Reading list: Metadata, Ontologies & Interoperability

EOSC Association

The EOSC Association is the legal entity established to govern the European Open Science Cloud (EOSC). It was formed on 29th July 2020 with four founding members and has since grown to more than 250 Members and Observers. The Association membership is jointly responsible for delivering the objectives agreed in the Memorandum of Understanding signed by the European Union and EOSC Association to form the official Partnership.

Webpage: https://eosc.eu/

Strategic Research and Innovation Agenda(SRIA) of the European Open Science Cloud (EOSC) - Version 1.2

The overall purpose of the EOSC Strategic Research and Innovation Agenda, or SRIA, is to define the general framework for future research, development and innovation activities in relation to the European Open Science Cloud. The current version of the SRIA (1.2), including MAR 2025-2027, was approved by the EOSC Partnership Board at their 5th meeting on 06 December 2023.

Link: https://eosc.eu/wp-content/uploads/2023/12/20231114_SRIA_1.2_final2.pdf

EOSC Task Forces

The EOSC Task Forces address key areas in the implementation of the European Open Science Cloud (EOSC), providing feedback on developments, identifying strategic gaps, and suggesting areas for investment.

Webpage: https://eosc.eu/eosc-task-forces/

List of EOSC-related Projects (Horizon Europe Projects)

This list includes European projects that support the implementation and development of the EOSC.

Link: https://eosc.eu/horizon-europe-projects/

Task Force: Semantic Interoperability

The Semantic Interoperability Task Force will build on the EOSC Interoperability Framework to further develop and implement the semantic interoperability recommendations. This will include work on metadata standards, recommending how crosswalks should be enacted to allow alignment/matching of semantic artifacts. The group will organize workshops and hackathons to explore case studies and promote knowledge exchange.

Webpage: https://eosc.eu/advisory-groups/semantic-interoperability

Zenodo community:

https://zenodo.org/communities/eosc-si-tf?q=&l=list&p=1&s=10&sort=newest

[DRAFT] Developing and implementing the semantic interoperability recommendations of the EOSC Interoperability Framework

This document expands on and provides nuance to some of the concepts defined in the EOSC-IF and its reference architecture. It accounts for a deep-dive into the landscape of semantic interoperability implementations and a wide range of interoperability scenarios focused around the *Semantic Interoperability Specification*, some subtypes of Semantic Business Objects, as well as the *Semantic Artefact Catalogue* and *Mapping Repository*. A

small set of new concepts of relevance to this work and to EOSC at large have also been added.
Link: https://zenodo.org/records/10518860

FAIRCORE4EOSC (project)

The FAIRCORE4EOSC project focuses on the development and realisation of core components for EOSC. Supporting a FAIR EOSC and addressing gaps identified in the Strategic Research and Innovation Agenda (SRIA). Leveraging existing technologies and services, the project will develop nine new EOSC-Core components aimed to improve the discoverability and interoperability of an increased amount of research outputs.
Webpage: https://faircore4eosc.eu/

D1.2 FAIRCORE4EOSC Technical Specifications

This deliverable summarises the overall technical specifications for the FAIRCORE4EOSC components.
Link: https://zenodo.org/records/7892322

D1.3 FAIRCORE4EOSC Components Beta Release Report

This deliverable summarises the technical status of the FAIRCORE4EOSC components and the functionalities available in the Beta Release (M18).
Link: https://zenodo.org/records/10518813

FAIRCORE4EOSC RSAC component specifications

In this zenodo deposit, we have a snapshot of the six specifications documents created for the infrastructures that are contributing to the FAIRCORE4EOSC project as part of WP6.
Link: https://zenodo.org/records/7446146

Making Schemas and Mappings Available and FAIR: A metadata and schema crosswalk registry from the FAIRCORE4EOSC project

Most semantic artefacts are not FAIR (Le Franc et al. 2020). To address this, the FAIRCORE4EOSC project (2022-25) is developing a Metadata Schema and Crosswalk Registry (MSCR) that will allow registered users and communities to create, register and version schemas and crosswalks that all have persistent identifiers (PIDs).
Abstract: https://biss.pensoft.net/article/112223/download/pdf/
Video: https://www.youtube.com/watch?v=sj1fVDcpRqY

FAIRCORE4EOSC presentation slides from the SciDataCon 2023

An overview of the project presented as part of the International Data Week 2023.
Presentation:
https://docs.google.com/presentation/d/1h5YfV3o6jUFRQngXZe7RDV1N1JZT6PKC

FAIR-IMPACT (project)

FAIR-IMPACT identifies practices, policies, tools and technical specifications to guide researchers, repository managers, research performing organisations, policy makers and citizen scientists towards a FAIR data management cycle. The focus will be on persistent identifiers (PIDs), metadata, ontologies, metrics, certification and interoperability, starting with real-life use cases on social sciences and humanities, the photon and neutron sciences, life sciences and agri-food and environmental sciences.

Semantic artefact governance models: example of community practices

This report is a synthesis of the FAIR-IMPACT Semantic Artefact Governance Workshop run on 28th September 2023, which presented a review of multiple approaches to community-driven governance of semantic artefacts. This report includes an introduction of general aspects of quality-verified digital resources and the FAIR principles, the FAIR-IMPACT's T4.1 targeted goals, the workshop methodology applied, the represented use cases and the synthesis of existing semantic artefact governance practices encountered by the communities presented.

Link: https://zenodo.org/records/10287011

M5.3 Semantic artefact assessment methodology

To the best of our knowledge, there is no generic methodology grouping the types of tests to perform in semantic artefacts, in order to map existing assessment efforts in a consistent manner. In this document, we propose such a methodology. We do so by taking an ontology development perspective, dividing semantic artefacts into smaller parts (their code, content, ontology metadata, etc.) that can be individually assessed at different stages of their development process. We build on the Linked Open Terms (LOT) methodology (Poveda-Villalón et al. 2022), adding a "FAIR assessment" module, and, for each activity, we validate our approach by mapping to two existing semantic artefact FAIR assessment validators: FOOPS! (Garijo et al. 2021) and O'FAIRe (Amdouni et al. 2022a; 2022b).

Link: https://zenodo.org/records/8305173

FAIR-Impact's workshop: Why semantic mappings matter and how to make them FAIR?

This document is a short report on the first workshop organised by the FAIR Impact project on the topic of mappings. We are summarising the various presentations which were given during the workshop. This short summary is then complemented by a short summary of the inputs collected from the participants on four main topics: FAIR Mappings, methodologies for mappings, mappings tools and identifying the various types of mappings. In conclusion, we are providing a short overview of the projected outcomes of this workshop.

Link:https://zenodo.org/records/8144450

FAIR-IMPACT Synchronisation Force 2022, Session 4 Metadata, semantics and interoperability

FAIR-IMPACT's WP4 focuses on several aspects of the lifecycle of FAIR semantics artefacts such as governance, creation, sharing, reuse, FAIRness assessment. FAIR-IMPACT's T6.1 focuses on semantic interoperability for EOSC and how semantic artefacts help to support it. In the context of the 1st FAIR-IMPACT Synchronisation Force workshop this session was organised to gather different communities to make an inventory of the state of use of semantics artefacts in their scientific domain. The chairs surveyed multiple scientific communities directly involved within FAIR-IMPACT and beyond: agri-food, biodiversity/ecology, biomedicine, photons & neutrons, astronomy, materials, industry, earth sciences, social sciences & humanities.

Link: https://zenodo.org/records/7446806

Background reading material

A list of materials not produced by the programme committee parties but of importance to the EOSC Winter School track OA2: Metadata, Ontologies & Interoperability.

Finnish interoperability platform

The interoperability platform maintained by the Digital and Population Data Services Agency provides tools for defining interoperable data content. The platform consists of the glossaries, code sets and data models needed for data flows and in other areas of information management.

Link: **https://dvv.fi/en/interoperability-platform**