open Science', Research Council of Norway, 2020

already exist, regardless of the research to be conducted (secondary data), and data generated during the research process.)

3.1.2 What is data in the context of artistic research?

In the context of artistic research, a broad understanding of research data will result in some actual and practical challenges relating to transparency. An artistic research project may include a number of creative or performing methods that are not always limited to one type of data or a defined set of data. In addition, the data may include personal experience, impressions and experiences.[12] In such contexts, it will neither be possible nor particularly meaningful to make the data available.

Other research traditions have faced similar challenges, for example hermeneutic research in the humanities (comparative literature, musicology etc.), social science traditions based on qualitative methods (anthropology, sociology etc.), and legal research where the data are linked to changes in society.

It is worth mentioning that data in the artistic research context can also include more *concrete* dimensions than just personal and qualitative ones. For example, specific phrasing on an instrument, visual presentation techniques, or the basic materials of a musical composition, may be defined as data in this context.

3.1.3 Data and basic artistic research/applied artistic research

In the context of artistic research, it makes sense to distinguish between data in basic research and data in applied research. Basic research in the context of artistic research tends to deal with discipline-specific methods to develop artistic practices: 'Basic research in the arts is a type of research with the aim of seeking new insights/knowledge through critical and explorative artistic practices. Researchers use discipline-specific methods in a systematic way with the intention of further developing the arts formally, theoretically, physically and/or conceptually.'[13] In other words, the data included in basic artistic research can include artistic experience, reflections on processes, exploration and testing in the studio/atelier/workshop/rehearsal room, and/or contemplative/reflexive exercises relating to own artistic practices. For this type of data, it is challenging or even impossible to satisfy expectations of full transparency.

Applied research, on the other hand, can use social, political and cultural phenomena, historical events, forms of cultural expression, social and political structures, and forms of media expression as data in the research: 'Applied research in the arts is the development and use of artistic practice with the aim of achieving new insights/knowledge central to the form of material and immaterial products, with a social, cultural and/or political dimension.'[14] This *could* be datasets it is easier to organise, arrange and limit in terms of the amount of information, and which can therefore more easily satisfy expectations of transparency. Nonetheless, a characteristic of these data (in the same way as in parts of social sciences and the humanities) will still be that they are closely related to own artistic research practices and methods specific to the discipline, and may not be suited to validate the findings or results of artistic research.

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[12] The Finnish curator and philosopher Mika Hannula describes this as 'methodological abundance' (Artistic Research Methodology: Narrative, Power and the Public, 2014)
[13] From 'The Vienna Declaration Consortiums' proposal for a revision of the Frascati Manual
[14] From 'The Vienna Declaration Consortiums' proposal for a revision of the Frascati Manual

In both basic and applied research, research data from artistic research can include experimentation, for example artistic exploration that may result in datasets that document audio, image, movement and material samples or similar. Finally, artistic research may include interviews with informants, map datasets, historical documents, analyses and similar background data the project is based on. For these types of data, expectations of transparency may be possible to satisfy.

3.2 Data in the FAIR context

In addition to the challenges described above, there are data-driven research traditions characterised by high data intensity and where the compilation, integration and analysis of data require extensive computational power and specialised software. Here, full transparency has proven to be difficult, if not impossible, both practically, financially and in terms of methodology and infrastructure. This has formed the backdrop for the development of the *FAIR principles*.

The expectation of open data of a certain *quality* was first articulated in a *Lorentz workshop*[15] in 2014, which resulted in the publication *FAIR Guiding Principles for scientific data management and stewardship* published in the journal Scientific Data. The FAIR principles (*Findable*, *Accessible*, *Interoperable* and *Reusable*) mean that data and metadata must be possible to find, cite and search for; possible to gain access to, provided that this is ethically and legally justifiable; be machine readable and possible to integrate with other data; and have good enough scientific and technical quality to enable them to be reused.

In other words, the FAIR principles represent a form of clarification of the expectations of open research data, to ensure both that the data are useable and that they are actually used. It makes sense to say that we are seeing a shift from an expectation of *open* data to *FAIR* data.

In 2014, the European Commission endorsed these principles, and a pilot for voluntary data sharing was established in the research and innovation programme Horizon 2020, initially in selected parts and then throughout the programme. Under the successor Horizon Europe, the voluntary pilot has been turned into a requirement that data collected through research funded by the programme shall be made FAIR.

This *could* represent a significant challenge for several types of research, not least artistic research. A number of research traditions, including artistic research, use data and metadata that cannot satisfy the requirement that they must be *possible to find, cite and search for; possible to gain access to; be machine readable and possible to integrate with other data; and have good enough scientific and technical quality to enable them to be reused*.

There is some movement in *how* 'FAIR' data can be, however. The recently published report on infrastructure and services for FAIR research data produced by UNIT, the Norwegian Directorate for ICT and Joint Services in Higher Education and Research, states as follows: 'FAIR data are not openly available by default. They will, however, be machine readable and interoperable, which open research data are not necessarily. Access to data may be restricted if there are good reasons to do so, for example if it concerns personal data, data linked to commercial interests or other forms of sensitive data.'[16] The same report also points out that: 'Sharing of data from artistic research and other data that contains images, video and sound is often regulated by copyright, which in many cases can make reuse challenging.' In other words, it is recognised at the national level that there are challenges associated with the expectation that the data must fully satisfy the FAIR principles.

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[15] www.lorentzcenter.nl

[16] *Infrastruktur og tjenester for FAIR forskningsdata*, UNIT 2022 (in Norwegian only)

For artistic research, the FAIR principles represent two types of challenges:
a) that the data must be machine readable and interoperable
b) that the data may be subject to rights issues (commercial and/or copyright)

It is our view that the first of these challenges will represent a significant problem for artistic research, if it is stipulated as a requirement that all data included in an artistic research project must fully satisfy the FAIR principles, and that this requirement is linked to funding (e.g. Horizon Europe).

The following examples serve to illustrate this challenge:

> Example E:
> *An example of data included in an artistic research project can be a literary artist/author who methodically uses political, social and/or cultural phenomena as qualitative data/information and references in their own creative work. The result could be a novel that problematises contemporary cultural and social phenomena as well as various reflections on the process of writing, on ethical dilemmas and on the relationship between fiction and documentary.*

Furthermore, it can be challenging to determine and define which data it is expedient to store permanently and make available to other researchers. What impact would an agreement on the storage of such data have on the work method and dynamics between the participants and the project as a whole?

> Example F:
>
> *A fairly standard artistic research project in music, such as the composition and recording of new music for acoustic instruments, will, from project start to release, generate large quantities of data that can potentially be stored and shared, including: Audio recordings of musical experiments and early versions of the music, video recordings that document the musicians' technical performance, recordings of discussions and reflections between the participants, draft musical notation, and the final notation. Furthermore, technical data about musical instruments that are not included in musical notation, e.g. the pitch, instrument maker and model; technical data about recording equipment, placement and settings; data files from many tens of takes during recording, including suboptimal takes and mistakes; graphical representations of all the edits in the audio recordings; and the final, published audio files.*

As regards the second challenge, however, there seems to be acceptance that not all data can be open or made fully FAIR. The ERC discusses this in the document 'Open Research Data and Data Management Plans' (2022) concerning which data can be made fully open:

Likewise, not all data can be made fully open. Where data raise privacy or security concerns, controls and limits on data access will be required. In some cases, it will be appropriate for researchers to delay or limit access to data in order to secure intellectual property protection*. There may also be*

other reasons to keep data closed. Any restrictions on access should be explicit and justified in the Data Management Plan, and such data should still be managed in line with the FAIR principles.[17]

Similarly, the following is stated in the introduction to Science Europe's guide to research data management:

There may be legitimate reasons (including project-specific or privacy-related ones) for delayed or restricted access, which call for a balanced approach towards openness to research data.[18]

These assessments are highly relevant to artistic research. In other words, there are several reasons why not all data can be made open: size, privacy or security considerations, ownership considerations, and other factors. In this context, the ERC refers to an EU report from 2017 that discusses open research and intellectual property rights (IPR).[19] It does not mention challenges relating to the properties/quality of the data in these assessments, however.

The amount and quality of data in research processes illustrated by the example above cannot be captured in machine readable form and cannot be used by others. Nor does it make sense for the validation of results. For data included in artistic research projects, it will thus be a question of making the data 'as FAIR as possible'. Interestingly, the Swedish Research Council has pointed out in a publication on the criteria for FAIR research data that adjustments need to be made to the FAIR principles in accordance with the area of research and type of data involved.[20]

At the same time, there *may* be a number of forms of archivable and shareable data that can be included in different phases of work on a piece of art, such as audio or video field recordings, acoustic measurements, systematised data on historical printing methods or dyeing techniques, the results of material tests, algorithms for processing a given material, audience surveys etc.

The project group therefore wishes to underline the need to ensure a dynamic understanding of the FAIR expectations, relating to the distinctive nature of different research traditions. A *too* rigid understanding and/or application of the FAIR principles could exclude a number of research traditions, including artistic research, from receiving funding for research projects. This conflicts with the ambition of interdisciplinary approaches to our current societal challenges.[21]

3.3 Data management plan

As part of the ambition of open research, both national and international research funders expect the data used in projects that are granted funding to form part of a *data management plan*. This explains how the institution/project aims to ensure secure management of the research data, both during the project and for future reusability, what costs are associated with handling and storage and how this will be financed, and how the data can be shared.

In Norway, the Research Council has set as a requirement for all projects that receive funding that the R&D-performing enterprise must *consider* whether a data management plan should be drawn up. Justification must also be given as to why such a plan is *not* being made. However, the Research Council

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[17] 'Open Research Data and Data Management Plans', ERC Scientific Council, 2022
[18] 'Practical Guide to the International Alignment of Research Data Management', 2018
[19] Crouzier, T., Barbarossa, E., Grande, S., Triaille, J.P., IPR, Technology Transfer & Open Science, Publications Office of the European Union, Luxembourg, 2017 (https://doi.org/10.2760/789864)
[20] P. 22 of *Kriterier för FAIR forskningsdata*, 2018.
[21] A (paradoxical) example is 'New European Bauhaus', an initiative under Horizon Europe's 'Pillar II: Global Challenges & European Industrial Competitiveness'. Here, artists, architects, engineers and designers were invited to contribute ideas and new ways of thinking about the transition to a more sustainable society.

has confirmed by telephone that the wording of the policy will be changed from 'must consider' to 'need to'.[22] In the EU context, the European Research Council (ERC) requires all projects funded under Horizon Europe (after 2021) that generate research data to submit a data management plan within six months of project start-up, that the data must be stored in a repository, and that access must be provided based on the principle 'as open as possible, as closed as necessary'.[23]

For artistic research, it will be possible to draw up data management plans that explain and clarify the status of and restrictions associated with the research data. In the same way as for research traditions in the area of law, the humanities and social sciences, such a plan will clearly be of limited value (see the example above), but it will nonetheless be able to outline the type of data included in the project and what FAIR qualities, if any, they have.

The key question remains why such a data management plan should be drawn up for artistic research projects. Does this not entail more administrative work, and is it of any benefit whatsoever? The answer is related to the ambition of sharing what can be shared with national and international colleagues, with students, the professional field and the industry, in the same way as the results of artistic research are shared with institutional or national knowledge archives. In other words, there is both a professional and an ethical rationale for this attitude. Imagine a colleague working on some of the issues described in 'Example F' above, who would like to know what the project comprised. A data management plan will also be able to account for and clarify the quality/status of the data used in the project. Artistic research projects with a data management plan can also contribute to knowledge production and awareness of what data material in a creative artistic project can comprise (Re the points about phrasing, techniques and basic materials in 3.1.2 above). This is information that is not immediately covered by copyright protection (such as the work itself), but that sheds light on and provides information about the work and the results thereof.

4. Assessments and summary

<u>Assessment relating to results</u>
- It is the project group's assessment that, in principle, there are no essential reasons why the results of artistic research should not be made openly available. HOWEVER, there are often commercial, copyright, security and other legal reasons for limiting openness.
- Restrictions on open access *can* be addressed through a licensing system such as Creative Commons, with a few addendums.

<u>Assessment relating to data</u>
- The sector has moved from a general expectation of open access to all research data, to an expectation that the research data are made FAIR (*Findable*, *Accessible*, *Interoperable* and *Reusable*), meaning that data and metadata must be possible to find, cite and search for; possible to gain access to, to the extent this is ethically and legally justifiable; be machine readable and possible to integrate with other data; and have good enough scientific and technical quality to enable them to be reused.
- It is difficult for all research data included in the artistic research context to satisfy these expectations. Here, artistic research is comparable with some areas of research in the humanities, social sciences, law etc.
- The project group therefore wishes to underline the need to ensure a dynamic understanding of the FAIR expectations, relating to the distinctive nature of different research traditions. A *too* rigid understanding and/or application of the FAIR principles could exclude a number of research traditions, including artistic research, from receiving funding for research projects.

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[22] Conversation with Siri Lader Bruhn (Special Adviser, Research Infrastructure), Friday 12 August 2022
[23] 'Open Research Data and Data Management Plans', ERC Scientific Council, 2022

- A data management plan can help to explain and clarify the status of, and restrictions associated with research data. In the same way as for research traditions in the area of law, the humanities and social sciences, such a plan will be able to outline the type of data included in the project and what FAIR qualities, if any, they have.
- It is difficult for artistic research to meet expectations of open data when it comes to basic research issues. There are both essential and practical reasons for this:
  - The data are closely linked to the researcher's own artistic research practices and research-specific methods.
  - They are difficult or impossible to make machine readable.
  - They are not suited to validate the findings or results of artistic research.
- In some contexts, artistic research will be able to satisfy expectations of open data in connection with applied research. Here, the data may include secondary data that are or can be made machine readable. Nonetheless, these data (in the same way as for some areas of social sciences and humanities) will still be characterised by:
  - being closely linked to the researcher's own artistic research practices and idiosyncratic methods.
  - not being suited to validate the findings or results of artistic research.

5. Further work

In conclusion, the project group would like to point out work and challenges arising from the ambition of open access to results and research data in the field of artistic research.

- The use of a licensing system may be possible, but would require changes to publication practices and culture. A plan for such work will be necessary in order for the institutions to adopt the system as 'standard practice'.
- The introduction of data management plans for artistic research projects requires the development of a template for such plans and a strategy for implementation.
- The results of artistic research are published on many different platforms, both in and outside academia. While other disciplines draw a distinction between publication and research dissemination to reflect publication within the sector's logic and dissemination beyond it, it will often be natural to 'publish' the results of artistic research outside the sector (concert hall, gallery etc.) This complicates the open science ambition. How should this be addressed?

6. Terminology

Term	Explanation
Data management plan (DMP)	'A data management plan is a document describing how research data from a project are to be managed, from project start to finish.'[24]
Data infrastructure	'Data infrastructure is research infrastructure designed for the purpose of processing, storing, curating and providing access to and/or enhancing the utilisation of data.'[25]
Digital Object Identifier (DOI)	'A DOI is a persistent, unique identifier for research data and publications'[26]

[24] 'The Research Council Policy for Open Science', Research Council of Norway, 2020
[25] 'The Research Council Policy for Open Science', Research Council of Norway, 2020
[26] 'The Research Council of Norway's Policy for Open Access to Research Data', revised 2017

DORA	'In 2018, the Research Council signed the San Francisco Declaration on Research Assessment (DORA). The declaration includes a set of recommendations on good practices for quality assessments, and encourages funders to base their funding decisions on the projects' scientific quality and content. Instead, academic quality and the research results achieved shall be assessed on a broader basis.'[27]
FAIR	'The FAIR principles for good data management: The international FAIR principles have been formulated as a set of guidelines to facilitate the reuse of research data. FAIR is an acronym for Findable, Accessible, Interoperable and Reusable.[28] In other words, research data must be of quality that makes them accessible, findable and reusable. The concept interoperable entails that both data and metadata must be machine-readable and that a consistent terminology is used.'[29]
Research data	'Registration/recording/reporting of numerical scores, textual records, images and sounds that are generated by or arise during research projects. These may, for example, be data that are generated through new analysis by combining existing input data, or entirely new data that are generated through new data collection. Research data are always a direct result of research activity, regardless of whether the data are based on input data or whether they are collected from scratch (research-generated data/output data).'[30]
Intellectual property rights	'All rights to technical solutions, methods, processes and procedures, regardless of whether these are or may be patented, as well as all copyrights and rights to trademarks, design, plant varieties, databases, circuit layout drawings, drawings, specifications, prototypes, trade secrets and similar.'[31]
Secondary data	'Secondary data are data that already exist, regardless of the research to be conducted.'[32]
Open source	'Open source code is software code that has been made accessible to all potential users.'[33]
Commercial utilisation	'Direct or indirect use of project results in the development and/or marketing of products, services or processes, or the transfer and/or licensing of use of project results to third parties. Publication through publishing houses is not defined as commercial utilisation.'[34]
Licence	'All scientific articles must be made openly available without embargo and with an open licence.

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[27] 'The Research Council Policy for Open Science', Research Council of Norway, 2020
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[29] 'The Research Council of Norway's Policy for Open Access to Research Data', revised 2017
[30] 'The Research Council Policy for Open Science', Research Council of Norway, 2020
[31] 'General Terms and Conditions for R&D Projects', Research Council of Norway, 1 January 2012
[32] 'The Research Council of Norway's Policy for Open Access to Research Data', revised 2017
[33] 'The Research Council Policy for Open Science', Research Council of Norway, 2020
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Metadata	'Metadata are data used to define or describe other data.'
Publicly funded	'All projects and activities that are wholly or partly funded with government allocations.'[37]
Project Owner	'The entity that is responsible vis-à-vis the Research Council for ensuring that the project is carried out in accordance with the contract. In special cases, the Project Owner may be a person.'[38]
Project Manager	'The individual who is in charge of the progress and performance of the project on behalf of the Project Owner.'[39]
Project results	'All results produced or achieved in connection with the project, including intellectual property rights, regardless of whether or not the results are protected by law.'[40]
Rights	'The Project Owner and any partners must obtain the rights to commercial utilisation of the project results, and are required when

[35] 'Forskningsrådets krav til vitenskapelige publikasjoner', Research Council of Norway, updated 13 November 2020 (in Norwegian only)

[36] https://creativecommons.org/licenses/?lang=no

[37] 'The Research Council of Norway's Policy for Open Access to Research Data', revised 2017

[38] 'General Terms and Conditions for R&D Projects', Research Council of Norway, 1 January 2012

[39] 'General Terms and Conditions for R&D Projects', Research Council of Norway, 1 January 2012

[40] 'General Terms and Conditions for R&D Projects', Research Council of Norway, 1 January 2012

	necessary to sign agreements with owners, employees (including individuals with multiple employers), subcontractors and others to achieve this. The obtainment of such rights is not intended to limit the protection accorded the rights holder's moral rights pursuant to the Norwegian Copyright Act, nor does it preclude agreements regarding remuneration schemes for rights holders corresponding to those that apply to employees' inventions pursuant to the Act respecting the right to employees' inventions.'[41]
Open data	'Open data means that the data can be shared without restrictions in terms of who can use them (restricted access) or what the data can be used for (restricted purpose).'[42]
Open science	'Open science refers to scientific practice in which processes and results are made openly accessible under conditions that promote quality and knowledge development, including the sharing and utilisation of the research-based knowledge in a socially responsible manner.'[43]
Open access to data	'Registration/recording/reporting of numerical scores, textual records, images and sounds that are generated by or arise during research projects. These may, for example, be data that are generated through new analysis by combining existing input data, or entirely new data that are generated through new data collection. Research data are always a direct result of research activity, regardless of whether the data are based on input data or whether they are collected from scratch (research-generated data/output data).'[44]
Open access to publications	'The results of publicly funded research are to be available to the public.' [45]

Sources for the term base:

'How should we share research data?', Research Council of Norway, 2021.
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[41] 'General Terms and Conditions for R&D Projects', Research Council of Norway, 1 January 2012
[42] 'How should we share research data?', Research Council of Norway, 2021
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[44] 'The Research Council Policy for Open Science', Research Council of Norway, 2020
[45] 'The Research Council Policy for Open Science', Research Council of Norway, 2020