



Investment in FAIR: Investment, Sustainability and Governance - Pillar 6

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Information on the participants, the projects and working groups that they represent, and the spreadsheet used during the workshop can be found in the workshop report: <https://doi.org/10.5281/zenodo.3953979>

All recommendations and the action plan can be found on pp. 59-75 in *Turning FAIR into Reality*: https://ec.europa.eu/info/sites/info/files/turning_fair_into_reality_1.pdf.

This session is about recommendations 14, 15 (priority) and 27.

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Rec. 14: provide strategic and coordinated funding

14.1 Current and Planned Work

The notes below refer both to current and planned work. This builds on the information in the spreadsheet. Please check that there is a link to the concrete deliverable.

FAIRsFAIR: recommendations largely directed to the funder, but other organisations have a role in contributing to the coordinated and strategic approach to sustain a FAIR ecosystem. Contribute through deliverables, e.g. D3.3 which considers policy enhancement. Other policy recommendations from WP3, recommendations in relation to policy and practice, implementation of policy. D4.4 repositories, developing a coordinated action to sustain a network of FAIR TDRs. Other activities contribute towards guidance and indications to funders which contribute to a strategic approach to funding. Finally, FsF is preparing a sustainability plan: e.g. as part of EOSC rules of engagement; franchising of training activities.

Relevant [FsF D3.3](#) Policy Enhancement Recommendations:

- Clarification is needed on eligible RDM and data sharing costs - working collaboratively on carefully scoped pilots, funding bodies, RPOs and repositories should assess and report on the costs of making and keeping data FAIR to build up a picture of how the costs might change over time and to leading to the development of sustainable funding models.
- More equitable business models are needed to ensure that the costs of making and keeping data FAIR over time is split more equally between stakeholders - building upon previous work on defining cost types work with funding bodies and research performing organisations to implement these in new grant applications. RPOs should monitor and review RDM costings over the life of the project and beyond to assess the effectiveness of current cost models.

EOSC FAIR WG: FAIR services need to be taken into account for strategic funding. R27 stresses inclusiveness and community practices. Rules are necessary but need to reflect community practice. EOSC Executive Board working groups finish at the end of 2020 so need to consider how the recommendations will be sustained. Take into account feedback and update them. Metrics and certification is important for funders because of the need to make choices and funding decisions, which relate to quality and trust. Needs to be defined carefully taking into account the needs of users. The work that the FAIR WG is doing is not generating new things, but to bring together the findings of the projects into a coherent statement based on project and community input.

Landscape WG: analysis of what is happening in each country; inventory of Open Science and FAIR data policy and practice. So far 16 countries claim to have a policy in place. Other countries either do not have a policy or it's in planning phase. Relation of policy to investment? Belgium example: government invests in universities and research institutions;



in the contract it specifies that the data must be 'given back' in ways that conform to FAIR to the common portal that captures all data. This becomes sustainable because it is integral to the contract. Included in legislation which binds the universities. Bound by law to provide FAIR data to the Flemish research portal.

EOSC Nordic: Nothing in the project that addresses strategic or coordinated funding.

EOSC Pillar: there is work in EOSC pillar that relates to sustainability, but are not considering funding as they are described in the TFIR recommendations.

NI4OS-Europe: not currently working on a task relating to sustainability and funding. There is a task in proposal (innovation management sustainability) which in the future will address business models.

EOSC Synergy: doesn't touch on sustainability / funding.

EOSC Life: Practically ALL the WPs touch or focus on all aspects in the spreadsheet and there is dedicated activity to sustainability.

EOSC Life: DMPs refer to sustainability planning. Each area of EOSC Life, FAIR+ etc are of relevance. Activities on supporting and sustaining FAIR data stewardship at various levels of the research infrastructure. This will be taken up with the WPs.

ESCAPE: the ecosystem analogy can be useful. FsF/this discussion/EOSC can help producers/components in the landscape. Reminder of the S in EOSC - importance of the integrity and quality of scientific data. Importance of academic integrity and not just quick commercial solutions. Value of particular components is high - needs are not necessarily addressed by commercial providers. ESCAPE view on strategic and coordinated funding: connected to scientific bodies, physical infrastructures and networks that have an influence on the domain. These are important in considerations of funding and sustainability. The networks do include the domain funding agencies. There are opportunities to put forward the views of the domain and the infrastructure, components of the ecosystem, in periodic strategic reviews.

View from the Champions:

Champion 1: Helping large infrastructures to get on board EOSC - making the case that getting on board, linking and interoperating with EOSC is a pathway also to help sustainability. Activities will be combined with the other infrastructures and in the EOSC sustainability model. Success of projects like ESCAPE will help the sustainability of large infrastructures in particular domains, the ESFRIs. Various levels of funding: EOSC, ESFRIs.

Champion 2: Funding has to be long term and sustained, look beyond short term project horizons. Why is it important to sustain ontologies and vocabularies? Very important from the perspective of libraries and information sciences. Need to use what has already been built





and to sustain them. Maintaining ontologies and schemas is challenging and requires expert and professional skills. Explore collaborative efforts, involve subject librarians in research projects, existing vocabularies may be relevant. Different thesaurus and vocabularies, ontologies are extremely useful for the FAIR ecosystem - we do not necessarily need to create new vocabularies. just as important is maintaining and applying the existing vocabularies.

EOSC FAIR WG: There is a need to support the creation and maintenance of ‘disciplinary interoperability framework’ including the so-called semantic artefacts (ontology, vocabulary). This has to be done at the international level. This has to do with the Pillar 3 discussion on semantics (Recommendation 7). When a vocabulary has been defined, science evolves, and maintenance and updates are needed (I see that Mark has a similar comment in the spreadsheet for Rec. 15)

Rec. 15: provide sustainable funding

15.1 Current and Planned Work

The notes below refer both to current and planned work. This builds on the information in the spreadsheet. Please check that there is a link to the concrete deliverable.

FAIRsFAIR: recommendations are linked in terms of what the project is contributing in the area. FAIR certification of data services and repositories, of data objects. These things include requirements and assessment methods, being tested in the project with the community. Inform funders’ strategies for sustainable funding and what needs to be funded by what criteria in terms of FAIR infrastructure. Framework for assessing FAIR services due in Sept 2021. Report on maturity model for data in FAIR repositories.

FAIR WG: governance, developing building blocks for defining strategic funding. At the end of the WG there is a need to know how the recommendations will be maintained, updated in response to feedback. needs to have a governance established for the recommendations after the end of the EOSC governing board. Also, sustaining FAIR is a process, and it is systemic, so you can’t just fund the start of things and walk away - components in the ecosystem will need to be sustained, and this means funding from different sources.

NI4OS: To what extent have business models been addressed. Deliverable 7.2: three page overview of tasks for sustainability, building blocks of sustainability plan. 5 phases, final stage includes business models. Do not explain the full sustainability plan but the process to get there. Strategic and coordinated funding will be covered in business plan as well as sustainability plan. There is a specific task on business models.

View from the Champions:

Champion 2: sustainable funding for components of the fair ecosystem. Funding has to be transparent, what sources are behind the business models of service providers. Otherwise



becomes ambiguous and uncertain. Who gives money to particular services? Explosion of service providers: publishers and legacy players moving into the providing data services. Makes it essential for the business models to be transparent so that the purchasers of services can make informed decisions. Assess whether they are meeting the needs of the community.

Champion 1: We can't afford to lose what has already been built. How do we sustain the components that have already been built. (comment on R15). Scientific disciplines have invested a lot in interoperability frameworks that address the needs of scientists in their field. Some fields have been pioneers in data sharing and interoperability and they should not be wiped out. We need to sustain these fields because the work continues. We can't afford to lose what has already been built.

Rec. 27: open EOSC to all providers but ensure services are FAIR

27.1 Planned

*What are the projects represented **developing or planning** to do? Again, this should build on the information in the spreadsheet: information about a planned deliverable, i.e. title, due date, short description*

NI4OS: works on gradual migration of regional services and repositories towards EOSC with focus on FAIRness with reports on a pre-production environment".

Whole-Pillar.1 What's missing in the recommendations and actions in this pillar?

What do projects do - related to implementing FAIR in the context of the EOSC - that is not covered by the original recommendations? Should it be included in an updated action plan and revised set of recommendations? Please focus on this pillar.

Whole-Pillar.2 Any recommendations not addressed?

Are the recommendations being covered enough by these activities? If not: what should be done? And by whom?

To serve research communities are there additional recommendations that are not covered in the current report?

FAIRsFAIR: How do we sustain the core infrastructure that really needs to be looked after (and how do we define what those core services are?) What do we need to sustain? How do we determine what should be sustained?



FAIRsFAIR

Fostering Fair Data Practices in Europe

FAIR Champion: Knowledge commons, shifting the system from the current system to one in which research communities have more control and which address the public good and apply good governance.

FAIRsFAIR WP6: Danger if the question of priority is asked, people will always plead for their own projects and interests. Alternative perspective to (idea of public good). Ask what is the value added by the process? Need to be able to define what the value add of particular services etc. Value add as a more appropriate criteria than public good?

EOSC FAIR WG: yesterday commented that the essential elements of the ecosystem have to be defined to be supported, in addition to semantics

GEOMAR: We've today briefly discussed how these FAIR and Data efforts could be viewed in terms of funding, to achieve a better sustainability of infrastructures. I come from the Helmholtz Association, which was established as a follow up of the German Grossforschungseinrichtungen, meaning large scale research facilities. These were centrally funded structures, like accelerators, nuclear research reactors, space and satellite research, and so on. Too big for universities, too diverse for a single institution, most often funded by many partners on a global level.

I tend to think of the Data-Service Problem as a distributed large scale research facility. In the end it needs some kind of central funding, but it's distributed services, targeted to serve the whole of the science community where the problem is too big for a single institution alone. The consequence is, that we need a European (or even Global) backbone to coordinate measures and tasks related to RDM and FAIR implementation. Currently many countries are organizing individual national solutions, in Germany even several communities at the same time. The National Research Data Infrastructure is on its way, Helmholtz is starting a major long-term funded data initiative targeting improved usage of data for secondary use. There are millions of Euros being spent at the moment with a good chance of sustainable funding. It is of tremendous importance to bundle and connect these initiatives that also exist in other countries. That's actually the reason why I was lurking in your workshops, to make sure we at Helmholtz operate with the same background and perspectives as EOSC and FAIRsFAIR does. I'd be happy to discuss these further and develop a holistic vision if you feel it helps.

FAIRsFAIR WP5: how are projects/WGs contributing to a view of coordination and strategic funding? What are they saying that contributes to a view of the strategically important parts of the FAIR ecosystem and how funding can be coordinated to meet these objectives?

