Finnish Open Science and Research Initiative

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Ministry of Education and Culture
Ministère de l’Éducation et de la Culture
Introduction
Benefits of open science and research

- Faster progress
- Greater impact
- Science-based decision-making
- Citizen science
The objectives of the Open Science and Research Initiative (ATT) are to make Finland a leading country for openness in science and research by 2017.
Finnish Open Science and Research Roadmap 2014-2017
Vision

Vision 2017: Open research leads to surprising discoveries and creative insights

- Reinforcing the intrinsic nature of science and research
- Strengthening openness-related expertise
- Ensuring a stable foundation for the research process
- Increasing the social impact of research
<table>
<thead>
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<th>Objectives</th>
<th>Details</th>
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<tr>
<td>Reinforcing the intrinsic nature of science and research</td>
<td>• Openness and reproducibility increase the reliability and quality of science and research</td>
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<td>Strengthening openness-related expertise</td>
<td>• Opportunities afforded by openness boost Finland’s competitive edge</td>
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<td>Ensuring a stable foundation for the research process</td>
<td>• Good and clear basic structures and services</td>
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<td>Increasing the social impact of research</td>
<td>• New opportunities for researchers, decision-makers, business, public bodies and citizens</td>
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Objective 1: Reinforcing the intrinsic nature of science and research

2015
- Preparation of policies to support activities
- Incentives for openness in peer-reviews and merits
- Assessing the state of openness in research environments

2016
- Reviewing progress
- Developing an evaluation model for citizen science

2017
- Reviewing progress
- Monitoring maturity level of organisations
Objective 2: Strengthening the openness-related expertise

2015
- Development of certificate for Open Science
- Updating the Open Science and Research Manual
- Analysing the competency level - training packages and training

2016
- Piloting the certificate for Open Science
- Provision of training and guidance
- Establishing professorships focused on openness

2017
- Introducing the certificate of Open Science
- Provision of training and guidance
Objective 3: Ensuring a stable foundation for the research process

**2015**
- Development of services for utilization of open data
- Piloting the open publication of Finnish scientific publications
- Development of common practices for storage, distribution and publication of outputs & promotion of service design and usability

**2016**
- Development of digital preservation
- Opening up new major national research data
- Creating permanent operating model for open publication

**2017**
- Putting into practice digital preservation of research outputs
Objective 4: Increasing the social impact of research

2015
Motivating research organizations – both public and private - to develop businesses
Indicators to measure and incentives to promote openness

2016
Introducing openness criterion for research funding
Promoting peer reviews of openness (national / international)

2017
Reviewing progress
Availability and easy uptake of publications, methods and ideas

Meta-searches and combination of results pose new hypotheses

Active scientific debate

Faster validation and verification of results

Publications advances research activities

Collaborative research

New research idea

New research plan

Open research data evaluation and re-use

New research possible by combining produced data sets
Implementation
Key performance indicators

The number of organisations at the highest level of openness
- openness as strategic strength
  – 10% of HEIs in 2017
  – 25% of HEIs in 2018
  – 50% of HEIs in 2020

Doctoral programs with open science training
  – 90% of programs in 2018
  – 100% of programs in 2020

Open access of publications in the EU assessment
  - 65% in 2017
  - 75% in 2018
  - 90% in 2020

Of new datasets
  - 25% are licenced in 2017 and 30% in 2018
  - In 2020 50% of new datasets are licenced and their metadata are found in national metadata catalogues
Implementing open science in Finnish research organisations

• The culture of openness was studied in four sections
  – Strategic guidance
  – Policies and principles
  – Support for openness
  – Reinforcing expertise

• The maturity assessment
  – Basic information from openly available material to assess the open science culture
  – This information base was improved with supplementary information from a survey
The overall level of maturity in open science in 2015

Research Institutes

- **LEVEL 5**
  - Strategic
  - HY
  - III

- **LEVEL 4**
  - Managed
  - JY
  - TTY

- **LEVEL 3**
  - Defined
  - HY
  - AALTO

- **LEVEL 2**
  - Partly managed
  - TTY
  - ISY
  - TAY

- **LEVEL 1**
  - Unmanaged
  - NO PROGRESS
  - SEVERAL HEIs

Higher Education Institutes

- **LEVEL 5**
  - Strategic
  - HY
  - III

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Improving the Framework for Open Science and Research

• The Enterprise Architecture (EA) method is used for designing and planning complex IT infrastructure, services and related capabilities
• It creates a coherent understanding of the existing situation with the shortcomings and problems
• The lack of analytical planning leads to unneeded and costly overlaps and non-interoperable infrastructure and services
• EA creates a uniformal vocabulary and helps in identifying the roles and responsibilities of stakeholders and also common targets
• EA is a tool for governance, it aims at a global optimum solution instead of a partial one
• Despite the business connotation of the EA name, in Finland the method is also used in the public sector
• EA can be studied at many information levels: physical (with what), logical (how), conceptual (what) and principal (why)
• Produces assessment tools
• If done systematically EA helps in comparison of different frameworks
More information

For Researchers
- Find services that support research
- Read the Open Science Handbook
- Explore the Data Management Guide

Support for Research
- Explore UNESCO's Open Access Curriculum
- Read selected articles on openness

For Organisations
- Open Science policy in other countries
- Explore other Open Science Initiatives

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