

FAIRCORE4EOSC

Symposium: *Cross-Cutting Research Support Services*

Session: HANDS-ON RESEARCH DATA

14 | 05 | 2024 by Tommi Suominen, CSC – IT Center for Science



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FAIRCORE4EOSC in a nutshell

- today at month 19/36

Full name: Developing EOSC-Core components to enable a FAIR EOSC ecosystem

Research and Innovation Action

Budget: 10 million EUR

Duration: June 2022 – May 2025

Consortium: 22 partners, coordinated by CSC – IT Center for Science

Coordinator Tommi Suominen (CSC), Project Manager Anu Märkälä (CSC) and
Technical Coordinator Mark van de Sanden (SURF)

Website: faircore4eosc.eu

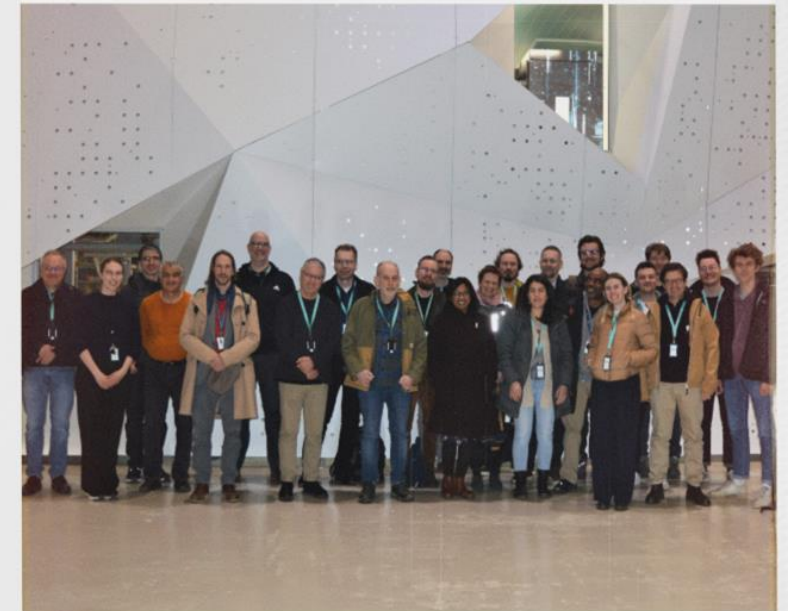
Key results: In response to the gaps identified in the SRIA, the project will develop nine new EOSC-Core components aimed to improve the discoverability and interoperability of an increased amount of research outputs.



Implementation Challenges (SRIA) addressed

FAIRCORE4EOSC develops 9 new EOSC CORE components to address gaps identified in the SRIA. Our concrete service development work furthers the realisation of the priorities highlighted in the SRIA, that are the Minimum Viable EOSC (MVE) and web of FAIR data.

- **Identifiers:** Introducing new resource types; machine-actionable persistent identifiers (PIDs); establishing a PID meta-resolver; standardising PID graphs; PID compliance framework to ensure compliance to the EOSC PID policy and to ensure quality of service for PIDs;
- **Metadata and Ontologies:** Provide or embrace/stimulate existing registries of metadata schemas, ontologies and crosswalks, develop services that build on metadata registries and can facilitate the creation and sharing of crosswalks;
- **Interoperability:** Enable discovery of data sources available in different formats, making search tools available; Provide tools for quality validation of metadata records and of digital objects; Implement EOSC PID Policy;
- **Research Software:** metadata description standards for research software, automated deposit of new releases into a scholarly repository and Software Heritage.



Context

Enhancing FAIRness in the EOSC ecosystem

The European Open Science Cloud (EOSC) is an ecosystem of research data and related services that will enable and enhance seamless access to and reliable re-use of FAIR research objects (including data, publications, software, etc.).

The Strategic Research and Innovation Agenda (SRIA) for EOSC was created in 2021, as a roadmap for future development. Priorities highlighted in the SRIA are the establishment of the Web of FAIR data and a Minimum Viable EOSC (MVE) by 2027, that is the core components and functions to enable EOSC to operate (the EOSC-Core).



2021



Minimum Viable 

Web of FAIR Data

Findable Accessible Interoperable Reusable



2027

The 9 FAIRCORE4EOSC components



EOSC Research Discovery Graph (RDGraph) to deliver advanced discovery tools across EOSC resources and communities.



EOSC PID Graph (PIDGraph) to improve the way of interlinking research entities across domains and data sources on the basis of PIDs.



EOSC Metadata Schema and Crosswalk Registry (MSCR) to support publishing, discovery and access of metadata schemas and provide functions to operationalise metadata conversions by combining crosswalks.



EOSC Data Type Registry (DTR) to provide user friendly APIs for metadata imports and access to different data types and metadata mappings.



EOSC PID Meta Resolver (PIDMR) to offer users a single PID resolving API in which any kind of PID can be resolved through a single, scalable PID resolving infrastructure.



EOSC Compliance Assessment Toolkit (CAT) to support the EOSC PID policy compliance and implementation.



EOSC Research Activity Identifier Service (RAiD) to mint PIDs for research projects, allowing to manage and track project related activities.



EOSC Research Software APIs and Connectors (RSAC) to ensure the long-term preservation of research software in different disciplines.



EOSC Software Heritage Mirror (SWHM) to equip EOSC with a mirror of the Software Heritage universal source code archive.

Dissemination Materials



- 3 Components Demo Videos (RDGraph, PIDGraph, RAiD)
- Watch the Demo Videos below!



PIDGraph



RDGraph



RAiD

Case Studies



Social Sciences and Humanities



Climate Change



Mathematics



European Integration of National-level Services



EOSC Service Providers



CLARIN
Common Language Resources and Technology Infrastructure



DKRZ
DEUTSCHES KLIMARECHENZENTRUM



FIZ Karlsruhe
Leibniz Institute for Information Infrastructure



CSC



EUDAT Collaborative Data Infrastructure
Data shared and preserved across borders and disciplines

The case study aims to meet domain-specific requirements of research communities for common data services that improve discovery, access and reusability of research data. Leveraging the EUDAT services, the case study will act as a rule model for other service providers to increase the adoption of the developed components.

Adopted components







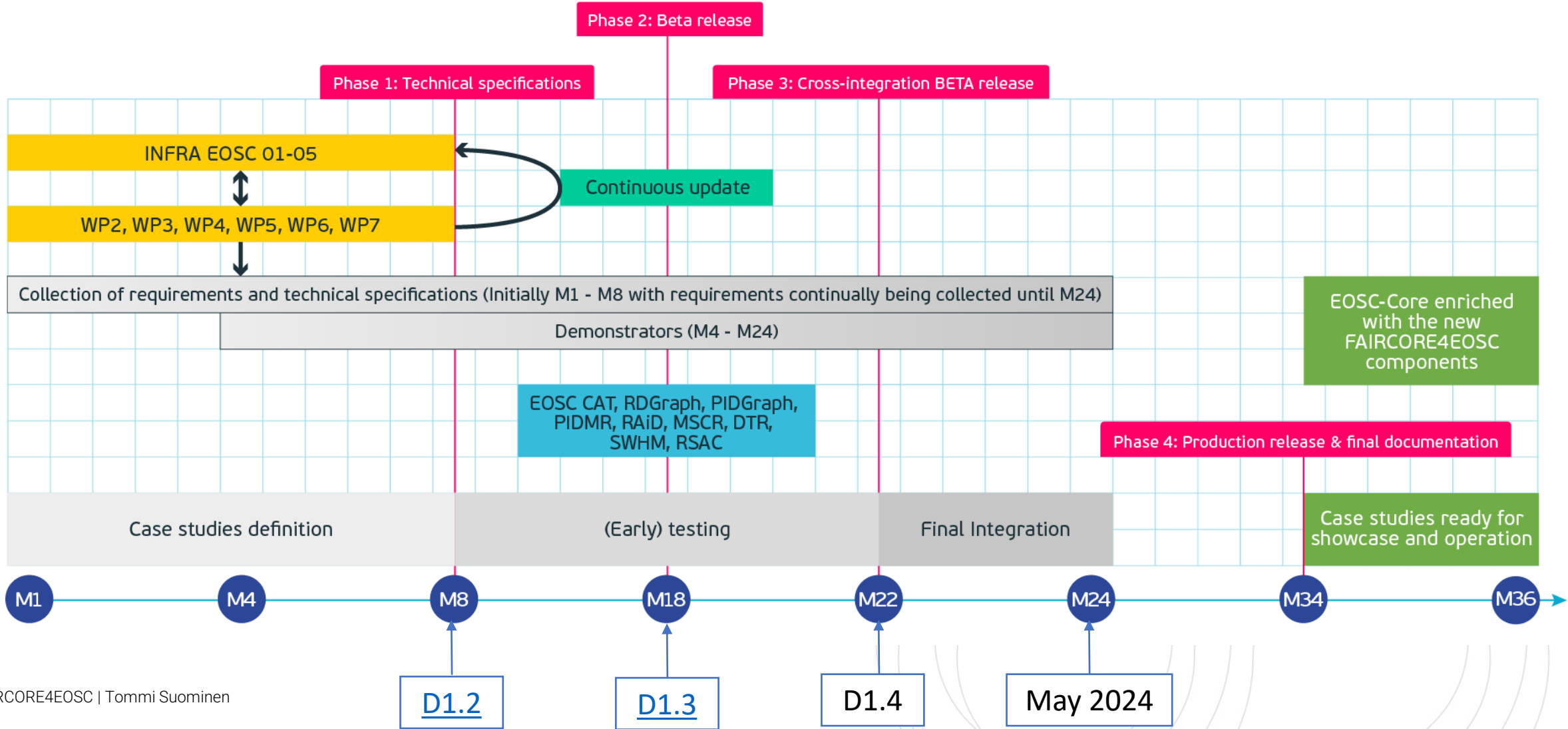



Dissemination Materials

- 6 Podcasts: one per Case Study + 1 intro Podcast
- 4 Published so far
- Listen to our podcast on Spotify



Technical implementation



Co-design of FAIRCORE4EOSC by external stakeholders

Collaboration formalised through LoIs and MoUs



The Biodiversity Digital Twin for Advanced Modelling, Simulation and Prediction Capabilities (BioDT, nr. 101057437, HORIZON-RIA)

- MSCR



PIDINST-Future: Information Infrastructure for the persistent identification of instruments, project submitted to the German Research Foundation (DFG)

- DTR and MSCR



Switch, National Research and Education Network (NREN) in Switzerland, Connectome project

- MSCR

Discussions on-going with:

- EVERSE
- GraspOS
- Skills4EOSC

Dissemination Materials

- 8 Newsletters
- 303 Subscribers
- Also available on the [website](#) (News>Newsletters)
- [Subscribe here](#)



09:00 – 11:00 presentation of services

Findability:

[RDGraph](#) – EOSC Research Discovery Graph Service (Thanasis Vergoulis, OpenAIRE and Claudio Atzori, CNR)

PIDs:

[RAiD](#) – Research Activity Identifier Service (Clifford Tatum, SURF)

[PIDMR](#) – EOSC PID Meta Resolver (Sven Bingert, GDWG and Themis Zamani, GRNET)

[CAT](#) – The Compliance Assessment toolkit (Wim Hugo, DANS and Themis Zamani, GRNET)

Interoperability/Reusability:

[MSCR](#) – Metadata Schema and Crosswalk Registry (Joonas Kesäniemi, CSC)

[DTR](#) – EOSC Data Type Registry (Hans Lienhop, GDWG)

Vocabulary Service (Joonas Kesäniemi, CSC)

Case Studies utilising FAIRCORE4EOSC developed services: Anna-Lena Flügel and Fanny Adloff, DKRZ

The FAIR-IMPACT Project: [Calls for support](#) (Josefine Nordling, CSC)

11:00 – 12:00 Marketplace

The service owners and/or developers are here to discuss and show these services to you in person.

In a move towards enhancing data interoperability and accessibility, FAIRCORE4EOSC.eu extends a unique invitation to researchers, developers, and institutions to test our cutting-edge components today and shape the future of data management within the European Open Science Cloud (EOSC). We are interested in both receiving feedback on the features and the usefulness of the use cases we support through the services we are developing, as well as supporting the [adoption of our services](#).





We are FAIRCORE4EOSC !



Software Heritage THE GREAT LIBRARY OF SOURCE CODE

