Case studies demonstrating the added value of FAIRCORE4EOSC components

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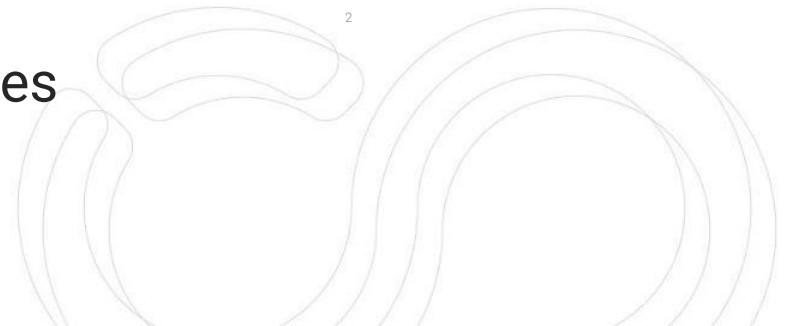
1- FAIRCORE4EOSC project and developed components

2- The benefits: perspective from two case studies

3- Fostering uptake in other communities

EOSC | **FAIRCORE4EOSC**
Core Components Supporting a FAIR EOSC

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.

Improve the discoverability and interoperability of an increased amount of research outputs.
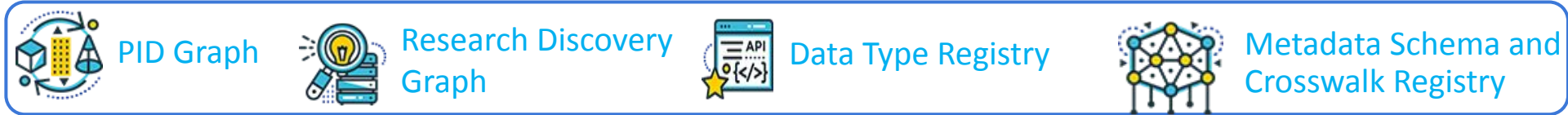
https://faircore4eosc.eu/eosc-core-components

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)

Benefits expected for 2 cases studies

PID Graph · **Research Discovery Graph** · **Data Type Registry** · **Metadata Schema and Crosswalk Registry**

Benefits for Climate change CS:

- Improve the discoverability and access to climate data for other communities
- Ensure an accurate and reliable description of data and simplify their use by other communities
- Foster and ease cross-disciplinary and cross-border research

Benefits for Social Science & Humanities CS:

- Improve the mapping from data to tools in the switchboard and vcr by using a standardized data type
- Improve representation and tools capabilities by offering mappings from various metadata input format to a standardized form
- Offer a uniform interface from various PID systems to the metadata/resource
- Improve the discoverability and access to CLARIN resources

Research Activity Identifier Service

PID Meta Resolver

Improved discoverability:

After an extreme forest dieback, forest managers need to choose tree species well suited for reforestation in the region. For that, they need access to a wide range of data from general climate parameters to more specific data such as vegetation duration, soil moisture, extreme events, etc. Indirect effects such as the occurrence of pests like bark beetles must also be taken into account.

https://commons.wikimedia.org/wiki/File:Waldschaeden_Erzgebirge_3.jpg

Virtual collection registry:

A teacher is preparing a course. For this course, resources and tools from various repositories and other sources are to be used. Grouping these resources and tools allows the teacher to easily distribute and reference the required materials. With the support of versioned collections, changes over time of the resources and tools are supported as well.

Switchboard:

A researcher has a set of resources and is interested in what tools are available within the CLARIN community to process these resources. By uploading the resources that switchboard will offer a list of tools that can be used to process these resources. With a simple click, the user can then send the resource to the tool of interest.

- Save time and money to community developers (no duplication)

- Enhance the use of data by other communities through:
  - Improved discoverability
  - Ease the overall user experience
  - Improved quality of switchboard recommendation for resource processing

- Path the way to a potential cross-community interoperable data platform

- Foster synergies and interdisciplinary collaboration

Is your research community interested in using the components being developed in FAIRCORE4EOSC?

You can engage in the co-design and follow up the development progress by participating in our upcoming knowledge transfer events.

Contact point: *support@faircore4eosc.eu*
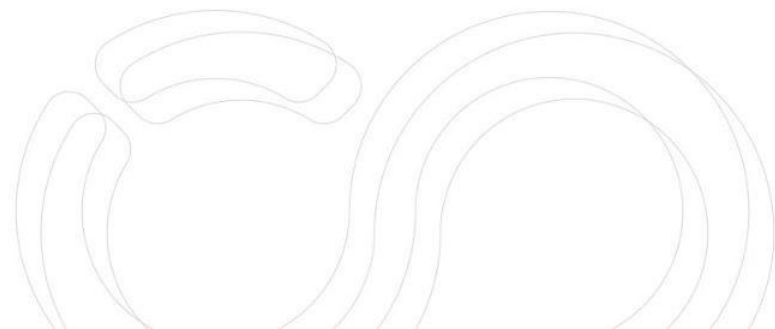
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