

FAIRCORE4EOSC

Developing EOSC-Core components to
enable a FAIR EOSC ecosystem



**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

The project

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.



Case studies

How do the components benefit communities?

Components are co-developed and tested within domain-specific communities:

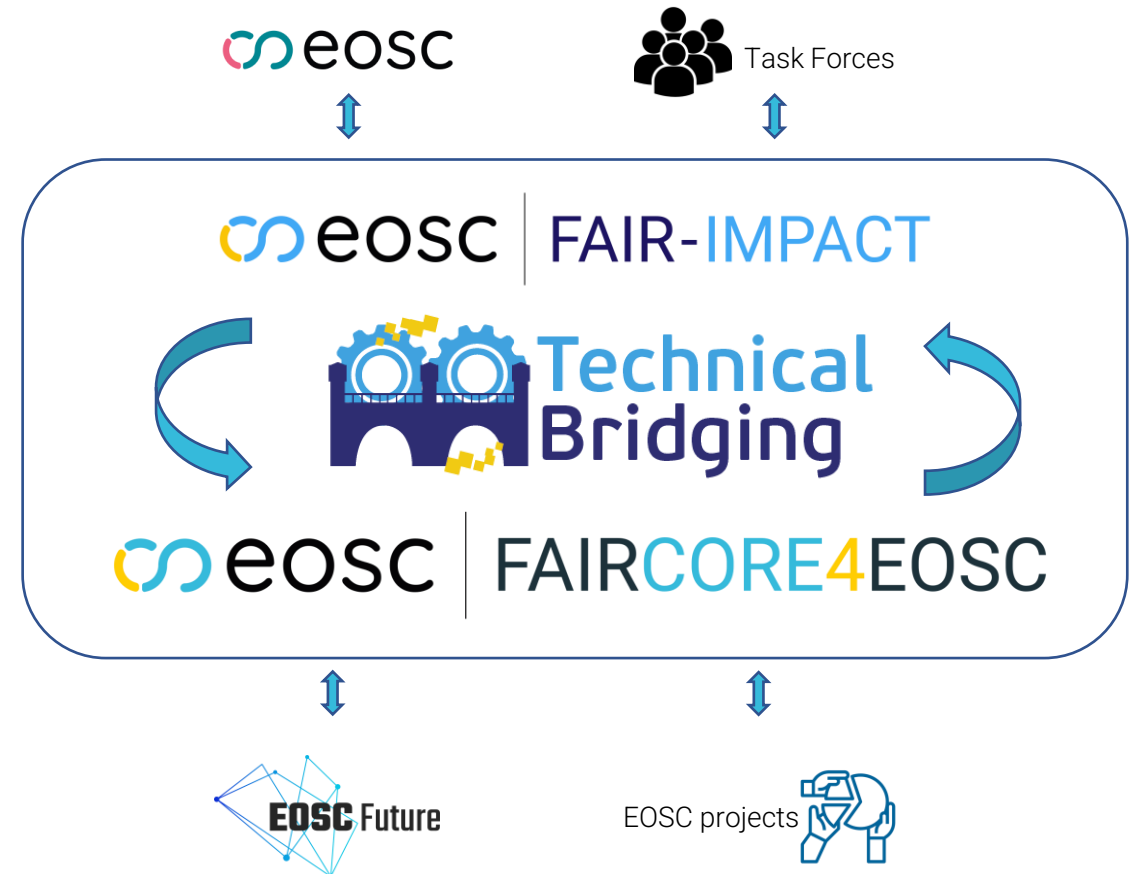
- Climate Change (DKRZ)
- European Integration of National-level Services (CSC)
- Mathematics (FIZ)
- Service Providers and Research Data Management Communities (EUDAT)
- Social Sciences and Humanities (CLARIN)

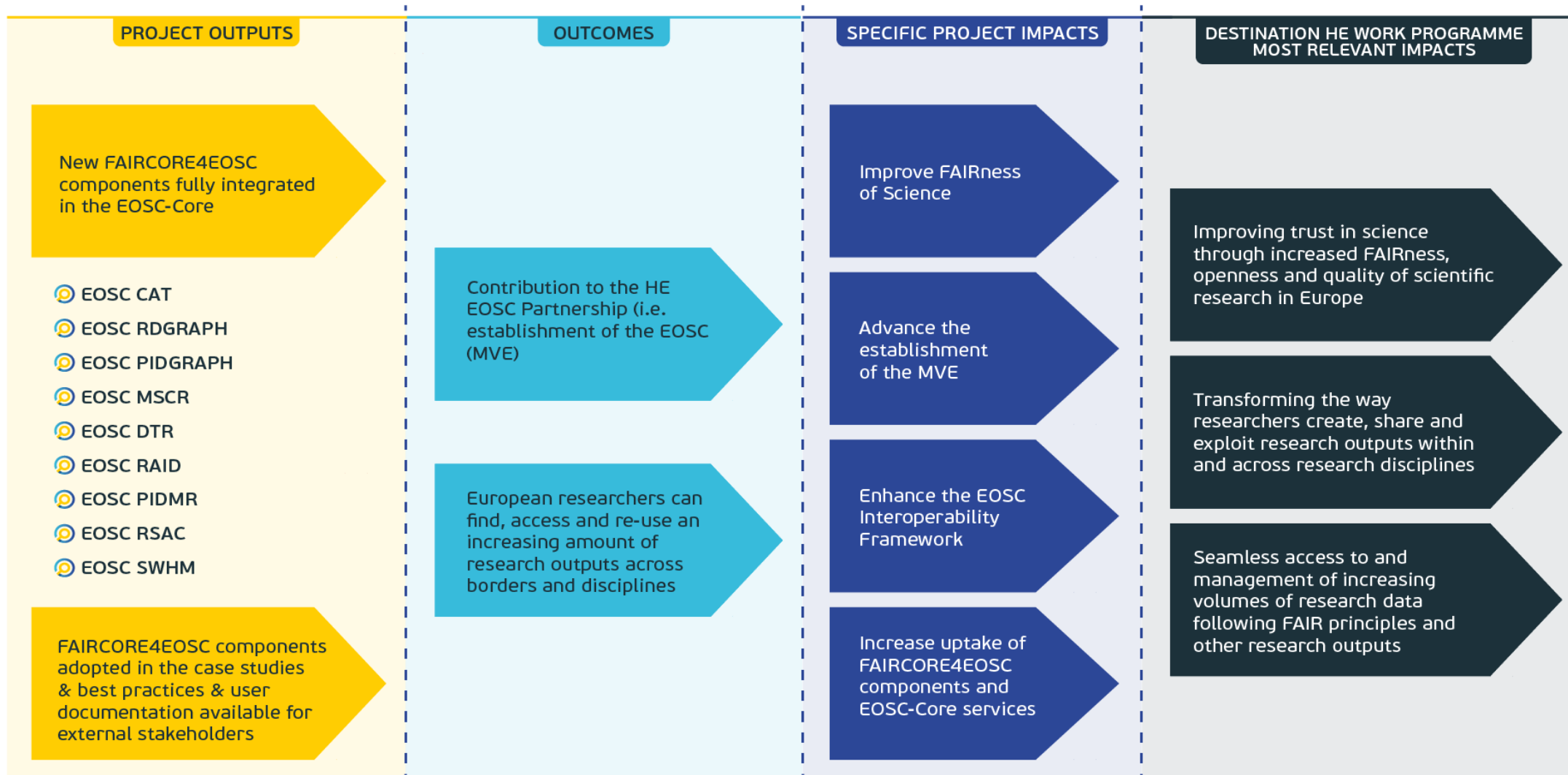
Technical Bridging Team

Aligning developments with the EOSC ecosystem

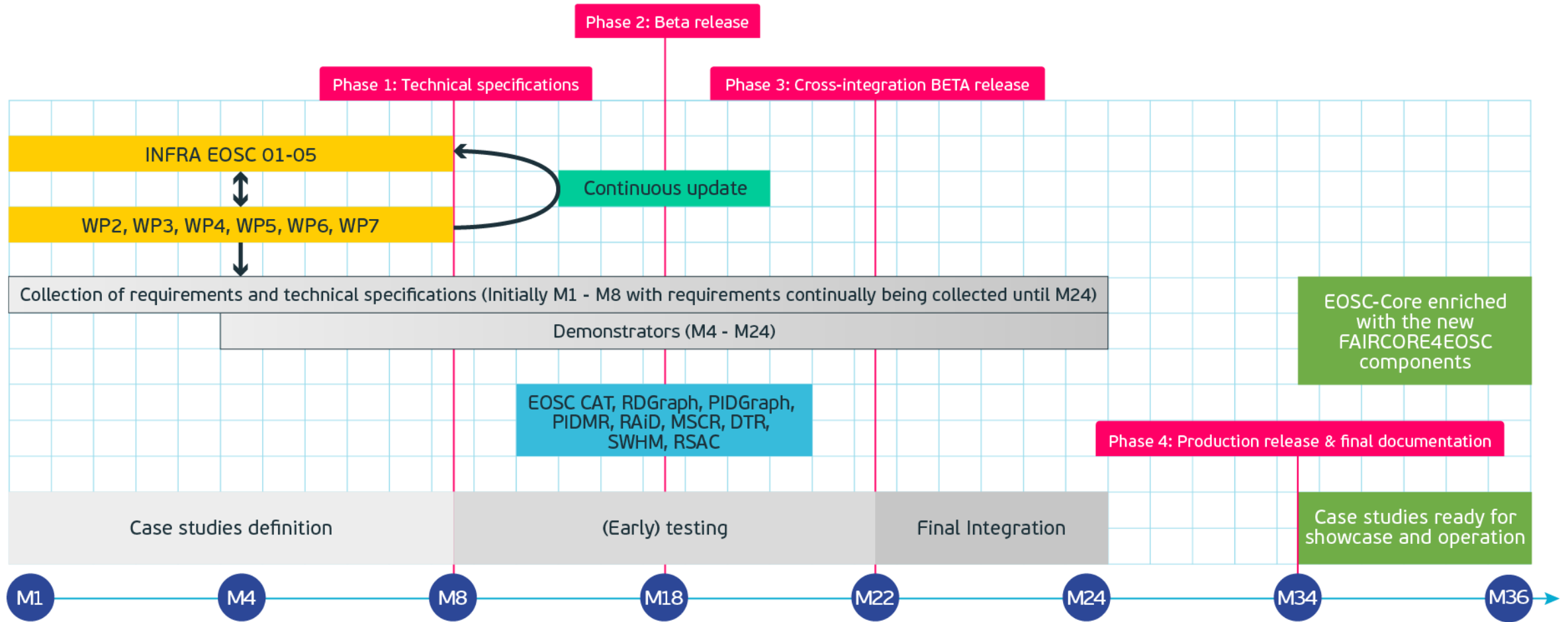
The Technical Bridging Team will provide a key link between the FAIRCORE4EOSC Technical Steering Group and the relevant interfaces in the Horizon Europe project FAIR-IMPACT.

FAIRCORE4EOSC will interact with the wider EOSC community, through dialogue and joint activities with the EOSC Association, its Task Forces, the EOSC Future project, and other key initiatives.





Technical implementation





FAIRCORE4EOSC

Core Components Supporting a FAIR EOSC

faircore4eosc.eu

Twitter: [@FAIRCORE4EOSC](https://twitter.com/FAIRCORE4EOSC)

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