Organising RDM and Open Science Services

Case Finland and Aalto University

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Aalto-yliopisto
Aalto-universitetet
Aalto University

Agenda

- Aalto University in numbers
- National initiatives
- Research support offered by Aalto University in
    - Open access publications
    - Research data management

Aalto University is a multidisciplinary community of bold thinkers where science and art meet technology and business.

Merger of three leading Finnish universities

1849   **Helsinki University of Technology**

1871   **University of Art & Design Helsinki**

1911   **Helsinki School of Economics**

A"
Aalto University
2010

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Six dynamic schools

School of Arts, Design and Architecture
architecture; art; design; media; film, television and scenography

School of Business
accounting; economics; finance; management studies; marketing; information and service management

School of Chemical Engineering
bioproducts and biosystems; chemistry and materials science; chemical and metallurgical engineering

School of Electrical Engineering
communications and networking; electronics and nanoengineering; electrical engineering and automation; signal processing and acoustics

School of Engineering
built environment; civil engineering; mechanical engineering

School of Science
applied physics; computer science; industrial engineering and management; mathematics and systems analysis; neuroscience and biomedical engineering

About **12 000** students. **45%** Bachelor, **45%** Masters and **10%** PhD students. A staff of about **4,200** of which **400** are professors. Nearly **2/3** of professors are appointed after 2010.

National Initiatives

- Research Data (2011 – 2013)
- Open Science and Research (2014 – 2017)
- Open Science and Data (2017 – 2018)

The Federation of Finnish Learned Societies coordinates open science activities since the end of 2018.

Open Science and Research Initiative 2014 - 2017

RESEARCH DATA SURVEY INITIATIVE 2009–2011
- Roadmap

FINNISH RESEARCH DATA INITIATIVE 2011–2014
- Services
- Metadata
- International collaboration
- Awareness

OPEN SCIENCE AND RESEARCH INITIATIVE ROADMAP 2014
- National and international collaboration
- Change of culture
- Open science handbook
- Services for preservation
- Services for metadata
- Services for access
- Tools e.g. for identification

OPEN SCIENCE AND RESEARCH INITIATIVE TARGET 2017
- Open access
- Open data
- Open methods

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Open Science and Research 2018 – Coordination (https://openscience.fi/)
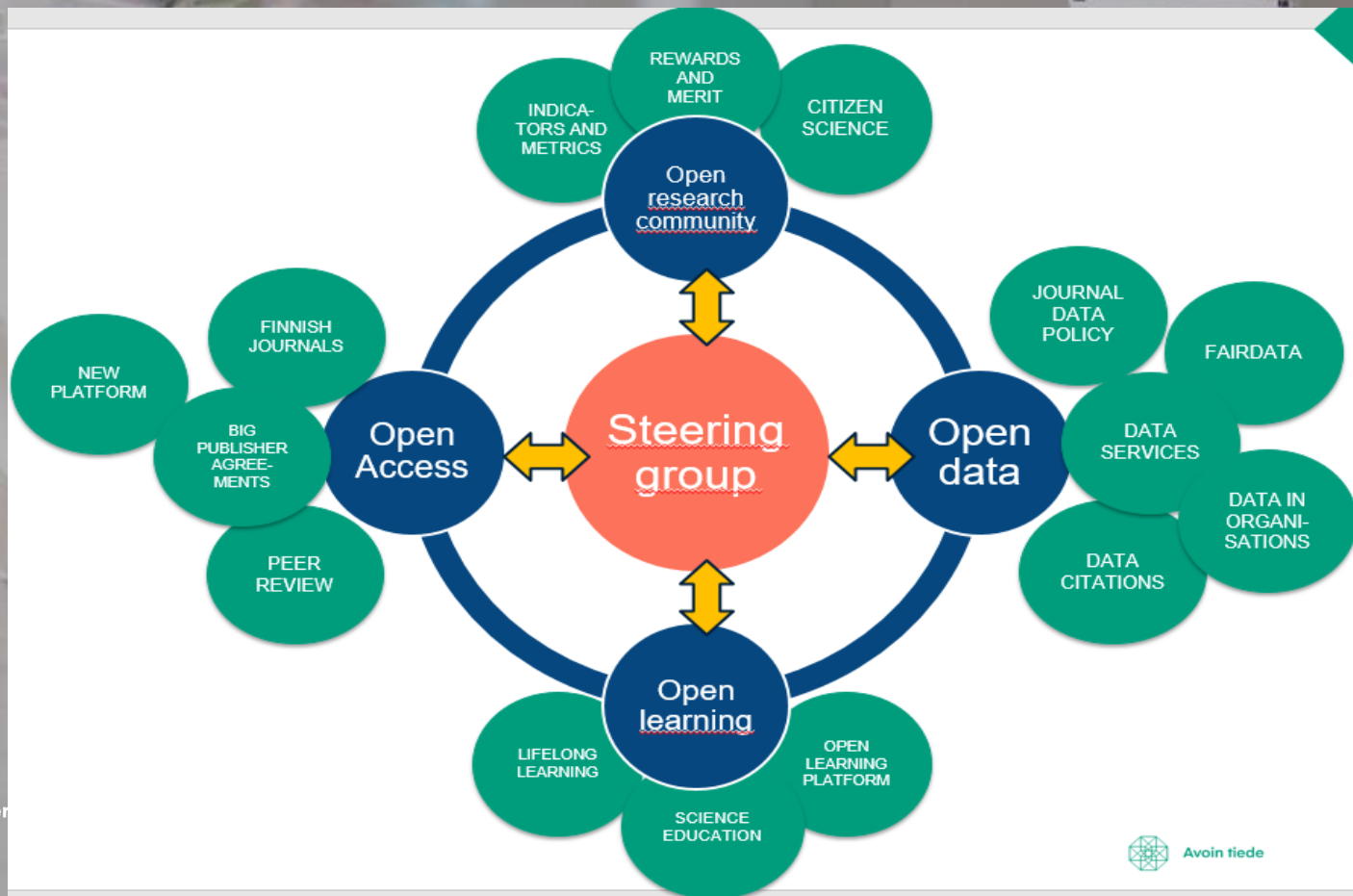
Open Science Coordination Outputs

Finnish Declaration for Open Science

Sets Finnish open science vision and mission. Organisational commitment.

1

Finnish Policies for Open Science

Four areas:
· Data
· Publishing
· Learning
· Culture of Open Scholarship

2

Open Science recommendations

3

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Avoin tiede
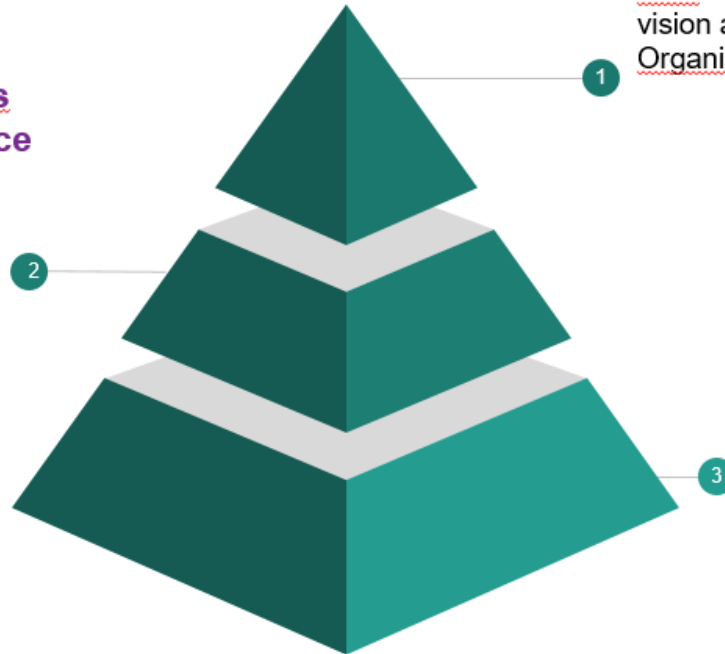
Vision for open science 2025
Open science and research have become integrated with researchers' everyday work so that they support not only the effectiveness of research outputs but also the quality of research. The Finnish research community is one of the international forerunners in open science and research.

Mission for open science
The shared mission of the Finnish research community is to promote openness as a fundamental value in everything that the research community does.

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Policy for open research culture
Strategic Objective (preliminary):
Responsible openness is part of daily life in the research community and it permeates the entire research process. Research organisations have the evaluation practices, incentives and services needed to support openness.

Policy for open accessibility of research publications
Strategic Objective (preliminary):
All new research publications are immediately available via open access.

Policy for the open accessibility of education and educational materials
Strategic Objective (preliminary):
Creating and using open educational resources and other open educational practices are part of higher education and enable continuous learning for citizens. Comprehensive evaluation practices, incentives and services support the sharing and development of educational resources and teaching competence.

Policy for the openness of research data
Strategic Objective (preliminary):
Research outputs are as open as possible and as closed as necessary. The management of research data follows FAIR principles and research methods and services support achievement of this goal. All metadata is openly accessible.
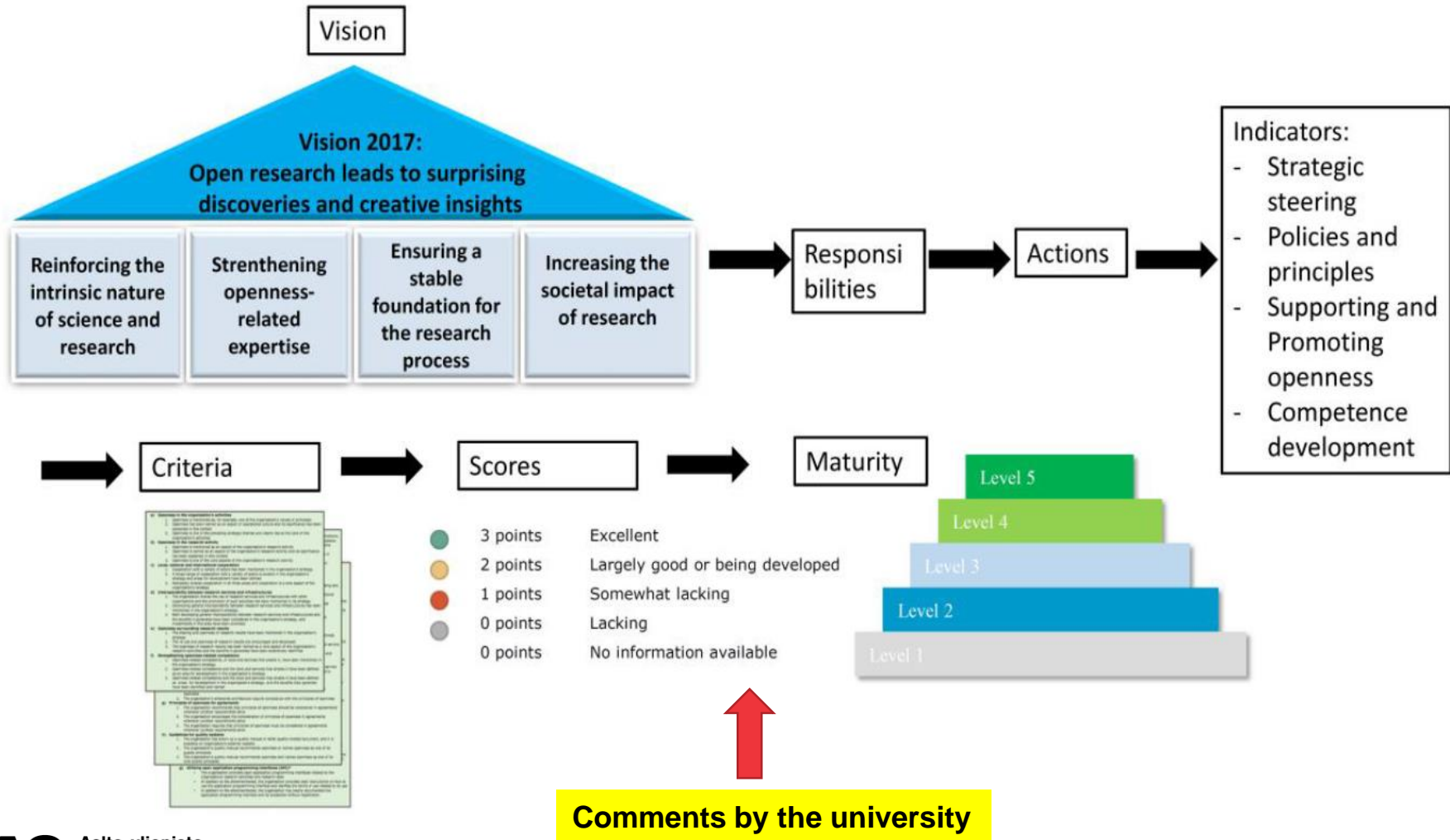
By signing the Finnish Declaration for Open Science and Research 2020–2025 the members of the research community commit to promoting the openness of scientific and artistic research. To carry out the mission and achieve the vision, the signatories will:

1) promote the open science and research policies defined by the research community[1] as a part of their own strategy and steering work, taking into account the characteristics and specific resources of their organisations

2) support and encourage the everyday work of their organisation's members to attain the objectives and goals of the policies.

3) actively contribute to co-operation in promoting open science on a national level.

Ways of working

- Expert groups and working groups work on different aspects of open science

- Web meetings and bi-annual meetings where results are presented

- Coordinator to manage the administrative burden

- Research organisations are asked to commit to the declaration

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Vision

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

| Reinforcing the intrinsic nature of science and research | Strenthening openness-related expertise | Ensuring a stable foundation for the research process | Increasing the societal impact of research |

Responsibilities → Actions →

Indicators:
- Strategic steering
- Policies and principles
- Supporting and Promoting openness
- Competence development

→ Criteria → Scores → Maturity

- 3 points — Excellent
- 2 points — Largely good or being developed
- 1 points — Somewhat lacking
- 0 points — Lacking
- 0 points — No information available

Level 5
Level 4
Level 3
Level 2
Level 1

Comments by the university

Strategic Steering

		Aalto scores
a)	Openness in the organisation's strategy	1
b)	Openness in the research activity	0
c)	Local, national and international cooperation	1
d)	Managing interoperability	1
e)	Openness of research results	0
f)	Strengthening of openness-related competencies	0
		3/18

Policies and Principles

a)	Principles of openness for scientific publications	1
b)	Principles of self-archiving of scientific publications	3
c)	Principles of openness relating to research methods	0
d)	Principles of openness relating to the availability, use and licensing of research data	3
e)	Service principles supporting openness	1
f)	Guiding principles from Open Science framework	1
g)	Principles of openness for cooperation	2
h)	Principles of openness in agreements	3
i)	Guidelines for quality systems	2
		16/27

Supporting Openness

a)	Monitoring the openness of publishing (Open Access, self-archiving)	3
b)	Monitoring the openness of research data (making data available, utilisation)	2
c)	Monitoring the visibility of research (impact; scientific and social media)	2
d)	Services for cataloguing and creating metadata for research materials	2
e)	Services for documenting research publications and materials	**9/12**

Strategic steering   Policies and principles   Supporting openness

Organisation	Strategic steering a b c d e f	poin	Principles a b c d e f g h i	Poin	Supp. Open. a b c d	Total Poin	2019	2016
AALTO		3		16		9	28	39
HANKEN		0		11		9	20	37
HY		10		24		8	42	54
ISY		8		20		5	33	35
JY		2		17		7	26	48
LaPY		6		9		4	19	31
LUT		7		17		4	28	44
MPKK		0		2		0	2	-
OY		9		20		8	37	44
TAIDE		2		9		2	13	9
TUNI		16		22		10	48	-
TY		16		23		11	50	39
VY		2		10		2	14	15
ÅA		13		10		3	26	25

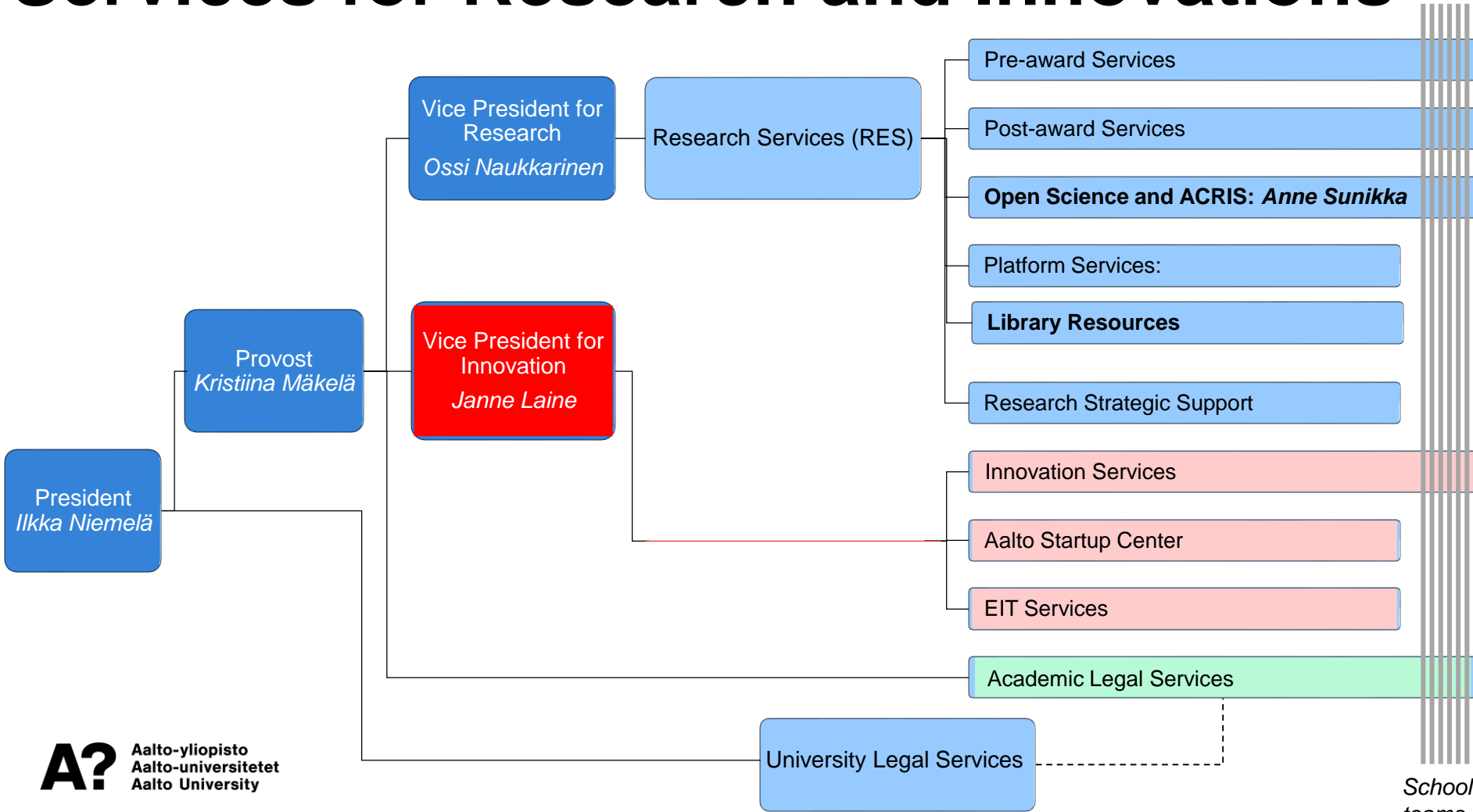# Organisation

Open science support

- Open access publishing
- DMPs
- Research data

RDM network

Services for Research and Innovations

President
Ilkka Niemelä

Provost
Kristiina Mäkelä

Vice President for Research
Ossi Naukkarinen

Vice President for Innovation
Janne Laine

Research Services (RES)

Pre-award Services

Post-award Services

Open Science and ACRIS: *Anne Sunikka*

Platform Services:

Library Resources

Research Strategic Support

Innovation Services

Aalto Startup Center

EIT Services

Academic Legal Services

University Legal Services

School teams

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Development at Aalto

Restructuring of Learning Centre in 2018 (former library) – Divided into Learning services and Research services

Creation of Open Science and ACRIS team – responsible for CRIS and open science services

Data agents – Practical help for researchers in RDM and FAIR data questions. Awareness building & training.

Open Science and ACRIS (OSA) team

- Validating and curating scientific and artistic research outcome in the research information management system, ACRIS.

- Advising researchers in RDM and open science questions, and developing services for OA publishing (e.g. OA Fund), RDM and opening data

- Maintaining and developing publication platform which is used for publishing Bachelor, Masters and Doctoral dissertations.

- Carrying out publication analyses for recruiting and tenure track processes

Data agents

	Champions	Advisors	Managers
Financial commitment	Small	Large	Medium
Senior support needed	Little	Lots	Medium
Stewards incentivised?	No	Yes	Yes
Affects central support team?	Maybe	Yes	No
Support available to all?	Maybe	Yes	No
Culture Change	?	?	?

Stewards, Champions or Advisors?
An overview of institutional Research Data Management support structures
Rosie Higman
https://doi.org/10.5281/zenodo.1477218

- Mostly post docs. High turnover rate
- At the moment, 7 agents in 5 schools
- RES pays 10 – 50 % of their salary
- Discipline-specific knowledge
- Awareness raising events (e.g. RDM road shows at schools, attending department meetings, discussion events in departments)
- Preparation of training material (especially discipline- specific training material
- Success varies

Aalto-level research data management support

ELEC

ARTS

Data-advisor

ARTS

ELE/ELEC

CS/SCI

NBE/SCI

SCI

Open science and ACRIS team
Commenting on DMPs, assisting in data management, ACRIS maintenance, supporting Open Access publishing.

Research Data Management network
researchdata@ aalto.fi

Data-agents are researchers who work to improve data management in their department, school, or unit. They are the first, practical, hands-on resource!

ENG

BE/ENG

ENG

BIZ

CHEM

CMAT/CHEM

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School liaisons

- Present at schools 1 – 3 days a week

- Supporting researchers with DMPs and publication plans

- EU reporting for publications

- Arranging school and department specific events and training

- Special roles, e.g. in research ethics, artistic outputs, detailed school-level reporter

Services for Open Science

Open access publishing

- Open Access Fund, 120 000 €/yearly
- Manuscript service
- Agreements with publishers on free open access publishing or publishing with reduced rates

Research Data

- Aalto-level basic training
- DMP training
- Discipline-specific events/trainings
- DMP commenting service
- Open hours/clinics in departments

Turning a librarian into a RDM expert

In house training

- Basics of RDM
- DMPs (grant writer)
- Licenses (lawyers)
- Examples of real data (data agents)
- Commercialisation (innovation specialist)
- IT solutions (IT- specialist)

- What about those employees who do not cope with the change?

Focus

- Sharing experiences & teaching each other (internal workshops)
- Teaching in pairs
- Freedom and responsibility to try and learn

- Instructions addressing need to think about research ethics, GDPR, legislation, commercialisation etc.
- Not siloed instruction advice or pages!

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To do at Aalto University

Costs of open access publishing
Gathering of information per publisher and per research output made easier. At the moment very work-intensive.

Better control of research data
What are the means of collecting data on our research data?
Embed in the processes, use AI?

Policies and principles update
New open science and research policy (incl. publications, data, code, methods)
Later infrastructure and teaching materials

Incentives
How to take open science activities into account in promotions and evaluations?
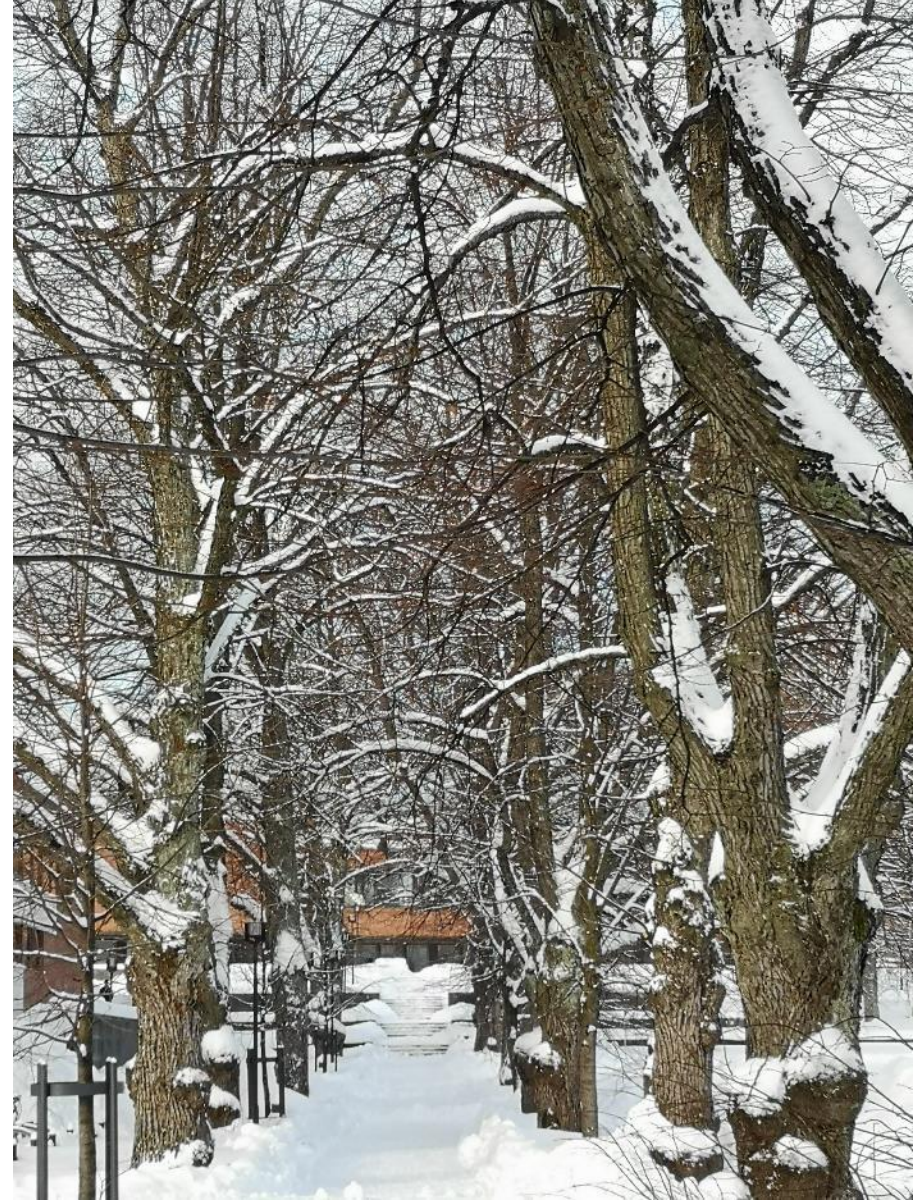
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Lessons learnt

- When communicating with researchers – emphasise **managing** research data instead of opening data.
- Distinction between funders' DMP and "real" DMPs.
- Stronger support for RDM and open science needed from the top management of the university and from heads of departments.

- OA publishing scene is transforming with PlanS (https://www.coalition-s.org) and national initiatives.
- These changes raise awareness but also frustrate researchers.
- Opening data is way more complicated than open access publishing…

Conclusions

Collaboration is the way to work both within the university and between universities.

- **Ensure wide perspective and better quality of work**

- **Time consuming**