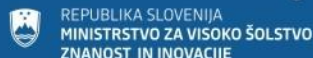


The work of data experts in practice

Case studies of data stewardship in higher
education

Antti ROUSI, PhD, Aalto Data Agents, Aalto University, Finland

Ljubljana and online, Centralna tehniška knjižnica Univerze v Ljubljani,
Usposabljanje podatkovnih strokovnjakov, 23. – 26. 9. 2024





Contents of the presentation

- **Data stewardship: case studies from North-American, Dutch, and Finnish universities (Rousi, Boehm & Wang, 2024)**
- **The work of Aalto Data Agents**

Data stewardship: case studies from North-American, Dutch, and Finnish universities

Institution	Country	Brief description	Number of personnel	Number of students
Purdue University	United States	Public Land Grant Institution in West Lafayette, Indiana, founded in 1896. It is renowned for engineering and a focus on federally funded research and industry. Purdue has 13 colleges each with multiple departments. Subjects range from STEM to Liberal Arts, to Agriculture, and include a school of Exploratory Studies.	Personnel 2022: 10,056 (Faculty 1978; Staff 8078)	Students population 2022: 41,000 (Undergrad 75%; Grad 25%)
Delft Technical University	The Netherlands	Founded in 1842, oldest and largest technical university in The Netherlands. It has 8 faculties across science, engineering and design, as well as social science and humanities groups embedded in these faculties.	Personnel 2022: 6,648 of which 62% scientific staff	Student population 2022: 27,079 (Bachelor and Master's level students)
Aalto University	Finland	Formed in 2010 through the merger of Helsinki University of Technology, Helsinki School of Business and University of Arts and Design. Aalto has four schools that focus on technical sciences, one school for business and management and one for arts and design.	Personnel 2022: 4751, 59% of them were employed in teaching and research positions	Student population 2022: 13 000 (Bachelor and Master's level students)

Source: Rousi, Boehm & Wang, 2024, CC-BY

Data stewardship: case studies from North-American, Dutch, and Finnish universities

Institution	Program type	Tasks	Data stewardship program FTEs
Purdue	Research infrastructure personnel as full-time data stewards, Research faculty liaisons - balance tasks with teaching and research	PURR repository management, support in data sharing, archiving and preservation in the repository, PURR repository development, community and campus support department partnerships, RDM consultations and workshop sessions	3
TU Delft	Full-time RDM professionals employed as data stewards at the faculties management teams	RDM consultation, support and tooling, RDM training and education, policy and strategy, community engagement, communications	13
Aalto	Researchers as part-time data stewards	RDM consultation, support and tooling, RDM training and education, policy and strategy, community engagement, communications	2.5

Source: Rousi, Boehm & Wang, 2024, CC-BY

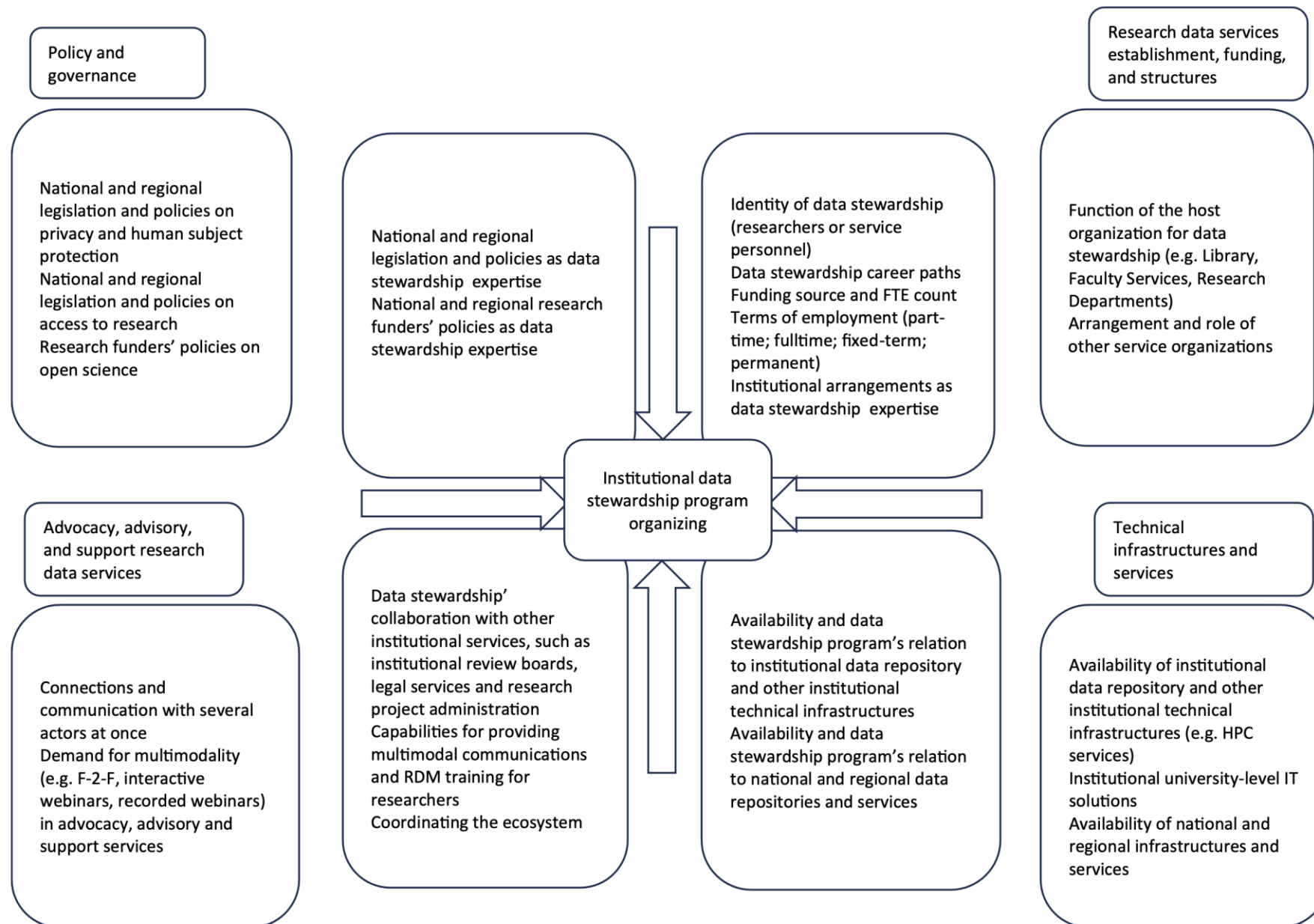
Data stewardship: case studies from North-American, Dutch, and Finnish universities

	Data stewardship program (main program FTEs)	Policy and governance	Research data services establishment, funding and structures	Advocacy, advisory, and support research data services	Technical research data services
Purdue	Research infrastructure personnel as full-time data stewards (3 FTEs)	Majority Federal Agency based Focus on Security and RCR	Dept: Faculty (Professors, Researchers and Subject Liaisons) and Staff (PURR) Staff leads cross campus focus	Across all data processes Campus connectors	Univ: Storage, sharing, and computing. PURR repository developed in-house Regional to International Collab options
TU Delft	Full-time data stewards employed at the faculties management teams (13 FTEs)	Close connections between institutional and national policies on open access publishing and research data management Comply with EU level legislations on privacy and open data	Research Data and Software services provided by the library Data Stewards employed at faculties	University level advocacy and coordination: led by library research data and software services Research community: led by faculty Data Stewards	Institutional services on RDM with both in-house infrastructure and external applications National infrastructure and facilities coordinated by the library
Aalto	Researchers as part-time data stewards (2.5 FTEs)	The Finnish Federation of Learned Societies coordinates the forming of national open science policies. Institutional policies Comply with EU level legislations on privacy and open data.	The data steward programship is funded by research services. Research software engineers funded by IT Aalto has no dedicated library organization, but similar functions reside in research services	The data stewards were foremost researchers and their main work was within the research projects Research services coordinate the university-level efforts	Availability of national federated services (e.g. CSC, FinData) and European services Few selected in-house infrastructure initiatives, such as Aalto Materials Database

Source: Rousi, Boehm & Wang, 2024, CC-BY

Data stewardship: case studies from North-American, Dutch, and Finnish universities

Source: Rousi, Boehm & Wang, 2024, CC-BY



Data stewardship: case studies from North-American, Dutch, and Finnish universities

Source: Rousi, Boehm & Wang, 2024, CC-BY

10-point summary of key factors in organizing data stewardship programs

- Employment type of data stewards (full time vs. part-time; fixed-term vs. permanent)
- Data steward host organization and data steward identity in the higher education institute (e.g. Library, Faculty Services, Research Departments)
- Data stewardship program size in FTEs
- Data stewardship program's relation to institutional data repository and other institutional technical infrastructures
- Leading and coordinating the data stewardship program (hiring data stewards, yearly activity planning, etc.)
- Capability for multimodal communications and RDM training for researchers
- Collaboration practices with the data stewards and other service units in the higher education institution (e.g. IT and HPC services, Research Software Engineers, Legal Services, Institutional Review Boards)
- Data stewardship program's relation to national and regional data repositories and services
- National and regional legislation and policies for access to research and privacy and protection of human subjects
- National and regional research funders' open science requirements

Data stewardship: case studies from North-American, Dutch, and Finnish universities

Source: Rousi, Boehm & Wang, 2024, CC-BY

- Data stewardship programs may be organized differently within different national and institutional contexts.
- The data stewardship programs vary in terms of roles, organization and funding structures. Furthermore, policies and legislation, organizational structures, and national infrastructures may differ.
- There is no single model for organizing data stewardship programs. Moreover, one needs to consider different institutional and national research environments when developing such programs.
- High quality connections in the core organizational factors are key for a well-performing ecosystem.
- The development of more sophisticated metrics and cost-benefit analyses of data stewardship programs are important future directions.



How can the Aalto Data Agents help you?

- Data Agents extend the support services with discipline-specific expertise and they can help with questions, such as:
- How is personal data processed and anonymized?
- How is research data stored and shared with collaborators?
- How is research data organized and documented?
- How to choose a suitable data repository for data sharing?
- How to choose a license for a dataset or code?
- [Aalto Research Software Engineers](#)
- [Aalto Data Hub](#)
- [Aalto Materials Digitalization Platform](#)
- Contact Data agents directly or send your questions to researchdata@aalto.fi. You can also order tailored presentations and consultations from researchdata@aalto.fi



Aalto Data Agents – OS&RDM webinar series

<https://www.aalto.fi/en/services/training-in-research-data-management-and-open-science>

Our training is aimed at researchers, students, and university service staff. Please note that we do not issue participation certificates or study credits (unless stated otherwise). Participation is free. No previous knowledge is needed. For recordings of our webinars, head to our [YouTube channel](#). There you will also find links to the slides in the video descriptions. If you have any questions, please contact researchdata@aalto.fi.

Aalto Data Agents and training statistics

	2020	2021	2022	2023
Number of OS&RDM trainings	25	27	31	31
Number of registrations to OS&RDM trainings	421	2092	1672	2032
RES OS&RDM YouTube channel views	159	1200	2000	2600
Curriculum embedded RDM training in PhD methodology courses	Data not collected	Data not collected	2	2
Number Code Refinery workshops*	4	1	2	3
Number of registrations to Code Refinery workshops*	307	128	559	868

Source: <https://www.aalto.fi/en/open-science-and-research/aalto-university-open-science-and-research-results>

*= non-RES initiative, run by Aalto RSEs, funded by NeIC, data from: <https://coderefinery.org/about/statistics/>

Aalto Data Agents and other statistics

	2020	2021	2022	2023
Feature videos	0	0	0	2
Handbooks, guidelines and SOPs	Data not collected	Data not collected	0	2
Documented RG visits	Data not collected	Data not collected	4	24
researchdata@aalto.fi solved tickets	59	181	180	174
researchdata@aalto.fi commented DMPs	Data not collected	72	54	71
Number of ACRIS data sets (metadata)	90	158	155	148
Number of ACRIS software (metadata)	12	34	43	26
Data Hub Data Sources**				51

Source: <https://www.aalto.fi/en/open-science-and-research/aalto-university-open-science-and-research-results>

*Data collection for 2023 still ongoing **Non-RES initiative, led by Dept. of Finance, data source: <https://datahub.aalto.fi/en>

Centralna tehniška knjižnica Univerze v Ljubljani
Central Technical Library at the University of Ljubljana
Trg republike 3, SI-1000 Ljubljana
Slovenija / Slovenia

Antti Rousi, PhD, Aalto Data Agents, Aalto University,
Finland, antti.m.rous@aalto.fi
<https://orcid.org/0000-0002-4184-7035>

