Advanced Search and Browsing of Data

Task Force Charter

Charter

Last update: 23. 04. 2026

Verze: 1.0

Task Force Overview

Leader:

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Goals:

Design and development of a unified framework for advanced discovery, browsing and data search within one or more repositories, based on:

1. semantic understanding of content (annotation and data itself) - the ability to recognize relevant results even with different terminology,
2. an appropriate combination of a semantic approach with an approach based on metadata, i.e. an exact match of terms (e.g. author, institution),
3. identification and integration of graph relationships (e.g. author-institution-co-author relationship), including advanced visualization for exploration of these connections,
4. integration of semantic matches.

Enabling the integration of search and discovery mechanisms with AI tools (e.g. Claude Code) for agent-based access to services on top of repository systems.

Results and outcomes

Planned outcomes:

- Framework and specification for advanced data discovery, search, and retrieval services in the research data repository environment.
- Development of a search portal available at discovery.eosc.cz.
- Reference design for integrating these services with AI agents and analytical workflows.
- Depending on the time and financial possibilities of TF members, the development of other specific tools and services

Time schedule and plan

Planned duration:

18 months; since 05 / 2026

Planned steps:

1. Identification of use-cases across PS EOSC CZ.
2. Identification of currently deployed search approaches in data repository platforms, including identification of search limits based on the match of texts and metadata records and evaluation of advanced methods of working with data.

3. Sharing know-how and possible joint implementation of selected use-cases.
4. Designing a framework for advanced data discovery and retrieval with an emphasis on interoperability across repositories and integration with AI systems.
5. Design of a user testing system for collecting feedback and benchmarking to work with the quality of the results found; execution of testing and benchmarks on discovery.eosc.cz and any other services.
6. Proposal of a mechanism for financing, development and long-term operation of the product, including a plan for its implementation in the involved infrastructures and cooperating infrastructure services.

Participants

Members:

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Experts in research data management, search technologies and AI integration with experience with repository systems, metadata, semantic data processing and interoperability within EOSC CZ.