European Integration of National-level services – a look on the case study of FAIRCORE4EOSC project

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FAIRCORE4EOSC

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The what?
And how it relates to CRIS / RIM community

Who are involved and what are we aiming for?
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).

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.
**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.

[https://doi.org/10.3030/101057264](https://doi.org/10.3030/101057264)
**FAIRCORE4EOSC**

**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.
Same issues with interoperability of systems, manual conversions of metadata schemas and identifierless research objects exist in CRIS-domain as well.

National built CRISs for research graph information would be invaluable source for e.g. research assessment or to highlight EOSC-related contributions if interoperability could be achieved.
Case study: European Integration of National-level services

ENES supports climate modellers in their work, in particular in the area of data management. In this case study, 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.

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.
Case study building upon previous work within CRIS-domain of:

Established national CRISs and working integrations with organizational systems

CERIF data model and refactoring process

OpenAIRE and aggregating CRIS information
National CRIS / Service Providers

NL Open Knowledge Base

- Exchange of information via integrations and data collections
- Exploring workflows
- Template and showcasing of EOSC component integrations

Source Systems and Services

E.g. Organizational CRIS systems, institutional repositories, funders’ systems

FAIRCORE4EOSC CASE STUDY WHAT’S IN IT FOR YOU?
Showcase the CERIF data model as common for exchanging research graph information between organizational and national CRIS systems & OpenAIRE
Realize the potential in combining CRIS-like research graph information from national sources on European level, aggregating this to RDGraph and OpenAIRE.
Development of governance and operational framework + establishing European RAiD registry for issuing RAiDs:

RAiD is persistent identifier for research projects and activities – an envelope of metadata, delivered by Australian Research Data Commons (ARDC)
FAIRCORE4EOSC

CASE STUDY

WHAT’S IN IT FOR YOU?

OpenAIRE

- Enrich metadata
- Aggregate entities
- Exchange graphs
- Crosswalks between schemas for data exchange purposes

RDGraph
EOSC Research Discovery Graph

- Enrich metadata
- Aggregate entities
- Exchange graphs

MSCR
EOSC Metadata Schema & Crosswalk Registry

- Mapping of data models
- CERIF and internal schemas

PIDGraph
EOSC PID Graph

- Enrich metadata
- Aggregate entities
- Exchange graphs

Something else?

National CRIS / Service Providers

- Exchange of information via integrations and data collections
- Exploring workflows
- Template and showcasing of EOSC component integrations

NL Open Knowledge Base

HELIx

Research.fi

Source Systems and Services

- Create a template for integration of further national research information systems with the EOSC Core

E.g. Organizational CRIS systems, institutional repositories, funders' systems

System X
Service Y
Handling research project and activity information in CRISs – implementation of RAiD-identifier

Having refactored CERIF as "crosswalkable" schema within MSCR

Showcasing OpenAIRE / RDGraph integrations for (national) CRIS services

Workshop(s) with CRIS community in 2023-2024 – CRISCROS?
Thank you!

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