



FAIRCORE4EOSC
Core Components Supporting a FAIR EOSC

FAIRCORE4EOSC

Developing EOSC-Core components to
enable a FAIR EOSC ecosystem

17 | 11 | 2022 by Tommi Suominen, CSC – IT Center for Science



**Funded by
the European Union**



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

Challenges addressed

Developing the EOSC-Core

The EOSC-Core development has been initiated in the Horizon 2020 calls, but some of the challenges that require to be addressed are:

- **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.



FAIRCORE4EOSC in a nutshell

Call title: Deploying EOSC-Core components for FAIR Research and Innovation Action

Budget: 10 million EUR

Duration: June 2022 – May 2025

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

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.



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.



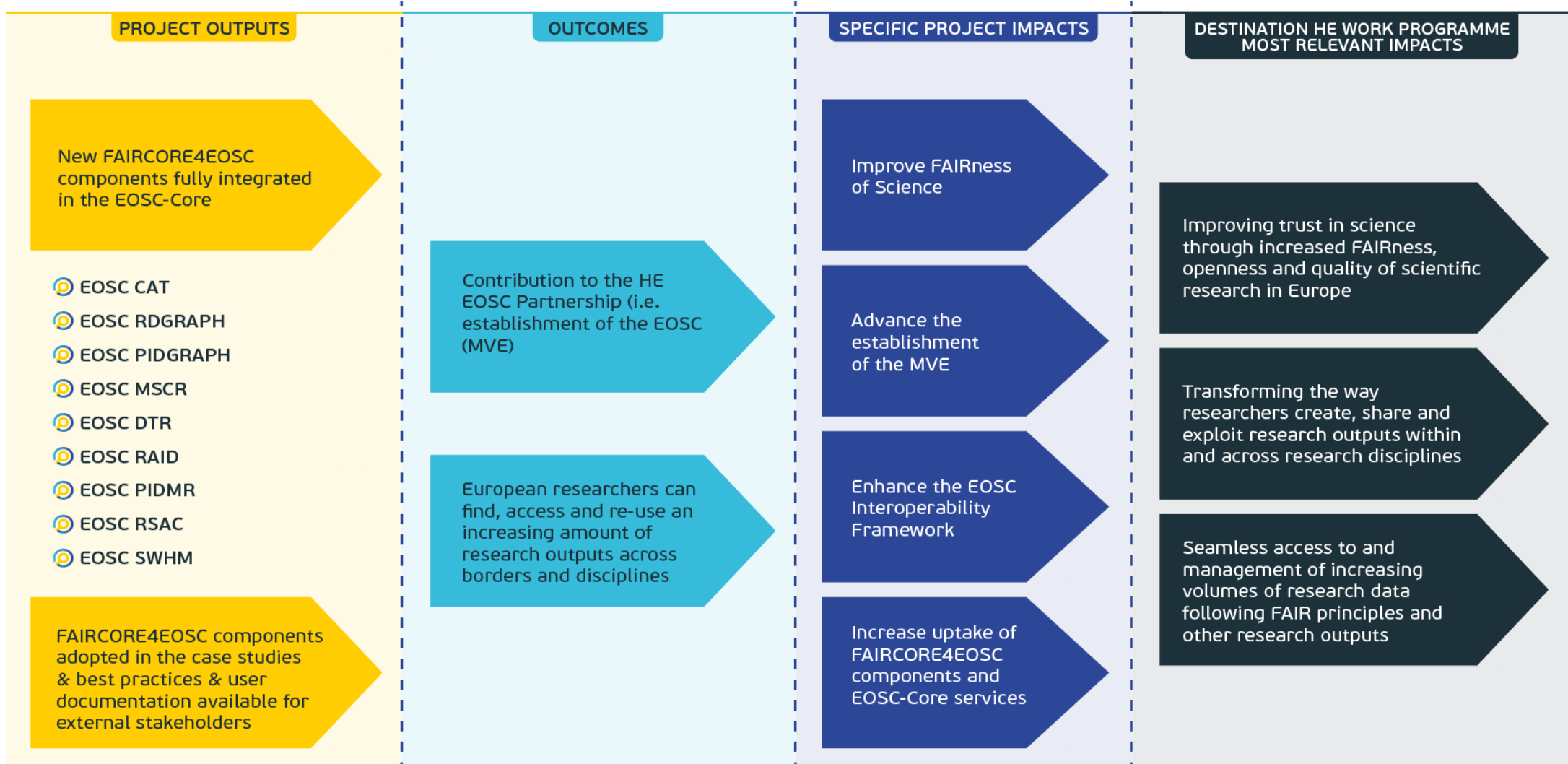
EOSC Research Activity Identifier Service (RAiD) to mint PIDs for research projects, allowing to manage and track project related activities.



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.



The 9 FAIRCORE4EOSC components



MSCR

EOSC Metadata Schema
and
Crosswalk Registry

Support publishing, discovery and access of metadata schemas and crosswalks and provide functions to operationalise metadata conversion by combining crosswalks.




DTR

EOSC Data Type Registry

Provide user friendly and machine actionable Interfaces for the registration and usage of Data Types and Kernel Information Profiles.


Case Studies

Social Sciences and Humanities




This case-study will focus on improving the discoverability of CLARIN data through the integration of the Digital Object Gateway (DOG), a crucial component for the interoperability of the CLARIN infrastructure, Language Resource Switchboard and Virtual Collection Registry tools.

Adopted components




Climate Change



ENES supports climate modellers in their work, in particular in the area of data management. In this case study we demonstrate how the developed EOSC-Core components can improve the discoverability and re-use of research results from the ENES community.

Adopted components




FIZ Karlsruhe
Leibniz Institute for Information Infrastructure

Mathematics

zbMATH Open & swMATH projects aggregate significant scientific advances in mathematics and related disciplines supporting researchers in finding relevant publications and data. The case study will increase the discoverability of the zbMATH Open and swMATH data and services in the mathematical and EOSC community.

Adopted components




CSC

European Integration of National-level Services

The case study will showcase how the developed components can enrich the content of the national research information systems displaying international connections to research objects and improve their interoperability.

Adopted components




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

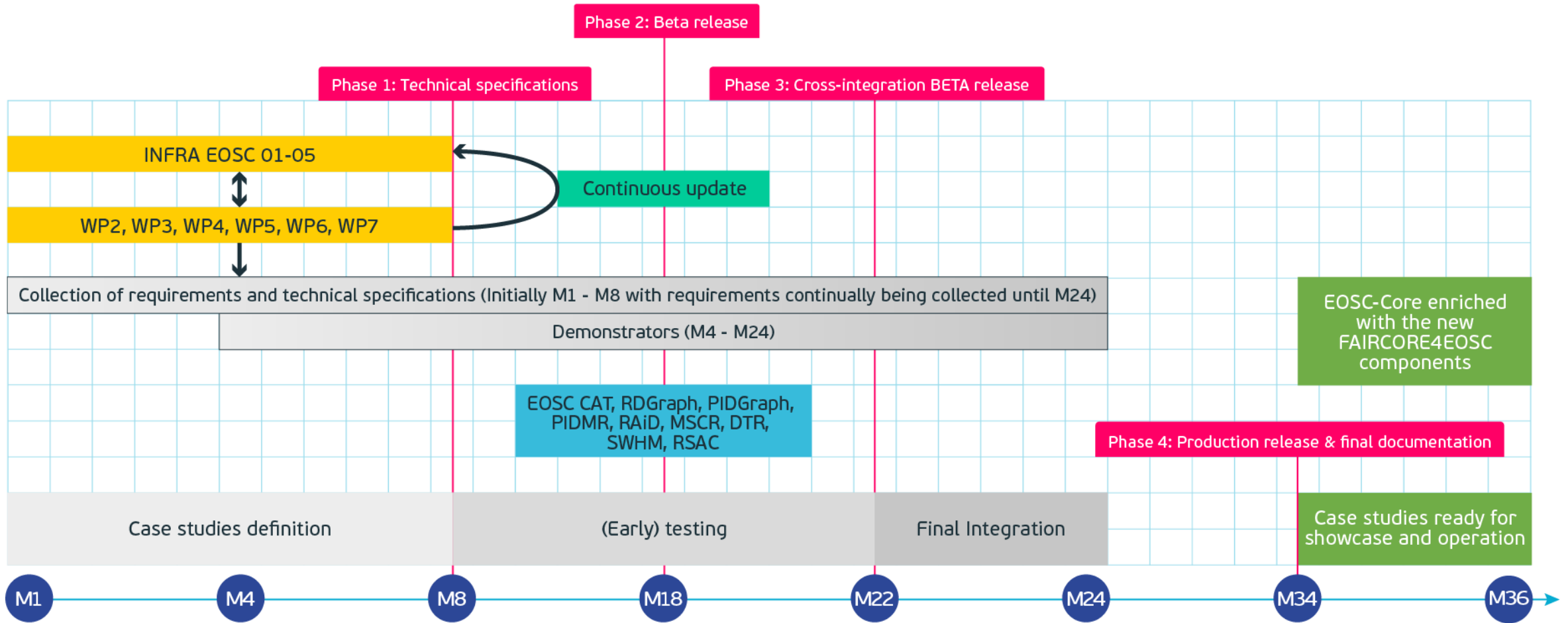
EOSC Service Providers

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



Technical implementation





We are FAIRCORE4EOSC !



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eosc | FAIR-EASE eosc | Focus

eosc | cancer

eosc | RAISE eosc | FAIR-IMPACT

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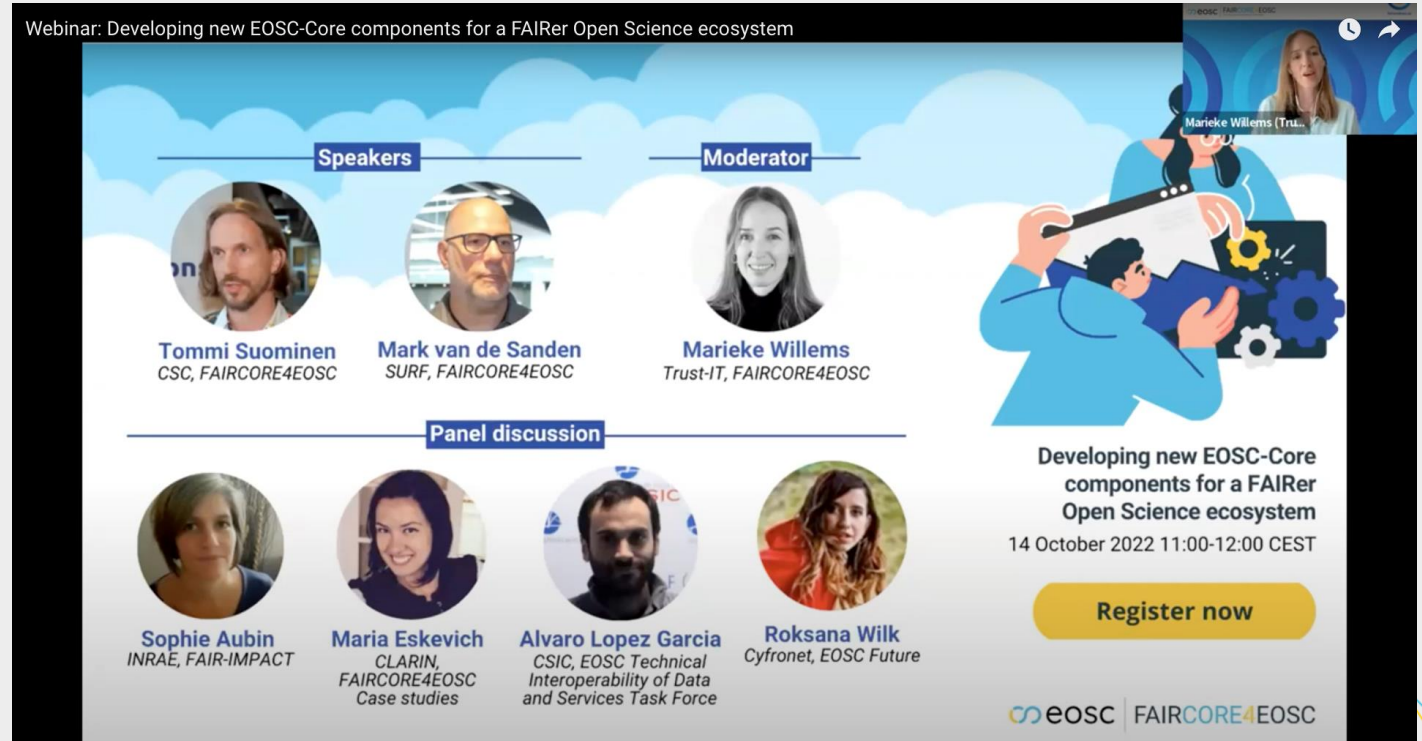
LinkedIn: company/faircore4eosc

Youtube: FAIRCORE4EOSC

Watch the webinar [here](#)
or scan the QR code below



Webinar: Developing new EOSC-Core components for a FAIRer Open Science ecosystem



Speakers

- Tommi Suominen**
CSC, FAIRCORE4EOSC
- Mark van de Sanden**
SURF, FAIRCORE4EOSC

Moderator


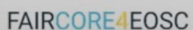
- Marieke Willems**
Trust-IT, FAIRCORE4EOSC

Panel discussion

- Sophie Aubin**
INRAE, FAIR-IMPACT
- Maria Eskevich**
CLARIN, FAIRCORE4EOSC Case studies
- Alvaro Lopez Garcia**
CSIC, EOSC Technical Interoperability of Data and Services Task Force
- Roksana Wilk**
Cyfronet, EOSC Future

Developing new EOSC-Core components for a FAIRer Open Science ecosystem
14 October 2022 11:00-12:00 CEST

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