



## Poznan Supercomputing and Networking Center

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## Next generation of the EOSC Portal User Experience Enhanced by AI

EOSC Future project : INFRAEOSC-03-2020 - Grant  
Agreement Number 101017536

# EOSC Future

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- 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.

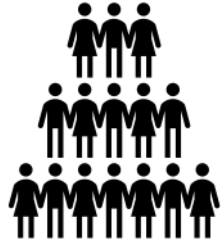
<https://eosc-portal.eu/>



# 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

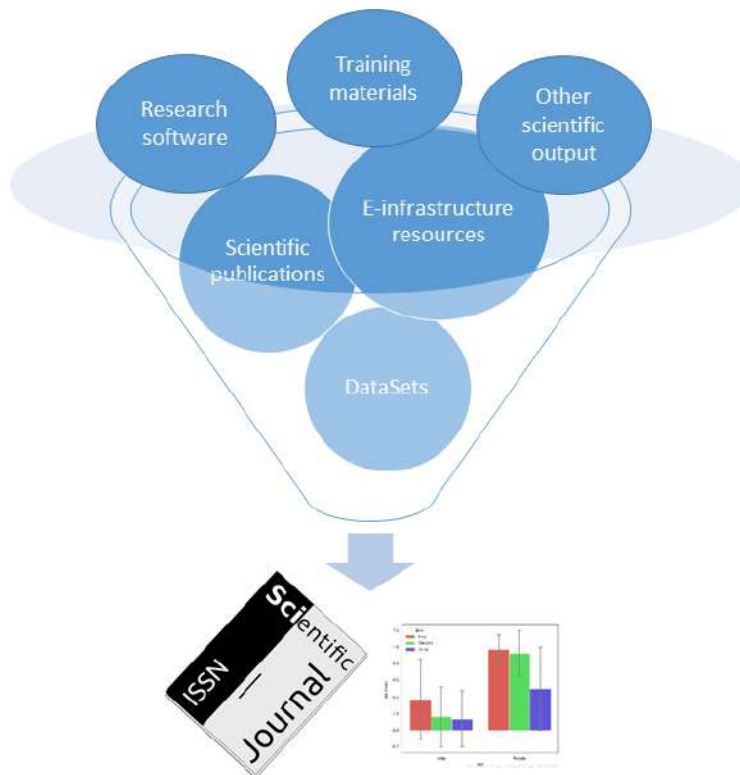


[OpenAIRE –  
Research Graph](#)

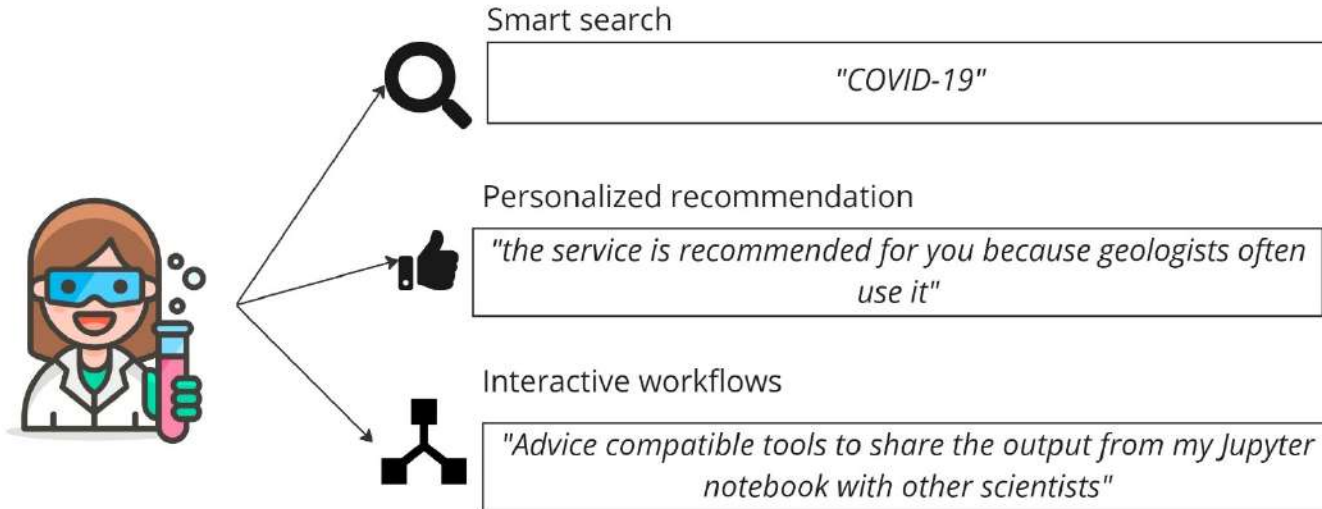


[EOSC Marketplace  
\(eosc-portal.eu\)](#)

# AI-based recommendations



# User scenarios for recommendations in EOSC





# EOSC Recommender System - Minimum Viable Product

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Recommendations based on the history of orders

Recommendations based on the viewing history

Recommendations based on general popularity

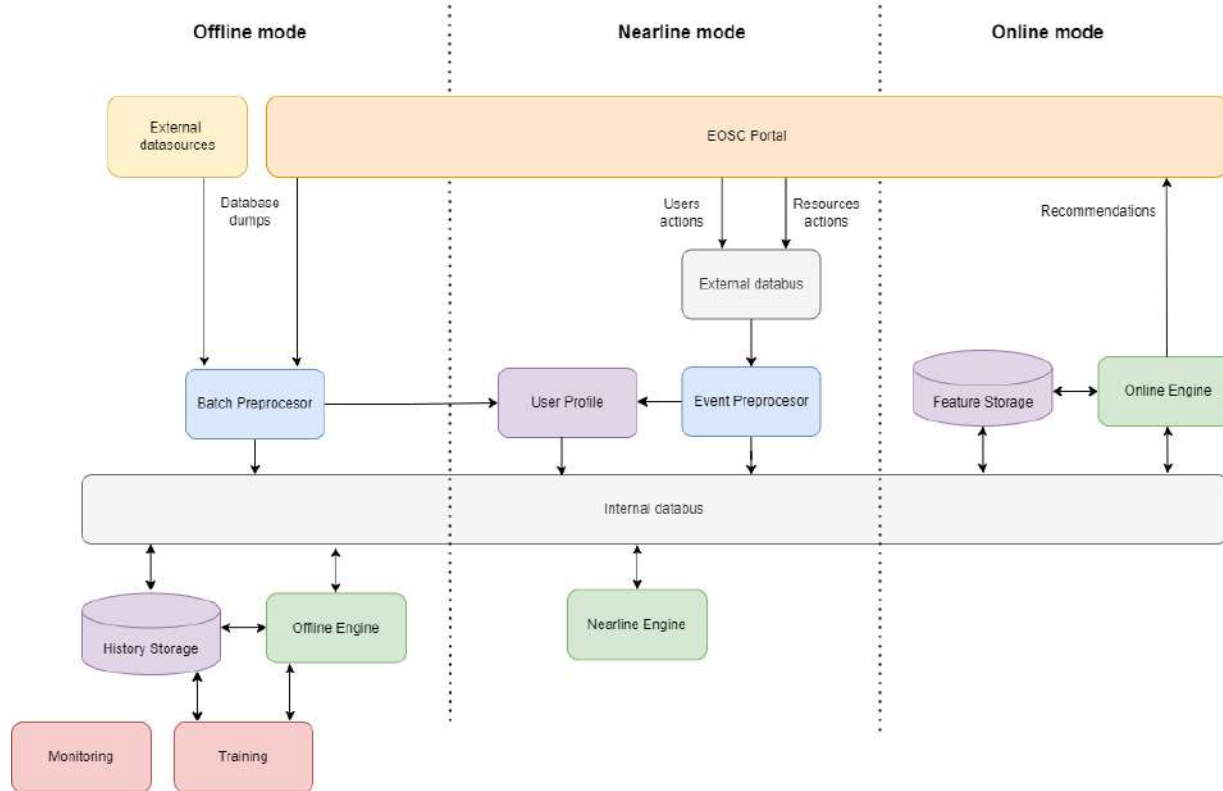
Recommendations based on popularity among users with similar interests

# EOSC Recommender System - Big Data handling

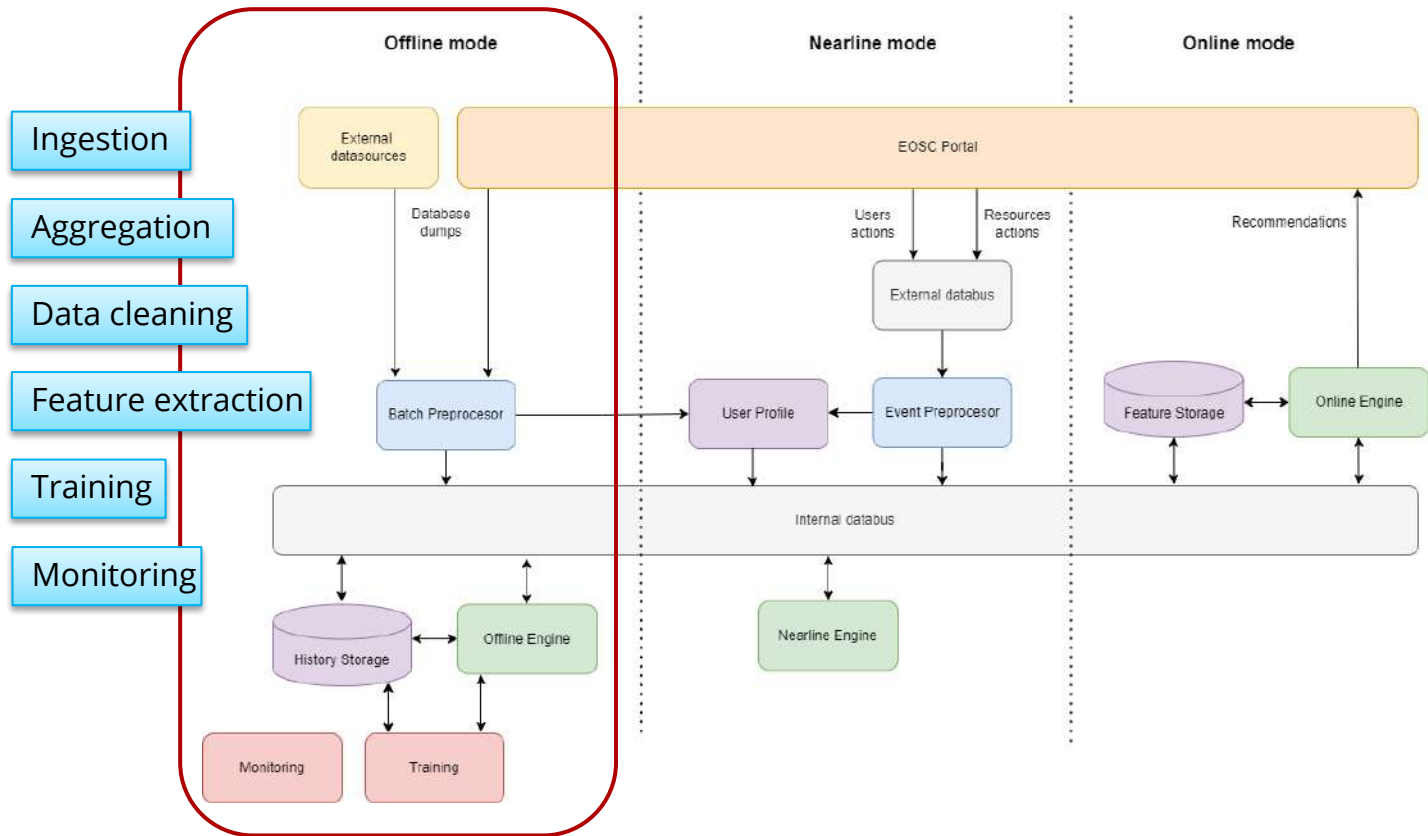
	Volume	Variety	Velocity
User profiles Resource profiles Training records	+300 Resource profiles +3k User Profiles	Database dumps Events	-
User actions Service actions	-	Data Bus JSON dump files	hundreds of events per minute (estimated), ~10KB each
Research products (OpenAire Research Graph)	+140m of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



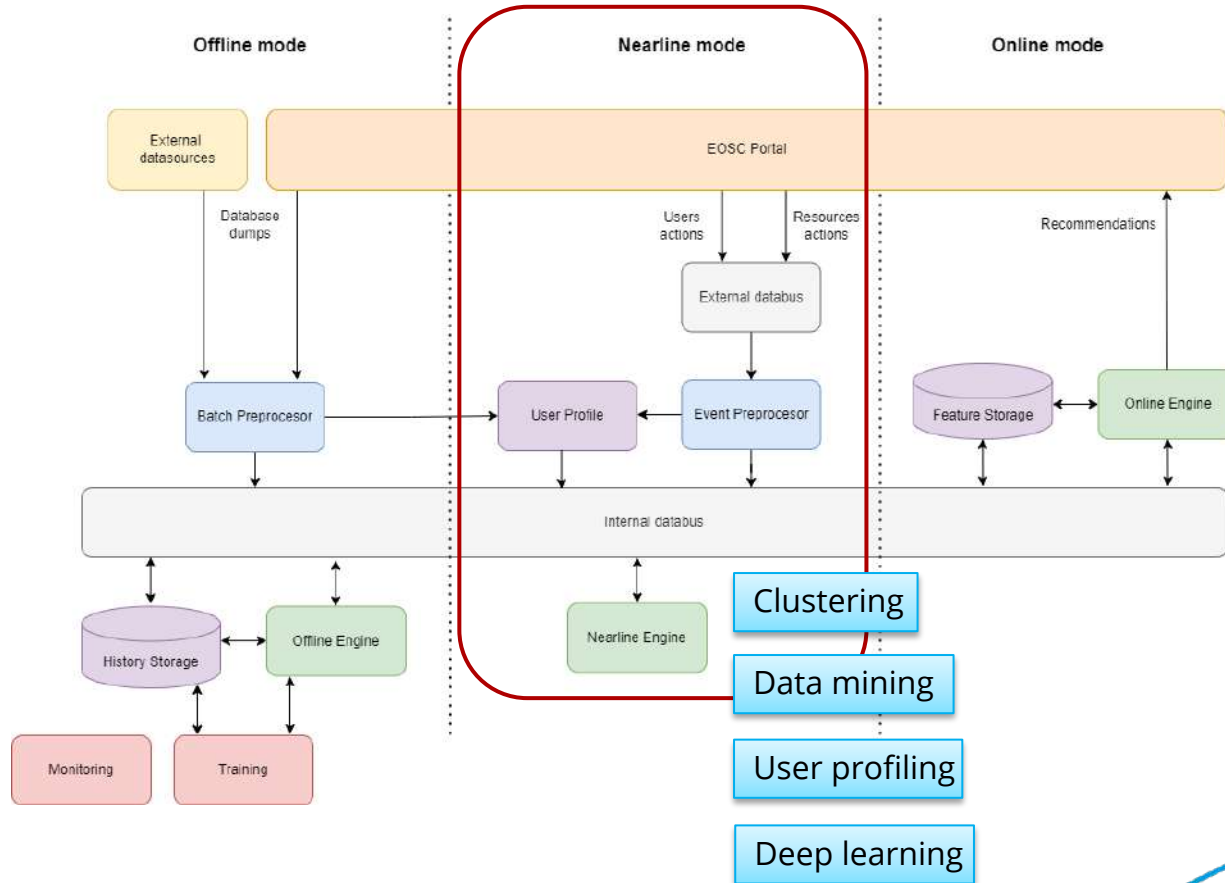
# EOSC Recommender System - Architecture



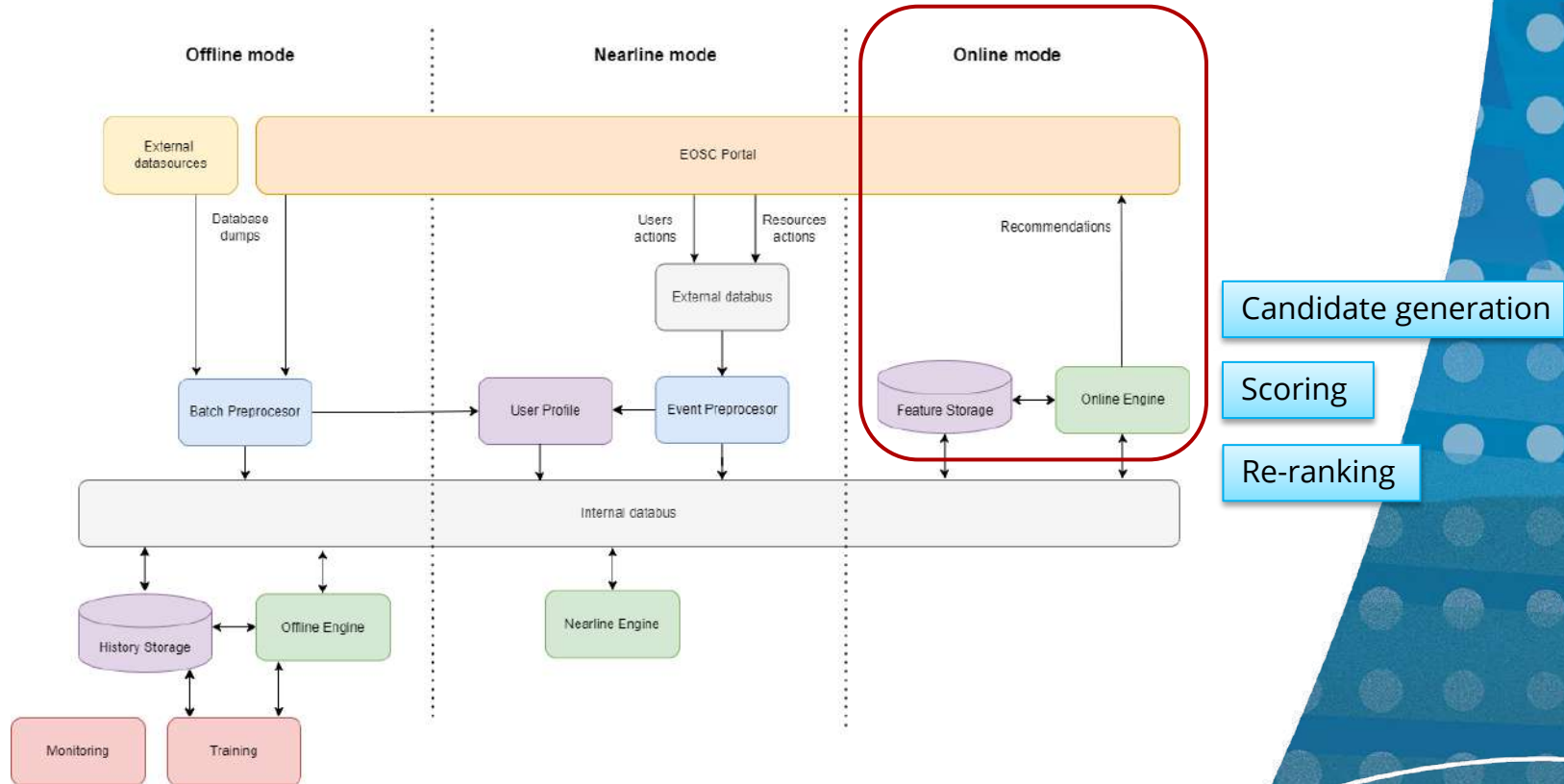
# EOSC Recommender System - Architecture



# EOSC Recommender System - Architecture



# EOSC Recommender System - Architecture



# AI-enabled user dashboard

**My recommended services**

**ENER MAPS**

**ENERMaps Data Management**

- Access Types: Virtual
- Order type: Fully Open Access
- Languages: English
- Provided by: OpenAIRE, Centre de recherche Crem

**MATERIALS CLOUD ARCHIVE**

**Materials Cloud Archive**

- Access Types: Virtual
- Order type: Fully Open Access
- Languages: English
- Provided by: OpenAIRE, Centre de recherche Crem

**Climadjust**

**Climadjust**

- Access Types: Virtual
- Order type: Fully Open Access
- Languages: English
- Provided by: OpenAIRE, Centre de recherche Crem

**Continuing events**

**Webinar: Opportunities in European RIs & Commercial Cloud Services under EOSC**

26 September 2022  
14:00 CEST

**My recommended publications**

Date: 26.09.2022

**Tribological performance of high density polyethylene (HDPE) composites with low nano-filler loading**

Category English Open source Sample

Access right: Virtual Author: Jansen Pieter Touren, Anna Polowinski

The alcova model of the first author and A. Postnikov uniformly describes highest weight crystals of semisimple Lie algebras. We construct a generalization, called the quantum alcova model. In joint work of the first author with S. Naito, D. Sagaki, A. Schilling, and M. Shimozono, this was shown to uniformly describe tensor products of column.

Date: 26.09.2022

**Multi-user mobile applications and a public display: Novel ways for social interaction**

Category English Open source Sample

Access right: Virtual Author: Jansen Pieter Touren, Anna Polowinski

The alcova model of the first author and A. Postnikov uniformly describes highest weight crystals of semisimple Lie

**Statistics**

publications 2659

services 359

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

# Summary

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- 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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