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**ONTWERPVERSLAG**

FOSB WG Metadata & Standardisation

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EOSC

The European Open Science Cloud (EOSC) started as a vision of European Commissioner Carlos Moedas in 2016. EOSC is grounded in the European Commission’s aim to promote open science and open access to publicly funded research data. In the current model, research data are scattered across many different institutions and research centers in Europe which complicates open access to this data. The content is not interoperable thus restricting inter-disciplinary research. Therefore, it would be beneficial to deposit and access data in one portal. One data highway in which all elements are combined, united and interoperable. To achieve this goal, standards should be created and installed to ensure all services use the same standards and thus offer interoperable data. Currently, we have an interfederated model in which every institution has its own data governance and standards. The aim is to move to a federated model with a universal access to data and common standards for all federated resources. The cost is estimated to only be marginally higher than the baseline. Hence, the federated system is worthwhile and benefits the research climate.

The EOSC governance framework consists of [three bodies](https://www.eoscsecretariat.eu/eosc-governance) (Governance Board, Executive Board, Stakeholder Forum) and [six working groups](https://www.eoscsecretariat.eu/eosc-working-groups). The EOSC governance board is composed of members of the EU member states with alternating roles between the regions. For Belgium, Bart Dumolyn from the Flemish department of Economy, Science and Innovation (EWI) is our Belgian representative. The executive board coordinates the working groups, and collects information from all these sources, feeding it back to the governance board. The executive board collects input from 6 working group as well as related research projects, infraEOSC5B, OpenAire, EOSC HUB etc. Each working group focuses on one of the following themes: landscape, skills & training, sustainability, architecture, FAIR, Rules of participation. Each member state has one representative in the working groups: Landscape, Skills & training: Sadia Vancauwenbergh; Sustainability: Patricia Mergen; Architecture: Frederic Coppens; FAIR: Andre Heughebaert; Rules of participation: Rachel Leproult.

There is also a stakeholder forum advising the working groups, the executive board and the governance board.

The Initial timeline for the roadmap for implementing EOSC for 2019-2020 has been postponed because of covid19 and the complexity of the tasks.

FOSB

Within the frame 2020-2024, the Flemish government wants a roadmap for the implementation of open science and open access to publications and research data. The Flemish coalition agreement 2019-2024 opted for Open Science in a European context. Scientific research, financed with public funds, should become publicly accessible as soon as possible, in accordance with the principle of being as open as possible, as closed as necessary. In her policy statement of 2019, Minister Crevits stated that there is an urgent need for a Flemish Open Science Board to shape the open science policy in Flanders. A crucial element here was to ensure interoperability with EOSC, in order to obtain an access gate to EOSC. Everything in the Flemish Open Science Board (FOSB) directly relates to EOSC and vice versa.

The FOSB was founded on 20/12/2019. All research data have to be open and compatible with standards and we should strive to make them FAIR: Findable, Accessible, Interoperable and Reusable. Currently, there are a lot of bad practices in research data management such as the use of memory sticks to preserve datasets. Due to the current fragmented situation, significant investments are needed in infrastructure and human resources. In order to support the researchers in the FAIR storage of research data, there is a need for training skills on good research data management practices, data repositories, and data stewards. In order to make optimal use of existing infrastructures, there can be collaboration with stakeholders such as the Flemish Supercomputer Centre (VSC) and the Flemish Institute for Archiving (VIAA) for accessing and storing research data. The FWO, as Research Funding Organisation, is assigned a coordinating role in collaboration with VLIR and the other stakeholders in the Flemish research landscape.

In the short-term, the FOSB, in collaboration with the EWI Department, has to deliver a first draft of a roadmap for Open Science in Flanders by June 15, 2020, which is in line with the developments regarding EOSC, as well as an accompanying draft budget which also specifies the compulsory co-financing from the institutions. Annually, 5 million euros are distributed among the knowledge institutions. There is an agreement on the budget and now we need an agreement on the roadmap by 15/06/2020.

There are a number of challenges for the roadmap. For infrastructure we need a *hybrid model for short, longterm storage and archiving*, but some institutions already have their own repositories and standards.

Regarding Human Resources, data stewards need to be hired and training and skills workshops need to be installed. There is a need for overall coordination and governance. There should be a consensus on the distribution of the budget.

During the first FOSB meeting on 22/02/2020 three Working Groups were installed: 1) Working Group on architecture chaired by Frederik Coppens, 2) Working Group on Metadata & Standardisation chaired by Sadia Vancauwenbergh, 3) Working Group on Research Data Management and open science chaired by Jord Hanus.

FOSB Working Group on Metadata & Standardisation

The FOSB Working Group on Metadata & Standardisation has active members who attend the meetings and passive members who are in the communication channel and receive information and can intervene.

The FOSB Working Group on Metadata & Standardisation aims to create a generic metadata model in a standardized way for delivering information to the Flanders Research Information Space (FRIS) portal which will send this information to EOSC. The metadata model will be aligned with the recommendations for FAIR indicators and this information will be semantically harmonized amongst the Flemish information providers. The knowledge institutions are obliged to send their research data to FRIS. Hence, the knowledge institutions will not necessarily have to send their data directly to EOSC themselves. However, information can also flow to EOSC via alternative routes, example ESFRI’s.

Flanders Research Information Space (FRIS) portal

FRIS is a research portal, a website and a metadata platform that harvests information sent by different information providers (knowledge institutions, research centres, research funding organizations,…). The FRIS project 1.0 started before 2000 with the aim to collect information on Flemish universities and display metadata on the organizations, projects, publications, and researchers.

In 2014, the project shifted to obtaining information in a continuous and incremental manner. In FRIS 2.0 (2014-2018) existing objects were extended and all information was reviewed qualitatively. Each organisation described the meaning and metadata fields, and then a metamodel was created that was semantically aligned with the models of the information providing institutions. For example, for the object ‘project’ we know what the metamodel is and what it means in the institutions, business rules etc.

In 2019, a new BOF/IOF decree obliged universities to send information on patents, data and infrastructure,… by December 2021. The decree is valid from 01/2019 and information will be corrected retrospectively as from 01/2019. In FRIS 3.0 (2019-2021) new information objects will be added to the metadata, existing objects will get linked and extended. The manner in which information is send will become more harmonized. The information providers are extended to research centres and institutions of higher education. The aim is for FRIS to become the metadata hub for research in Flanders. The deadline to achieve these goals is set for December 2021 for the universities.

Roadmap metadatamodel

The first task of the FOSB Working Group on Metadata & Standardisation is to create a first draft of the *generic metadata model* that will be open for discussion. Each member is invited to comment on this draft. This draft will also be refined based on collaboration with the other working groups. After the metadata model is finalized, it needs formal approval by the FOSB.

The members of the FOSB Working Group on Metadata & Standardisation can find a proposal for the metadata standard on GitHub (FAIR indicators – analysis and roadmap). This first draft of the roadmap is based on the work in OpenAire and the RDA Working groups, and is open for discussion. Cerif xml is used to send information to FRIS, therefore a concordance mapping is also provided. A first round of comments and suggestions is due by 12/06/2020.

The metamodel that will be created, should be based on the principles for building metamodels, which can be found in the presentations slides of this WG meeting.

A second task is to create a *disciplinary metadata model*: this will be done later on by the subgroups.

*Discussion:*

A suggestion formulated by the WG was to stick preferably completely to the names used by DataCite. Most institute repositories will be DOI compliant and follow DataCite, hence there is no need for another label. Further specifications can be done using definitions. The proposed model adds additional mandatory elements on top of DataCite and OpenAire guidelines. This is will imply a higher administrative burden to the research community and preferably we stick to what DataCite requires.

It was agreed to use GitHub to keep track of the conversations and the comments. Members can find the presentation, minutes and working documents on GitHub <https://github.com/SadiaVancauwenbergh/FOSB-WG-Metadata-and-Standardisation>. A doodle has been sent out to arrange the next meeting around 15/06.

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| Actions needed by the WG members:   1. The members of the FOSB WG on Metadata & Standardisation provide comments and suggestions on the proposal for the metadata standard on GitHub (FAIR indicators – analysis and roadmap) by 12/06/2020. 2. The members of the FOSB WG on Metadata & Standardisation complete the doodle to arrange the next meeting. |