

EOSC-Nordic – the project & work on FAIR incentives

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EOSC Nordic key facts

EOSC-Nordic aims to facilitate the coordination of European Open Science Cloud (EOSC) relevant initiatives within the Nordic and Baltic countries. The project aims to exploit synergies to achieve greater harmonisation at policy and service provisioning across these countries, in compliance with EOSC agreed standards and practices.

- September 2019 - August 2022
- 24 project participants from 10 countries
- Project Coordinator: [NeIC](#) / [NordForsk](#)
- One of five regional INFRAEOSC 5b projects

3 months extension (- November 2022)



<https://www.eosc-nordic.eu/>



OBJECTIVE 1

Support coordination, harmonisation and alignment of Nordic and Baltic national policies and practices related to the provision of horizontal research data services with EOSC



OBJECTIVE 5

Provide a Knowledge Hub to deliver training and technical support to new service providers and communities willing to engage with EOSC during and after the project lifetime



OBJECTIVE 2



Increase the discoverability of Nordic & Baltic services. Extend and expand their use by making them accessible through the EOSC portal

OBJECTIVE 3



Promote and support the uptake of FAIR data practices and certification schemas across the Nordics

WP4
FAIR data

OBJECTIVE 4



Accelerate the progress and attractiveness of EOSC by piloting & delivering innovative solutions developed and tested in a useful and functional cross-border environment

DEVELOPING FAIR DATA PRACTICES

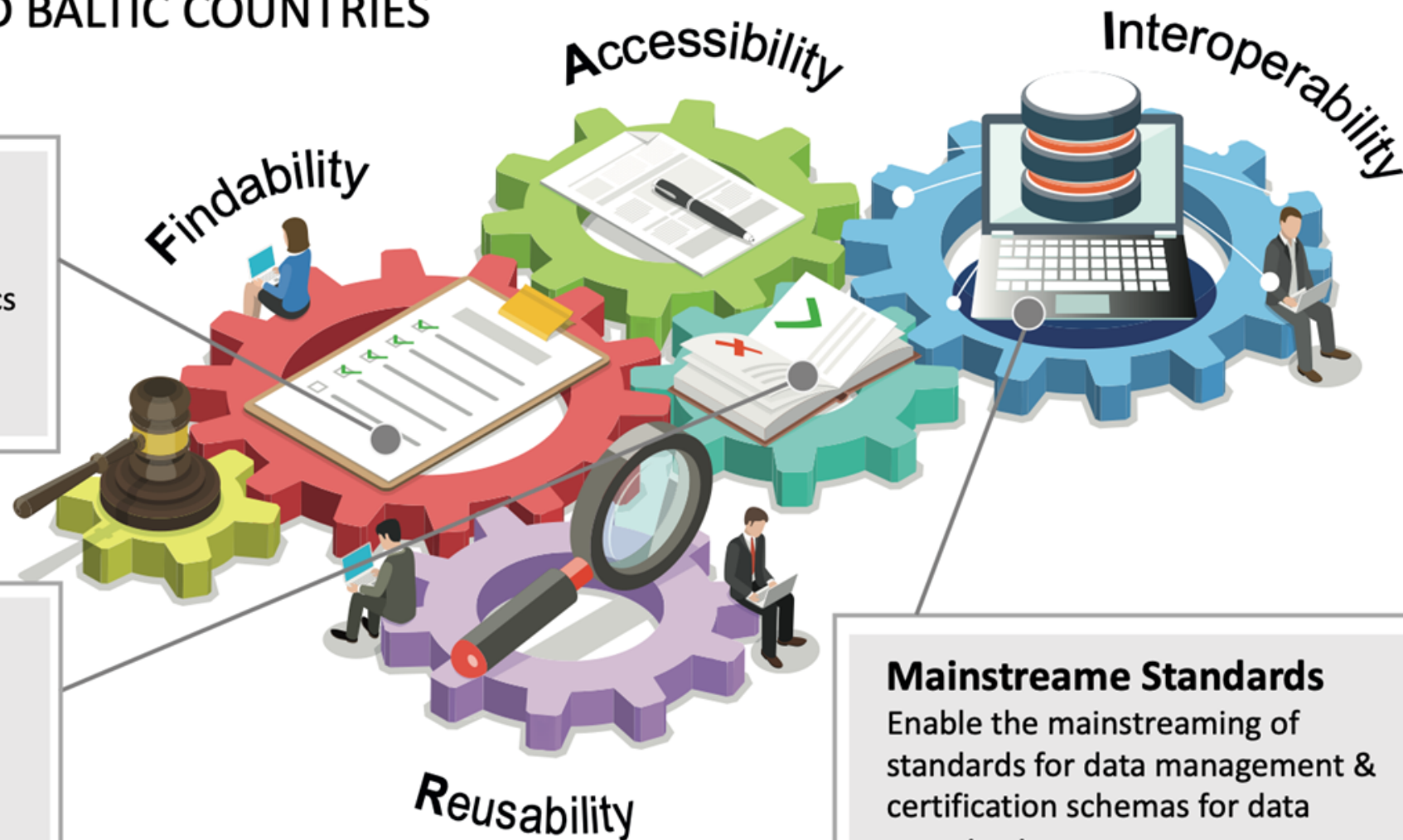
ACROSS THE NORDIC AND BALTIC COUNTRIES

Investigate Practices

Investigate and inform about the state of FAIR practices in the Nordics and the Baltics, looking at national policies and practices.

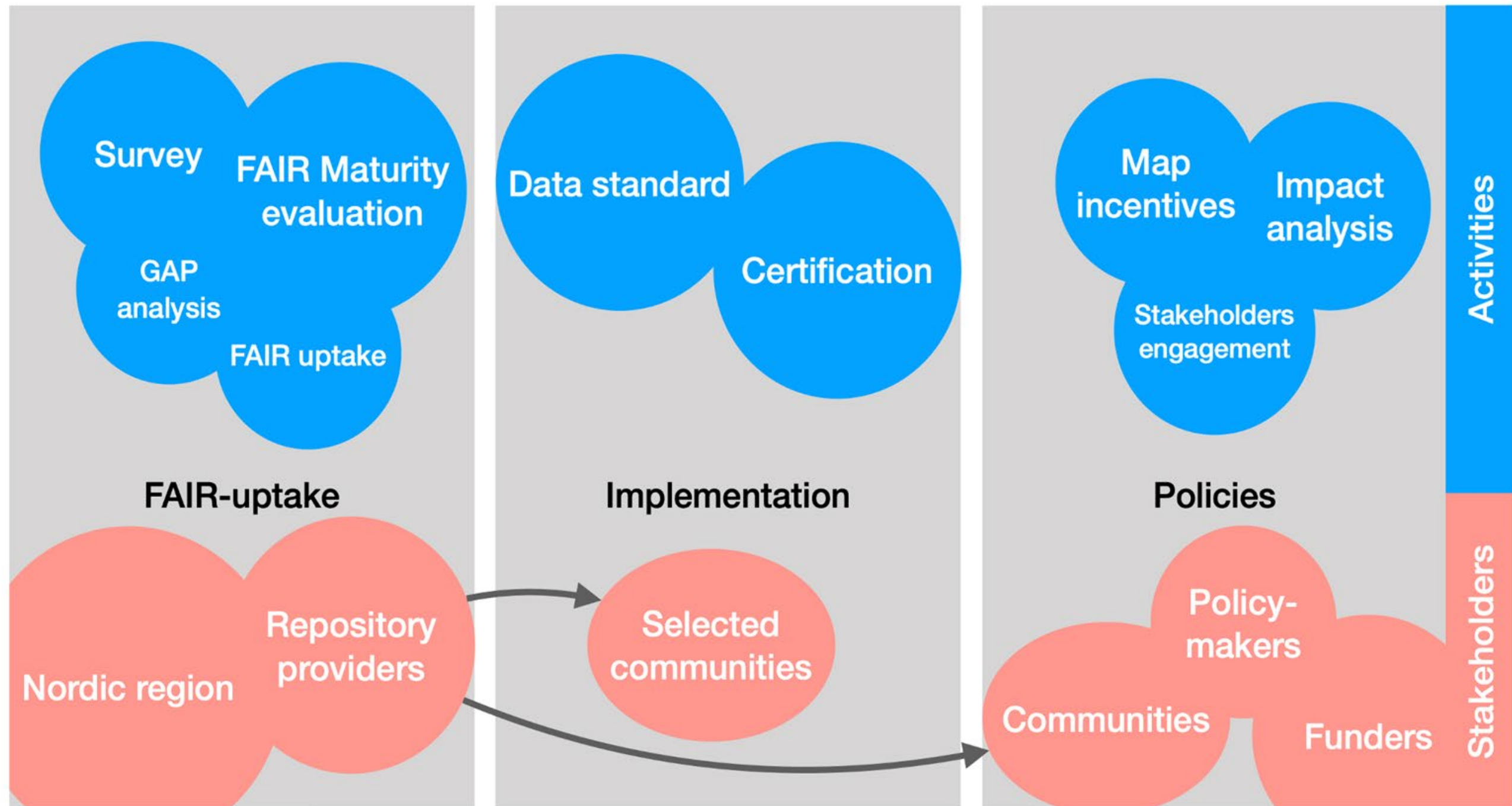
Develop Incentives

Develop and promote incentives for the uptake of FAIR data practices across national scientific communities

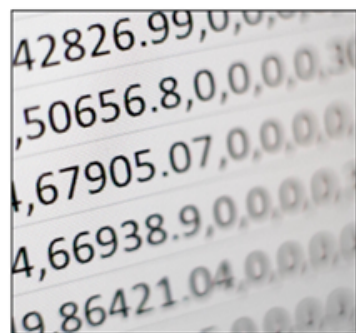


Mainstream Standards

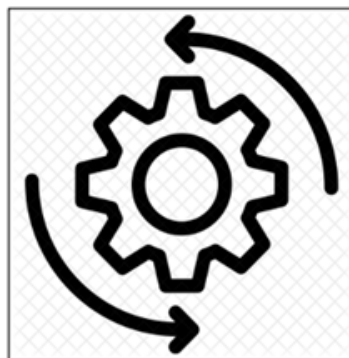
Enable the mainstreaming of standards for data management & certification schemas for data repositories



Measuring FAIR uptake



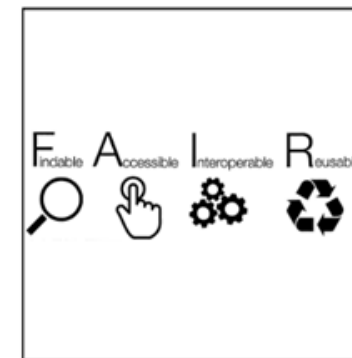
Collected ~100
research data
repositories
in the Nordic+Baltic



FAIR assessments of
all datasets using fully
machine-actionable
metadata



24% of repos do
NOT provide
PIDs or GUIDs
(identifiers)



Average
FAIR score 24%,
higher for
mature / certified
repositories

Supporting FAIR uptake

We have

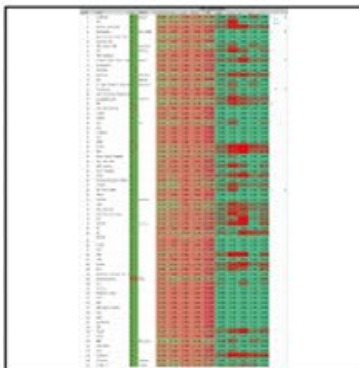
- published the detailed results to repositories and communities so that they can use the feedback as a guideline to improve FAIRness
- offered recommendations
- held webinars/workshops with 500+ attendees in total:
 - Apr 2020 – First assessment hackathon – Initial exercise
 - Nov 2020 – Step 1 – Focus on PIDs
 - Feb 2021 – Step 2 – Split between Data and Metadata
 - Apr 2021 – Step 3 – Generic Metadata
 - Oct 2021 – Step 4 – Domain-Specific Metadata
 - Dec 2021 - M4M event for climate community
 - Feb 2022 – Step 5 – Value and Limitations of FAIR evaluators

repoID	Name	Data	Platform	F-LIJ evaluator (latest)												X	Y
				F-score	A-score	Recore	Recore	FAIR	Sigma	sigma P	sigma P	sigma P	sigma P	sigma P	sigma P		
2	CLARIN-DE	40	Openze	58.80%	66.67%	72%	22.22%	34.38%	9.93%	0.872	0.000	0.128	0.000	X	X		
3	ODA	20		57.14%	33.33%	58.84%	33.33%	43.48%	0.873	0.200	0.000	0.000					
4	Det Kgl. Bibliotek	20		58.80%	13.33%	5.00%	7.22%	14.57%	0.118	0.201	0.200	0.131	0.134				
6	Kielipankki	10	META-SHARE	14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000	X	X		
7	Data Service Portal Alla	10		71.43%	66.67%	25.00%	33.33%	47.83%	0.000	0.000	0.000	0.000	0.000				
8	Fairdata IDA	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
9	NMCI dataversoNO	10	Dataverse	85.72%	66.67%	17.54%	43.00%	58.15%	0.958	0.168	0.000	0.129	0.038				
10	NOD	20	MESSTAR	17.86%	13.33%	0.00%	0.00%	16.74%	0.087	0.203	0.168	0.000	0.112	X			
11	MUNT Databank	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
13	CLARIN Bergen Center repo	20	Openze	88.89%	28.89%	7.54%	4.47%	15.65%	0.000	0.133	0.131	0.118	0.188	X	X		
16	IspriManken	10		14.29%	33.33%	0.00%	22.22%	17.39%	0.000	0.000	0.000	0.000	0.000				
17	FSS Data	5		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
18	TROLLING	22	Dataverse	75.86%	56.67%	27.54%	35.55%	48.91%	0.181	0.296	0.244	0.138	0.160	X			
19	EED	10	Reactor	14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
20	UT Open Research Data Out	20	Dataverse	85.72%	66.67%	22.54%	44.44%	57.83%	0.947	0.147	0.000	0.118	0.000				
24	IspriManken	13		17.59%	0.00%	0.00%	0.00%	5.35%	0.016	0.963	0.000	0.000	0.000	X	X		
25	Lund University Humanitie	20		21.43%	0.00%	0.00%	0.00%	6.52%	0.018	0.972	0.000	0.000	0.000				
26	ku-fishbase.com	20	Fishbase	51.43%	45.00%	19.89%	25.44%	34.78%	0.098	0.281	0.198	0.126	0.138				
27	SMD	20		64.29%	58.80%	42.00%	38.00%	48.69%	0.877	0.228	0.171	0.178	0.093	X			
28	ICIS data portals	5		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
29	JASPAR	10		14.29%	33.33%	0.00%	11.11%	13.04%	0.000	0.000	0.000	0.000	0.000				
30	STRIM	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
32	GBIF	22	IPT	55.74%	66.67%	25.89%	38.00%	46.44%	0.047	0.188	0.000	0.000	0.053	X			
38	HFA	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
41	Fishbase	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
45	ISIG	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
47	GERDA	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
49	ACTRIS	5		40.43%	33.34%	12.54%	16.67%	27.17%	0.139	0.171	0.168	0.131	0.138				
52	NMDC	20		87.86%	35.00%	11.75%	17.22%	25.22%	0.127	0.258	0.100	0.131	0.178				
54	Belin Centre Database	12		61.98%	33.33%	25.00%	22.22%	36.23%	0.828	0.111	0.000	0.000	0.000				
55	SMHI open data	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
57	NCRD Archive	20		44.29%	28.00%	0.00%	11.11%	20.43%	0.093	0.231	0.168	0.000	0.114				
60	G7N-P Database	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
62	UNITE	20		75.72%	33.34%	4.20%	16.67%	22.83%	0.114	0.238	0.168	0.111	0.171				
63	Estonian Biocentre Public	10		14.29%	33.33%	0.00%	22.22%	17.39%	0.000	0.000	0.000	0.000	0.000				
64	dataDOI	10		61.98%	62.57%	2.70%	27.70%	38.48%	0.958	0.200	0.188	0.081	0.116				
65	CELAR META-SHARE	20		75.72%	33.33%	0.00%	5.56%	17.39%	0.957	0.228	0.000	0.000	0.057	X	X		
68	AREAD	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
68	USK RDA	10	Fishbase	28.57%	33.33%	0.00%	22.22%	21.74%	0.000	0.000	0.000	0.000	0.000				
71	LOAR	10		61.65%	62.16%	2.63%	26.31%	37.76%	0.877	0.261	0.133	0.075	0.081				
72	AIDA Data Hub	10		65.71%	41.33%	23.75%	38.88%	41.52%	0.888	0.100	0.278	0.099	0.181				
73	QoC Institute's data	10		37.43%	18.00%	0.00%	4.47%	13.48%	0.084	0.256	0.161	0.000	0.187				
78	ZYX	20		75.72%	33.34%	1.25%	11.11%	19.78%	0.093	0.073	0.140	0.056	0.118				
78	B2BShare	12	Invenio	88.18%	27.78%	0.00%	13.88%	20.65%	0.118	0.275	0.161	0.000	0.172				
79	DIH	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
80	NLL	10		25.71%	53.34%	49.00%	35.55%	35.65%	0.181	0.008	0.281	0.201	0.182				
84	RTU RDS	10		14.29%	0.00%	25.00%	11.11%	13.04%	0.000	0.000	0.000	0.000	0.000				
85	FishBIF	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
87	SARV	10		14.29%	33.33%	0.00%	11.11%	13.04%	0.000	0.000	0.000	0.000	0.000				
92	SSRI	13		42.86%	26.67%	0.00%	13.33%	21.74%	0.131	0.360	0.238	0.000	0.169				
94	IZH	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
100	QuarVR	20		75.72%	30.00%	11.25%	16.55%	22.83%	0.119	0.238	0.133	0.128	0.143				
104	Brld	20		38.89%	49.00%	0.00%	6.7%	16.96%	0.074	0.222	0.137	0.000	0.132				
108	Migration Institute of Finl	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
108	Musikkilarkista	5	OKAN	28.57%	66.67%	58.84%	58.80%	45.65%	0.016	0.000	0.000	0.000	0.004				
109	SLS	14		14.29%	23.81%	0.00%	7.04%	18.56%	0.041	0.000	0.166	0.000	0.052				
113	Swefreq	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
114	Metabolic Atlas	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
115	SEAD	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
116	NDW	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
117	SMM Digital Assets	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
120	GEUS	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
123	LARIN	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
127	Garamantas	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
129	MMB	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
130	Pictof	20		75.72%	31.67%	3.75%	16.11%	21.96%	0.113	0.228	0.133	0.092	0.167				
131	MDAS	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000				
132	NMDC	20	Dataverse	85.72%	66.67%	32.54%	35.55%	54.35%	0.948	0.147	0.000	0.119	0.040				
133	IZH RIOT4	10		14.29%	33.33%	0.00%	22.22%	17.39%	0.000	0.000	0.000	0.000	0.000				
134	IGOS	10		21.43%	0.00%	0.00%	0.00%	6.52%	0.018	0.973	0.000	0.000	0.000				
135	CESSDA DC	14		34.79%	19.05%	14.21%	12.78%	20.58%	0.139	0.300	0.115	0.134	0.289				
136	DTU data	10	Fishbase	28.57%	33.33%	0.00%	22.22%	21.74%	0.000	0.000	0.000	0.000	0.000				
137	CLARIN IS	20	CLARIN	58.80%	63.34%	21.25%	22.22%	35.87%	0.039	0.073	0.181	0.052	0.000				
138																	



<https://docs.google.com/spreadsheets/d/1MBTMXb5SleaBKiyEzImJtQtXNS1zZTgTvTk9A2vgdc>

Certification + FAIR



Measured
FAIR maturity



Certification status of
repositories



**Test proposed
FAIR certification
scheme (by
FAIRsFAIR)**



**Hands-on support for a
dozen of data repositories
(half self-assessments,
half CTS certification)**

Identifying and developing incentives for FAIR research



Ambitions of FAIR incentives task



- Encourage researchers to comply with FAIR data practices in their research
- Demonstrate the perceived benefits and existing incentives in place for FAIR compliance
- Ultimate goal is to reach policy harmonisation in the region

Approach used in gathering input



Mapping exercise of already established FAIR policy incentives and any gaps impeding FAIR adoption



Literature review



Qualitative study approach using semi-structured interviews. N= 29

Six stakeholder groups:
researchers, research support,
university management, RFOs &
ministries of education and
research, national data service
providers, legal advisor

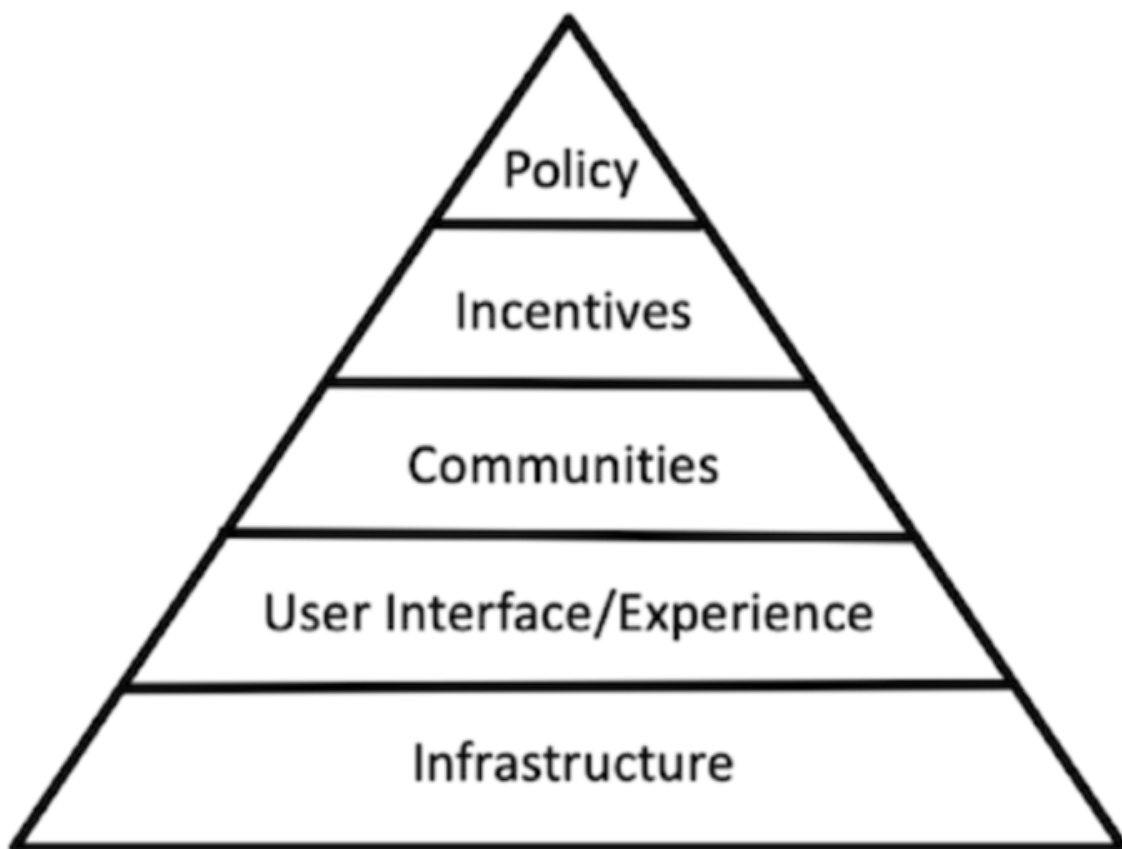
Insights of qualitative study

- The interviews brought about *experience-based input* to the study, which is of high value when exploring incentives for conducting FAIR research
- *Deeper insight into the current state of play* and allowed us to identify the most well-received FAIR incentives in place, as well as the disincentivising ones
- *New effective incentives* were developed



A call for a Cultural Change

- Following the analysis of the interviews, it was discovered that there is a need for a cultural shift in research regarding FAIR data



Make it required

Make it rewarding

Make it normative

Make it easy

Make it possible

Finding of the
qualitative
study

**Make it
understandable and
raise awareness**

Stakeholder-
specific action
points presented
for all levels

Expected impact of increased FAIR uptake

EOSC

Machine-actionable DMPs  **NORDIC**



Organisational FAIR data policies

Increase in motivation to conduct qualitative, transparent research

Increase in scientific impact



Easy and seamless information workflow between systems (RPOs–service providers–RFOs)

Supporting FAIR adoption in everyday research work

Enhances communication between the researcher and support staff. Facilitates planning and risk management



Properly funded RDM

Improved effectiveness of research

Increased awareness of FAIR data management and skills development

Trustworthiness of research outputs



Monitoring mechanisms for FAIR research

Enables following up on how publicly funded research is being used

Has a positive effect on compliance levels

Expected impact of increased FAIR uptake

EOSC

Machine-actionable DMPs  NORDIC



Organisational FAIR data policies

Increase in motivation to conduct qualitative, transparent research



Easy and seamless information workflow between systems (RPOs–service providers–RFOs)

Supporting FAIR adoption in everyday

To significantly increase the uptake of FAIR, we need to take the next step from raising awareness and promoting understanding to start acting towards an environment that makes it **easy and rewarding** for researchers to comply with the FAIR principles



Properly funded RDM

Improved effectiveness of research

Increased awareness of FAIR data management and skills development

Trustworthiness of research outputs



Monitoring mechanisms for FAIR research

Enables following up on how publicly funded research is being used

Has a positive effect on compliance levels