

## KRITEERIT

## TUTKIMUSORGANISAATIO

**1) Strategic Steering****a) Openness in the organisation's strategy documents (as a value and a commitment)**

1. Openness is mentioned as, for example, one of the organisation's values or principles
2. Openness has been named as an aspect of operational culture and its significance has been explained in this context
3. Openness is one of the prevailing strategic themes and clearly visible in organisation's activities

**b) Openness in the research activity**

1. Openness is mentioned as an aspect of the organisation's research activity
2. Openness is declared as an aspect of the organisation's research activity and its significance and practices have been explained in this context
3. Openness is one of the core aspects of the organisation's research activity, and it is actively supported, developed, encouraged and required.

**c) Local, national and international cooperation**

1. Cooperation with a variety of actors has been mentioned in the organisation's strategy
2. Cooperation with a variety of actors is evident in the organisation's strategy and areas for development have been defined
3. Noticeably diverse cooperation in all level and cooperation is a core aspect of the organisation's strategy. Organization is responsible of collaborative activity, and actively monitors the results.

**d) Managing interoperability**

1. The organisation shares the use of research services and infrastructures with other organisations and the promotion of such activities have been mentioned in its strategy
2. Developing general interoperability of services, infrastructures and data have been mentioned in the organisation's strategy
3. Both developing general interoperability of services, infrastructures and data and the benefits it generates have been considered in the organisation's strategy, and investments and support actions and resources in this area are present.

**e) Openness of research results**

1. The sharing and openness of research results have been mentioned in the organisation's strategy

2. The re-use and openness of research results are encouraged and developed
3. The openness of research results has been named as a core aspect of the organisation's research activities and the benefits it generates have been extensively identified

#### **f) Strengthening openness-related competence**

1. Openness-related competence, or tools and services that enable it, have been mentioned in the organisation's strategy
2. Openness-related competence and the tools and services that enable it have been defined as an area for development in the organisation's strategy
3. Openness-related competence and the tools and services that enable it have been defined as a focus area for resourcing in the organisation's strategy, and the benefits they generate have been identified.

## **2) Policies and Principles<sup>1</sup>**

### **a) Principles of openness for scientific publications**

1. The organisation recommends the use of open access channels for its research publications
2. The organisation encourages the use of open access channels for its research publications with incentives
3. The organisation requires the use of open access channels for its research publications

### **b) Principles of self-archiving for scientific publications**

1. The organisation recommends self-archiving (green open-access) research publications in an institutional repository or other open archives.
2. The organisation encourages self-archiving (green open-access) research publications in an institutional repository or other open archives, and has a support process in place for it.
3. The organisation requires self-archiving (green open-access) research publications in an institutional repository or other open archives, and has a support process in place for it.

### **c) Principles of openness relating to research methods (including algorithms and code, both developed and utilized)**

1. The organisation recommends openness in the publication and development of research methods and algorithms and code, and has an incentive in place for it.
2. The organisation encourages openness in the publication and development of research methods and algorithms and code, and has an incentive in place for it.
3. The organisation requires openness in the publication and development of research methods and algorithms and code.

### **d) Principles of openness relating to the availability, use and licensing of research data**

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<sup>1</sup> Poliitikatyökalu: <https://www.openaire.eu/d3-1-toolkit-for-policy-makers-on-open-access-and-open-science>

1. The organization has a data policy and policy implementation plan recommending openness of research data, open licensing and open data repositories.
2. The organisation has a data policy and policy implementation plan encouraging the open licensing of research data in accordance with the national recommendations and using open data repositories.
3. The organisation has a data policy and policy implementation plan requiring open licensing of research data in accordance with the national recommendations <sup>2</sup>and use of agreed open data repositories

#### **e) Service principles supporting openness<sup>3</sup>**

1. The organisation has recommendations for service principles (for the resources it administers, and can give access to users from other organisations).
2. The organisation has written service principles for most of the resources it administers, and others can get access for research purposes. Descriptions can be found on the organisation's website.
3. The organisation has written service principles for most of the resources it administers, and it is easy to gain access and get open information on resource usage. Descriptions can be found on the organisation's website.

#### **f) Guiding principles from Open Science framework <sup>4</sup>(managing research data life cycle, availability and reliability)**

1. The organisation has considered the principles of openness for managing research data life cycle, availability and reliability, and implemented these in the data policy.
2. The organisation's enterprise architecture encourages compliance with the principles of openness for managing research data life cycle, availability and reliability.
3. The organisation's enterprise architecture requires compliance with the principles of openness for managing research data life cycle, availability and reliability.

#### **g) Principles of openness in cooperation (for example in publication platforms for national journals)**

1. The organisation is in the starting phase in open collaboration, but does not describe this in detail.
2. The organisation is committed to some collaboration and openly describes its collaboration activities, but not the expected results and principles.
3. The organisation invests in dialogue with other actors and invests in communicating about principles and expected results of open collaboration.

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<sup>2</sup> <https://avointiede.fi/fi/koordinaatio/hankearkistot/att-hankeen-arkisto/keskeiset-linjaukset/tiedon-saatavuus>: Tutkimusdatan ja -julkaisujen jatkokäyttöä ei rajoiteta tarpeettomasti ja niiden käyttöehdot tuodaan selkeästi esille. Noudatetaan yleisiä, standardimuotoisia lisenssejä (suositus CC BY 4.0.), jotka ovat koneluettavia. Metatiedot julkaistaan CC0 –lisenssillä.

<sup>3</sup> <https://avointiede.fi/fi/koordinaatio/hankearkistot/att-hankeen-arkisto/keskeiset-linjaukset/palveluperiaatteet>

<sup>4</sup> <https://avointiede.fi/fi/koordinaatio/hankearkistot/att-hankeen-arkisto/keskeiset-linjaukset/arkkitehtuuriperiaatteet>

### **h) Principles of openness in agreements (licensing and re-use)**

1. The organisation recommends that principles of openness should be considered in agreements whenever juridical requirements allow
2. The organisation encourages the consideration of principles of openness in agreements whenever juridical requirements allow, and has a contract framework for it.
3. The organisation requires that principles of openness must be considered in agreements whenever juridical requirements allow, and has a contract framework and model contracts available for it.

### **i) Guidelines for quality systems**

1. The organisation has drawn up a quality manual or other quality-related document, and it is available on organisation's external website
2. The organisation's quality manual recommends openness or names openness as one of its quality principles, and has guidelines on how to use openness to increase quality.
3. The organisation's quality manual recommends openness and names openness as one of its core quality principles. It includes a process for developing openness.

## **3) Supporting Openness**

### **a) Monitoring the openness of publishing (open access, self-archiving, APC, BPC)**

1. The organisation does not yet monitor the openness of its publishing activities, but has plans to do so.
2. The organisation monitors the openness of its publishing activities to some extent and is developing the monitoring process.
3. The organisation monitors the openness of its publishing activities and processes by type, and data is being actively collected

### **b) Monitoring the openness of research data (making materials available, utilisation)**

1. The organisation does not yet monitor the openness of its research data, but has plans to do so.
2. The organisation monitors the openness of its research data to some extent and developments for the monitoring process are ongoing.
3. The organisation monitors the openness of its research data and data and metadata is being actively collected and used to improve the process.

### **c) Monitoring the visibility of research (for impact; scientific and social media)**

1. The organisation does not yet monitor the visibility of its research activities, but has plans to do so.
2. The organisation monitors the visibility of its research activities to some extent but does not distinguish scientific and other media hits.

3. The organisation monitors the visibility of its research activities and data is being actively collected. The organization does distinguish scientific and other media hits.

#### **d) Services for catalogueing and creating metadata for research materials**

1. The organisation does not yet use such services, but has plans to do so.

2. The organisation uses such services to some extent and is developing its metadata management.

3. The organisation actively uses such services, and uses the metadata for insight and steering.

#### **e) Services for documenting research publications and materials**

1. The organisation provides self-help guidelines for storing research publications in its own archives and information about parallel publishing.

2. In addition to the aforementioned, the organisation provides guidelines and some support personnel helping on storage and metadata for research materials, and information about open access publication.

3. In addition to the aforementioned, the organisation has a sufficient amount of support personnel guiding documentation, suitable storage sites for research materials and metadata, and explaining what must be considered when storing them. The topic is extensively covered and its benefits for researchers have been explained.

### **4. Competence development**

#### **a) Lifecycle management of research data<sup>5</sup>**

-The organisation provides self-help guidelines for creating a data management plan and its significance and benefits for research are explained

-The organisation provides some support and guidelines for the life-cycle management and digital preservation of research data and its significance and benefits for research are explained.

-The organisation provides strong support and guidelines for the life-cycle management and digital preservation of research data and its significance and benefits for research are acknowledged via supporting incentives.

#### **b) The re-use and findability of research results<sup>6</sup>**

-The organisation provides self-help guidelines for creating external links and persistent identifiers for research and research materials (including DOI, URN, ORCID, licensing research publications and data (including CC, ODC) and gives grounds for their use.

-The organisation provides guidelines and some support for creating external links and persistent identifiers for research and research materials (including DOI, URN, ORCID, licensing research publications and data (including CC, ODC) and gives grounds for their use.

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<sup>5</sup> Tietoa PSI-uudistuksesta: <http://data.consilium.europa.eu/doc/document/ST-13418-2018-INIT/en/pdf>

<sup>6</sup> Esimerkki FAIR-tiedonhallinnan ohjeista:

[http://ec.europa.eu/research/participants/data/ref/h2020/grants\\_manual/hi/oa\\_pilot/h2020-hi-oa-data-mgt\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf)

- The organisation provides guidelines and sufficient support for creating external links and persistent identifiers for research and research materials (including DOI, URN, ORCID, licensing research publications and data (including CC, ODC). These topics are extensively covered and their benefits for researchers have been explained.

**d) Use of common open science services\***

-The organisation has local services aligned with the Academy of Finland's or other major scientific funders guidelines on availability and publishing of research

-The organisation recommends the use of the Fairdata services (IDA, Etsin, AVAA) or other national services (such as AILA, DMP-Tuuli, Journal.fi) for managing research data

-The organisation recommends the use of international or European services (such as PubMed Central, arXiv, OpenAIRE, Zenodo, EUDAT, EOSC) for managing research data

**\* For the measures marked with bullet points the organisations were able to receive points for each criterion they fulfilled. For example, an organisation could fulfill only the last criteria for it to receive one point for the measure.**

## **1) Strategic Steering and Principles of Openness**

### **a) Strategic steering of openness**

- 1) Openness is mentioned as one of the organization's values or principles
- 2) Openness has been named as an aspect of operational culture and its significance has been explained in this context
- 3) Openness is one of the prevailing strategic themes and clearly lies at the core of the organization's activities

### **b) Promoting the openness and re-use of research outputs**

- 1) Openness of funded research's outputs is mentioned in the organization's strategy
- 2) Openness of funded research's outputs is encouraged and research funding is developed with this in mind
- 3) Openness and re-use of funded research's outputs is named as one of the core aspects of the organization's research funding

### **c) National and international cooperation**

- 1) Cooperation in research funding activities on the national and international level is mentioned in the organization's strategy
- 2) Cooperation in research funding activities on the national and international level is mentioned in the organization's strategy and there are funding calls and instruments in use based on this cooperation
- 3) Cooperation in research funding activities on the national and international level is named as one of the core aspects of research funding organization's activities and there are funding calls and instruments in use based on this cooperation

### **d) Interoperability of research infrastructures**

- 1) Interoperability and shared use of funded research services and infrastructures is mentioned in the organization's strategy
- 2) Interoperability and shared use of funded research services and infrastructures is mentioned in the organization's strategy and those are being developed
- 3) Interoperability and shared use of funded research services and infrastructures is mentioned in the organization's strategy and those are developed even further acknowledging the benefits

### **e) Strengthening openness-related competence**

- 1) Openness-related competences are mentioned in the organization's strategy
- 2) Openness-related competences are defined as an area for development in the organization's strategy

3) Openness-related competences, are defined as a focus area for resourcing and development in the organization's strategy, and the opportunities created by these are identified extensively

## **2) Openness in Research Funding<sup>7</sup>**

### **a) Principles of open access publishing**

- 1) Funded research's publications are recommended to be published in open access publishing channels
- 2) Funded research's publications are urged to be published in open access publishing channels
- 3) Funded research's publications are required to be published in open access publishing channels

### **b) Principles of research data openness**

- 1) Funded research's data is recommended to be published open
- 2) Funded research's data is urged to be published open in accordance with the national recommendations on open data publishing services and open licensing
- 3) Funded research's data is required to be published open in accordance with the national recommendations on open data publishing services and open licensing

### **c) Principles of research methods openness methods (including algorithms and code, both developed and utilized)**

- 1) Openness of funded research's methods is recommended and developed further
- 2) Openness of funded research's methods is urged and developed further
- 3) Openness of funded research's methods is required and developed further

### **d) Principles of openness for research infrastructures**

- 1) Funded research infrastructures are recommended to enable shared use in their policies and terms of use
- 2) Funded research infrastructures are urged to enable shared and open use in their policies and terms of use
- 3) Funded research infrastructures are required to clearly enable shared and open use in their policies and terms of use in accordance with the national recommendations.

## **3) Supporting and Promoting Openness**

### **a) Instructions for open science and research**

- 1) Instructions on open research practices are available and benefits of open science are presented to research funding applicants
- 2) Comprehensive instructions on open research practices are available and benefits of open science are presented to research funding applicants

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<sup>7</sup> Poliitikatyökalu: <https://www.openaire.eu/d3-1-toolkit-for-policy-makers-on-open-access-and-open-science>



3) Comprehensive instructions on open research practices are available, benefits of open science and how these are taken into account by research funder, for example in funding instruments, are presented to research funding applicants

**b) Recommendations of openness for research outputs**

- 1) The possibilities of research outputs openness are presented to research funding applicants
- 2) The possibilities of research outputs openness are presented and openness is recommended to research funding applicants
- 3) The possibilities and benefits of research outputs openness are broadly presented and openness is recommended to research funding applicants

**c) Developing openness in research funding reviewing**

- 1) The research funder explains broadly the process of funding calls and the review criteria used
- 2) The research funder explains broadly the process of funding calls and the review criteria used. One review criterion in funding calls is openness and re-use of research
- 3) The research funder explains broadly the process of funding calls and the review criteria used. One review criterion in funding calls is openness and re-use of research and the indicators to measure these are explained

**d) Monitoring openness**

- 1) The research funder monitors the openness of funded research alongside the common reporting required
- 2) The research funder monitors the openness of funded research alongside the common reporting required and the re-use of research results are promoted during the research
- 3) Monitoring the openness of funded research is a permanent part of the common reporting required and the re-use of research results are promoted during the research

**e) Openness of funding decisions**

- 1) The research funder opens its own information for example by publishing the funding decisions on its website
- 2) The research funder opens its own information for example by publishing the funding decisions on its website in a machine-readable format
- 3) The research funder opens its own information for example by publishing the funding decisions on its website in a machine-readable format and through an open API

## **1) Strategic Steering and Principles of Openness**

### **a) Strategic steering of openness**

- 1) Openness is mentioned as one of the organization's values or principles
- 2) Openness has been named as an aspect of operational culture and its significance has been explained in this context
- 3) Openness is one of the prevailing strategic themes and clearly lies at the core of the organization's activities

### **b) Promoting the openness and re-use of research outputs**

- 1) Openness of research outputs is mentioned in the organization's strategy
- 2) Openness of research outputs is encouraged and research funding is developed this in mind
- 3) Openness and re-use of research outputs is named as one of the core aspects of the organization's research funding

### **c) National and international cooperation**

- 1) Cooperation on the national and international level is mentioned in the organization's strategy
- 2) Cooperation on the national and international level is mentioned in the organization's strategy and there are funding calls and instruments in use based on this cooperation
- 3) Cooperation on the national and international level is named as one of the core aspects of research funding organization's activities and there are funding calls and instruments in use based on this cooperation

### **d) Interoperability of research infrastructures**

- 1) Interoperability and shared use of services and infrastructures is mentioned in the organization's strategy
- 2) Interoperability and shared use of services and infrastructures is mentioned in the organization's strategy and those are being developed
- 3) Interoperability and shared use of services and infrastructures is mentioned in the organization's strategy and those are developed even further by implementing principles of openness

### **e) Strengthening openness-related competence**

- 1) Openness-related competence, or services that enable it, are mentioned in the organization's strategy
- 2) Openness-related competence, or services that enable it, are defined as an area for development in the organization's strategy

3) Openness-related competence, or services that enable it, are defined as a focus area for resourcing and area for development in the organization's strategy, and the opportunities created by these are identified extensively

## **2) Openness in Policies and Principles<sup>8</sup>**

### **a) Principles of open access publishing**

- 1) Research publications are recommended to be published in open access publishing channels
- 2) Research publications are urged to be published in open access publishing channels
- 3) Research publications are required to be published in open access publishing channels

### **b) Principles of research data openness**

- 1) Research data is recommended to be published open
- 2) Research data is urged to be published open in accordance with the national recommendations on open data publishing services and open licensing
- 3) Research data is required to be published open in accordance with the national recommendations on open data publishing services and open licensing

### **c) Principles of research methods openness methods (including algorithms and code, both developed and utilized)**

- 1) Openness of research methods is recommended and developed further
- 2) Openness of research methods is urged and developed further
- 3) Openness of research methods is required and developed further

### **d) Principles of openness for research infrastructures**

- 1) Research infrastructures policies and terms of use recommends to enable shared use their
- 2) Research infrastructures policies and terms of use urges to enable shared and open use
- 3) Research infrastructures policies and terms of use requires to enable shared and open use, and the terms of use are in accordance with the national recommendations

## **3) Supporting and Promoting Openness**

### **a) Instructions for open science and research**

- 1) Instructions on open research practices are available and benefits of open science are presented to researchers
- 2) Comprehensive instructions on open research practices are available and benefits of open science are presented to researchers
- 3) Comprehensive instructions on open research practices are available, benefits of open science and how these are taken into account are presented to researchers

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#### **b) Recommendations of openness for research outputs**

- 1) The possibilities of research outputs openness are presented to researchers
- 2) The possibilities of research outputs openness are presented and openness is recommended to researchers
- 3) The possibilities and benefits of research outputs openness are broadly presented and openness is required from researchers

#### **c) Developing openness in collaboration**

- 1) The organization explains broadly the process of collaboration and the possible review criteria used
- 2) The organization explains broadly the process of collaboration and the possible review criteria used. One review criterion in collaboration is openness and re-use of research
- 3) The organization explains broadly the process of collaboration and the possible review criteria used. One review criterion in collaboration is openness and re-use of research and the indicators to measure these are explained

#### **d) Monitoring openness**

- 1) The organization monitors the openness of research alongside the common reporting
- 2) The organization monitors the openness of research alongside the common reporting and the re-use of research is promoted during the research
- 3) Monitoring the openness of research is an elementary part of the common reporting and monitoring the results steer actions.

#### **e) Monitoring impact and visibility of research (scientific and social media)**

- 1) The organization does not yet monitor the visibility or impact of its research activities, but plans to do so.
- 2) The organization monitors the visibility or impact of its research activities to some extent.
- 3) The organization monitors the visibility or impact of its research activities, and data is being actively collected.

## **1) Strategic Steering and Principles of Openness**

### **a) Strategic steering of openness**

- 1) Openness is mentioned as one of the organization's values or principles
- 2) Openness has been named as an aspect of operational culture and its significance has been explained in this context
- 3) Openness is one of the prevailing strategic themes and clearly lies at the core of the organization's activities

### **b) Promoting the openness and re-use of research outputs**

- 1) Openness of research outputs is mentioned in the organization's strategy
- 2) Openness of research outputs is encouraged in the organization's strategy
- 3) Openness and re-use of research outputs is named as one of the core aspects of research in the organization's strategy

### **c) National and international cooperation**

- 1) Cooperation on the national and international level is mentioned in the organization's strategy
- 2) Cooperation on the national and international level is mentioned in the organization's strategy and there are funding calls and instruments in use based on this cooperation
- 3) Cooperation on the national and international level is named as one of the core aspects of research funding organization's activities and there are funding calls and instruments in use based on this cooperation

### **d) Interoperability of research infrastructures**

- 1) Interoperability and shared use of services and infrastructures is mentioned in the organization's strategy
- 2) Interoperability and shared use of services and infrastructures is mentioned in the organization's strategy and those are being developed
- 3) Interoperability and shared use of services and infrastructures is mentioned in the organization's strategy and those are developed even further acknowledging the benefits

### **e) Strengthening openness-related competence**

- 1) Openness-related competence, or services that enable it, are mentioned in the organization's strategy
- 2) Openness-related competence, or services that enable it, are defined as an area for development in the organization's strategy

3) Openness-related competence, or services that enable it, are defined as a focus area for resourcing and area for development in the organization's strategy, and the opportunities created by these are identified extensively

## **2) Openness in Policies and Principles<sup>9</sup>**

### **a) Principles of open access publishing**

- 1) Research publications are recommended to be published in open access publishing channels
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### **b) Principles of research data openness**

- 1) Research data is recommended to be published open
- 2) Research data is urged to be published open in accordance with the national recommendations on open data publishing services and open licensing
- 3) Research data is required to be published open in accordance with the national recommendations on open data publishing services and open licensing

### **c) Principles of research methods openness methods (including algorithms and code, both developed and utilized)**

- 1) Openness of research methods is recommended and developed further
- 2) Openness of research methods is urged and developed further
- 3) Openness of research methods is required and developed further

### **d) Principles of openness for research infrastructures**

- 1) Research infrastructures policies and terms of use recommends to enable shared use
- 2) Research infrastructures policies and terms of use urges to enable shared and open use
- 3) Research infrastructures policies and terms of use clearly requires to enable shared and open use, and the terms of use are in accordance with the the national recommendations

## **3) Supporting and Promoting Openness**

### **a) Instructions for open science and research**

- 1) Instructions on open research practices are available and benefits of open science are presented to researchers
- 2) Comprehensive instructions on open research practices are available and benefits of open science are presented to researchers
- 3) Comprehensive instructions on open research practices are available, benefits of open science and how these are taken into account by research funder, for example in funding instruments, are presented to researchers

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#### **b) Recommendations of openness for research outputs**

- 1) The possibilities of research outputs openness are presented to researchers
- 2) Openness of research outputs is recommended to researchers
- 3) Openness of research outputs is required for researchers

#### **c) Developing open collaboration**

- 1) The organization explains broadly the process of collaboration and the possible review criteria used
- 2) The organization explains broadly the process of collaboration and the possible review criteria used. One review criterion in collaboration is openness and re-use of research
- 3) The organization explains broadly the process of collaboration and the possible review criteria used. One review criterion in collaboration is openness and re-use of research and the indicators to measure these are explained

#### **d) Monitoring openness**

- 1) The organization monitors the openness of research alongside the common reporting required
- 2) The organization monitors the openness of research alongside the common reporting required and the re-use of research is promoted during the research
- 3) Monitoring the openness of research is a permanent part of the common reporting required and the re-use of research is promoted during the research

#### **e) Monitoring impact and visibility of research (scientific and social media)**

- 1) The organization does not yet monitor the visibility or impact of its research activities, but plans to do so.
- 2) The organization monitors the visibility or impact of its research activities to some extent.
- 3) The organization monitors the visibility or impact of its research activities, and data is being actively collected.