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Next generation of the EOSC Portal User Experience Enhanced by AI

EOSC Future project : INFRAEOSC-03-2020 - Grant
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EOSC Future

- The vision of **EOSC Future** is to deliver an operational **EOSC Platform** with an integrated environment consisting of data, services, open research products and infrastructure that will be accessed and used by the **European research community**
- **The EOSC Portal** is considered **a main entry** for European Researchers to access, use and reuse research products and data across disciplines:
 - EOSC Resources - public and commercial e-infrastructure services,
 - EOSC Training Materials such as online courses, MOOCs, training workflows,
 - **EOSC Research Products comprising the result of a research process.**
- **PSNC** takes up several activities within the EOSC Future, including the development of the **EOSC Recommender System**, **EOSC DIH** as well as design of the federated Architecture and Interoperability.

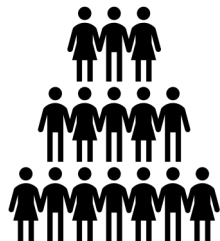
<https://eosc-portal.eu/>



EOSC Users



Providers



Consumers
(including
Researchers)



- ✓ I want to find new tools and resources that might support my research
- ✓ I am interested in training / training materials
- ✓ ...
- ✓ I want to be able to specify my scientific profile, **to be offered resources tailored to my needs**



Facilitators

D5.2a / EOSC Front-Office Requirements Analysis Lead by ICOS Authored by Anca Hienola (ICOS), John Shepherdson (CESSDA ERIC), Bartosz Wilk (Cyfronet)

A need for improved User Experience



136,738,891

 PUBLICATIONS

271,924

 SOFTWARE

15,532,345

 RESEARCH DATA

6,384,735

 OTHER RESEARCH PRODUCTS



Discover research
outputs



Publish research
outputs



Process and analyse



Access computing
resources



Find instruments &
equipment



Access training
material



Access research
infrastructures

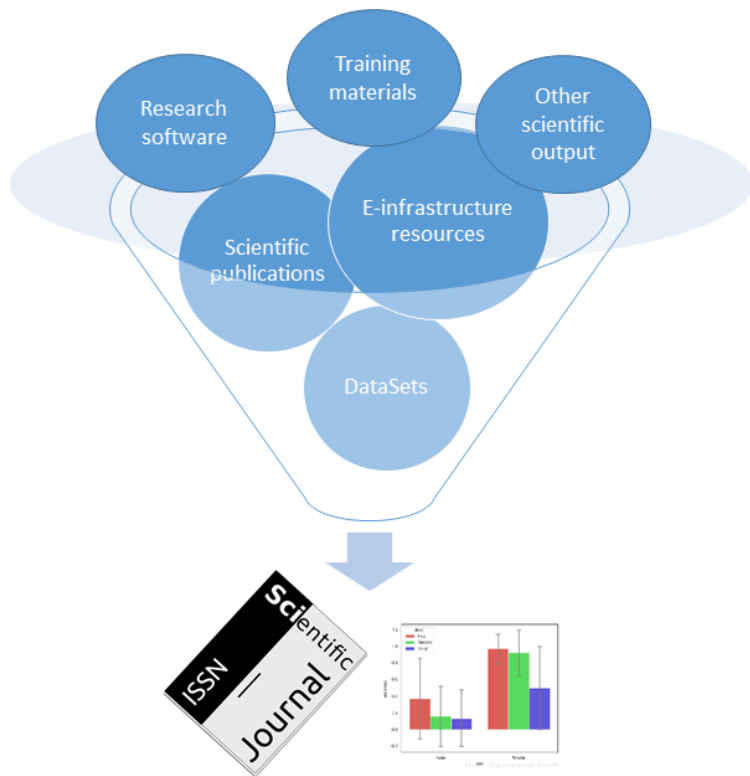


Find bundles

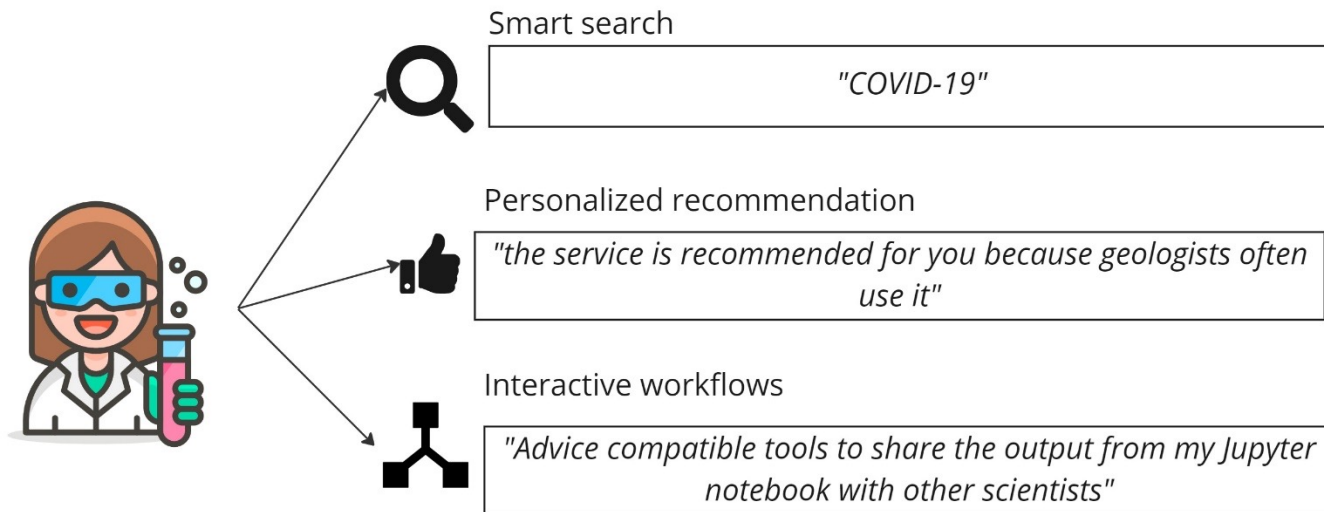
[OpenAIRE –
Research Graph](#)

[EOSC Marketplace
\(eosc-portal.eu\)](#)

AI-based recommendations



User scenarios for recommendations in EOSC



EOSC Recommender System - Minimum Viable Product

Recommendations based on the history of orders

Recommendations based on the viewing history

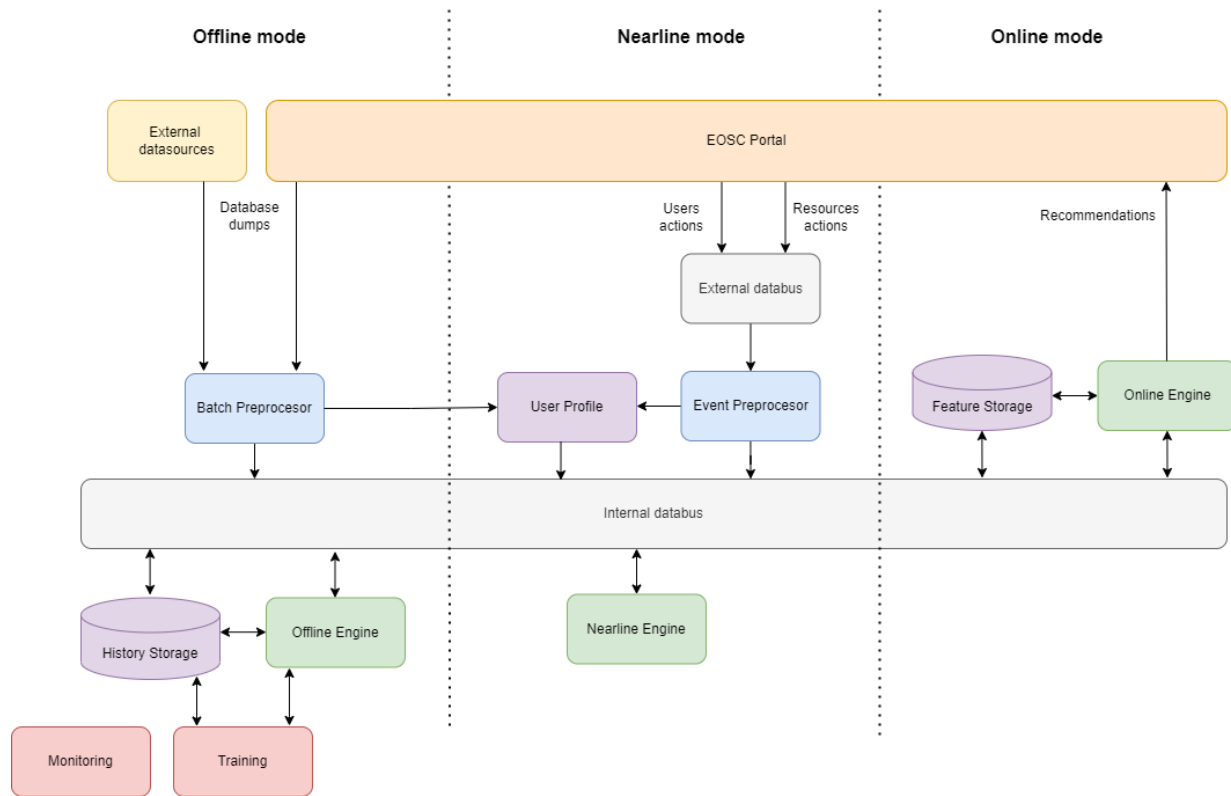
Recommendations based on general popularity

Recommendations based on popularity among users with similar interests

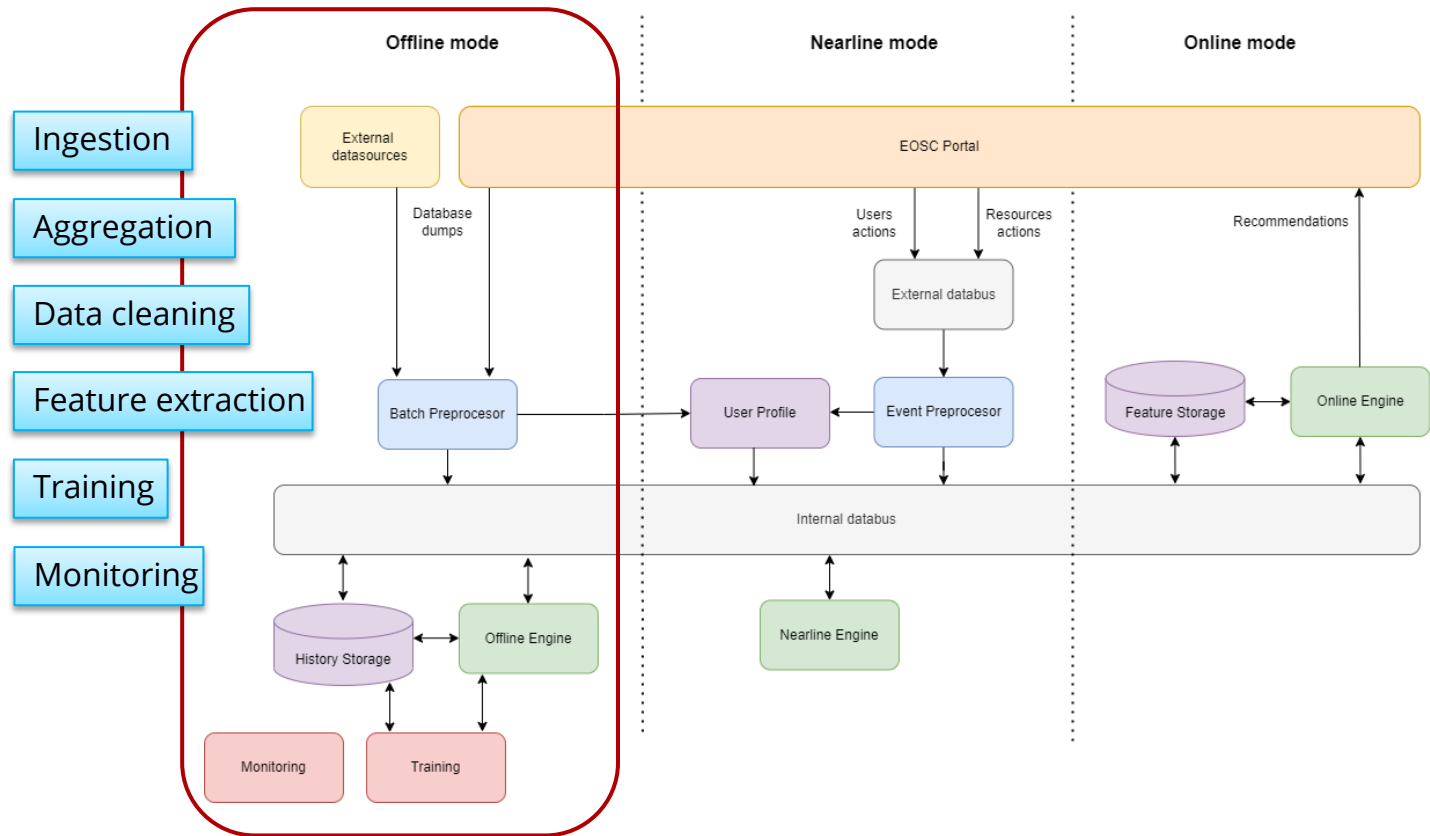
EOSC Recommender System - Big Data handling

	Volume	Variety	Velocity
User profiles Resource profiles Training records	+300 Resource profiles +3k User Profiles	Database dumps Events	-
User actions Service actions	-	Data Bus JSON dump files	hundreds of events per minute (estimated), ~10KB each
Research products (OpenAire Research Graph)	+140m of OARG scientific outputs (+2m of EOSC Research Products)	CSV files, or TARed JSON	1 per month the OARG is updated

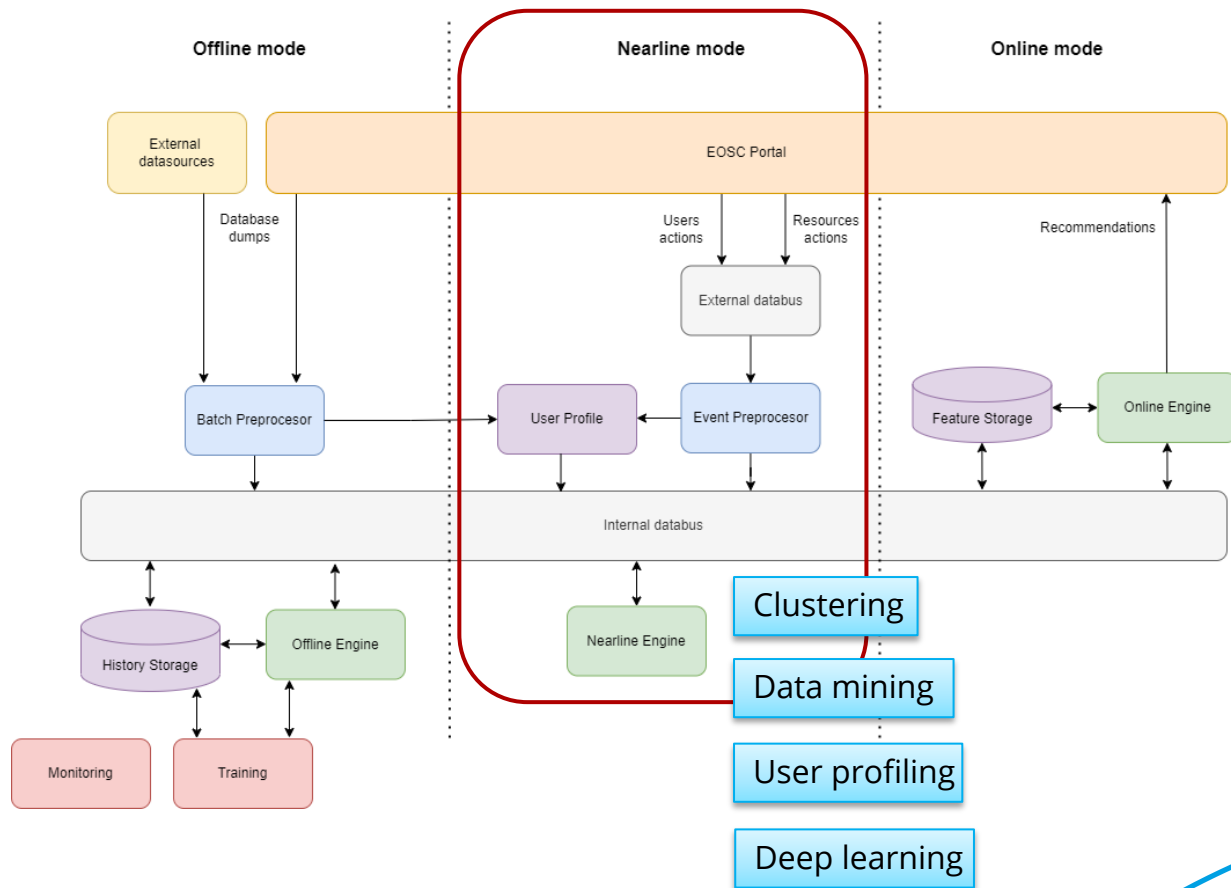
EOSC Recommender System - Architecture



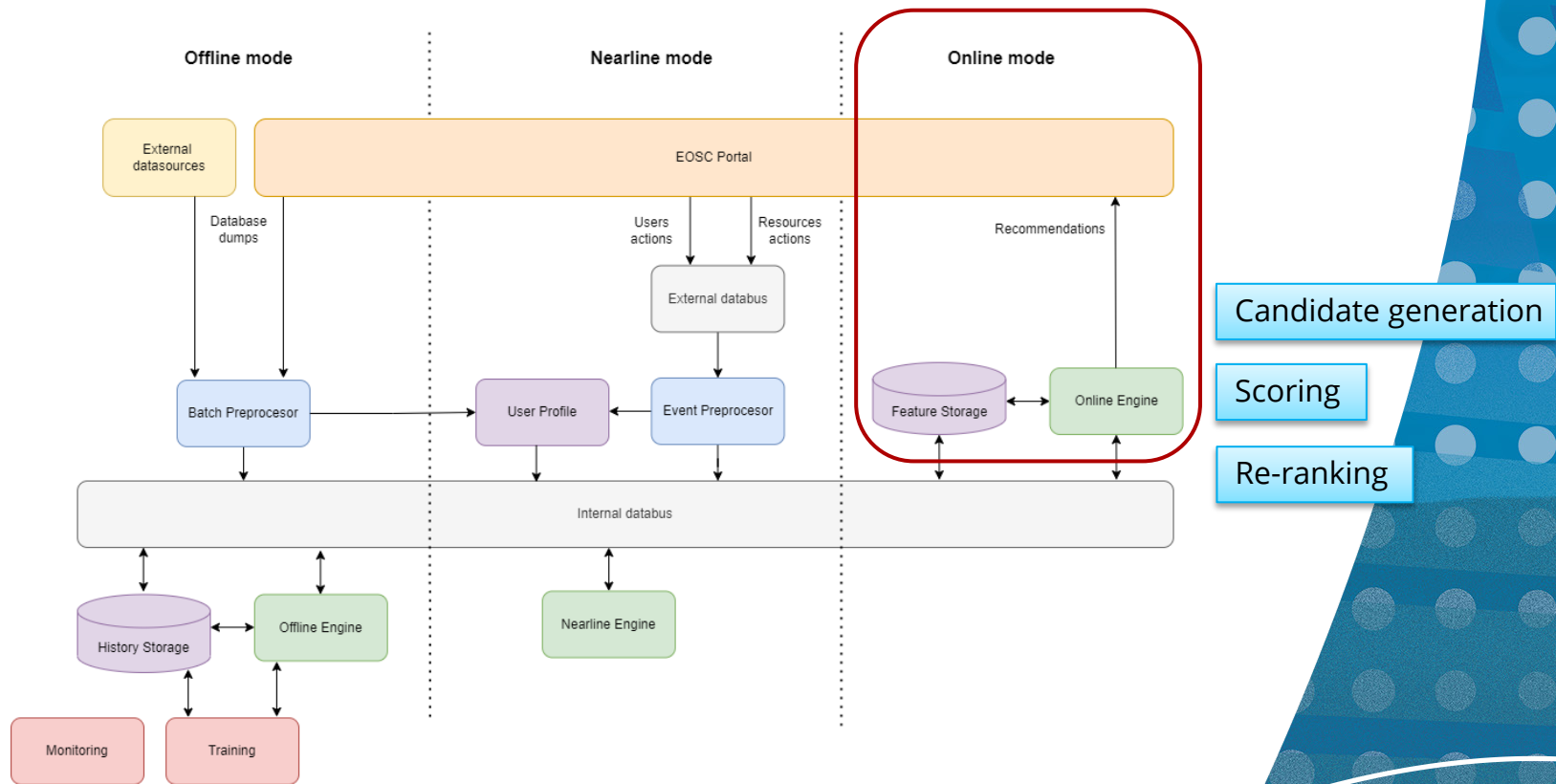
EOSC Recommender System - Architecture



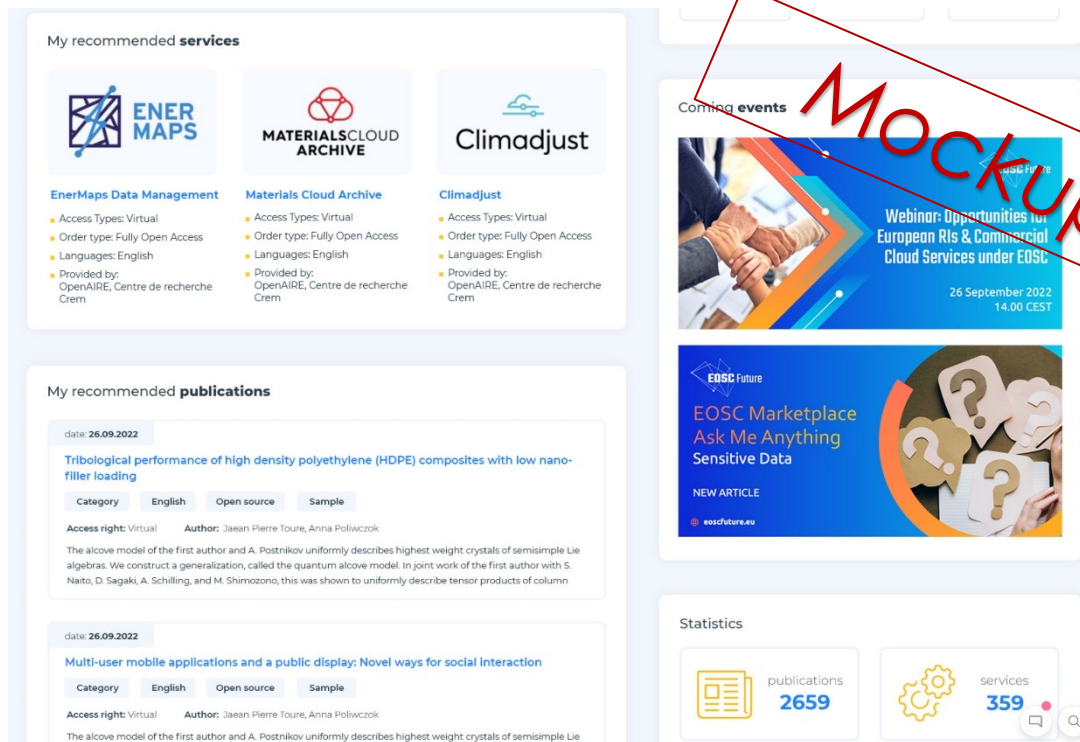
EOSC Recommender System - Architecture



EOSC Recommender System - Architecture



AI-enabled user dashboard



D5.1a / EOSC Front-Office Design, Functional and Technical Specification Edited by Bartosz Wilk (CYFRONET), Roksana Wilk (CYFRONET), John Shepherdson (CESSDA ERIC)

Summary

- EOSC Future delivers a platform that offers a wide range of resources to support researchers in their daily work.
- The presented recommendation system allows **quickly** and **efficiently** find the resources in a large set of diverse data.
- The transition to production of the EOSC RS along with the corresponding UI parts is in progress.



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