

Data Spaces Symposium

European Health Data Space

EUCAIM: European Federation for Cancer Images



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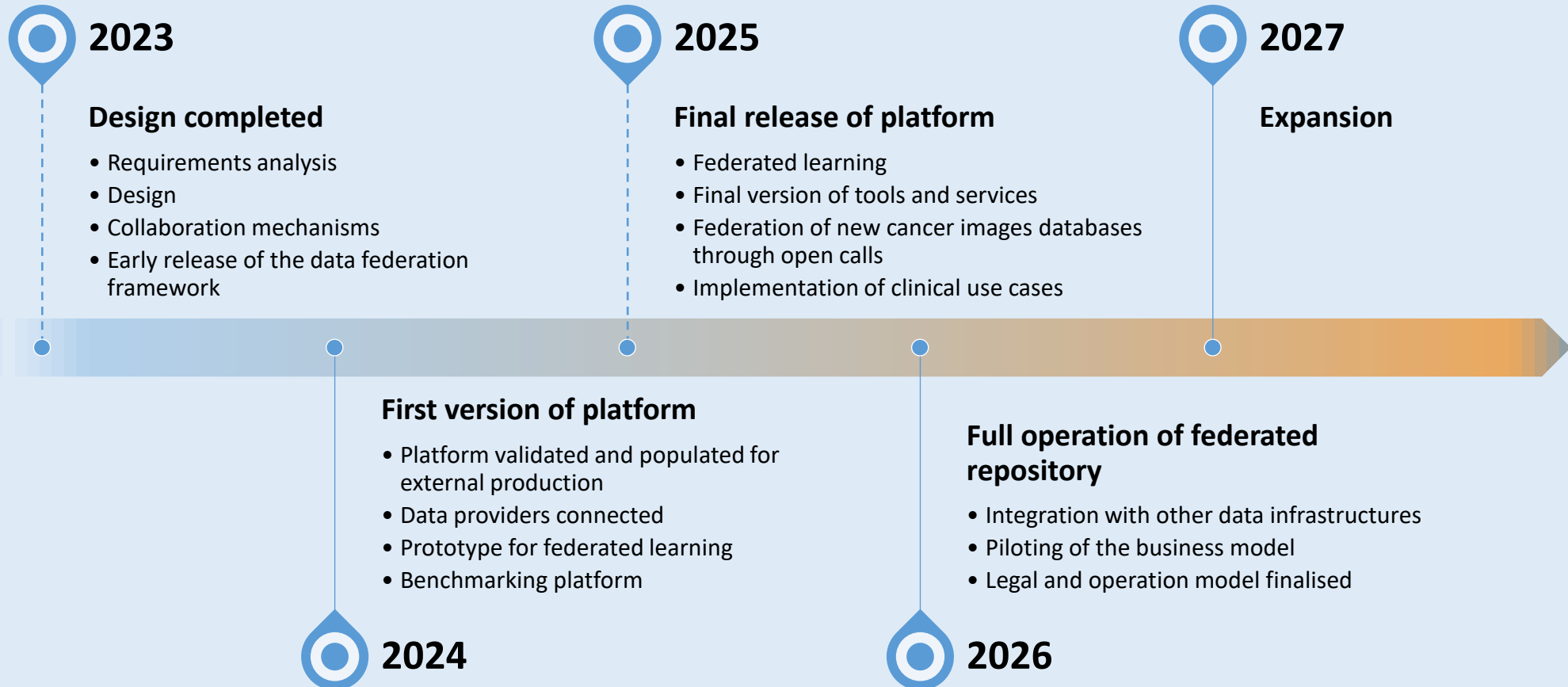
Co-funded by
the European Union

EUCAIM: European Federation for Cancer Image

Pan-European digital federated infrastructure of FAIR cancer-related de-identified images from Real-World

- **Coordinated by EIBIR-European Institute for Biomedical Imaging Research (Vienna Austria)**
- **Scientific Coordination by La Fe Health Research Institute (Valencia – Spain)**
- **Consortium: 76 partners from 14 countries**
- **Runtime: January 2023 - December 2026**
- **Digital Program EC 2022**
- **Funding: 17,8 M€ (50% EC) - Total amount: 35,6 M€**
- **Flagship activity of the European Cancer Imaging Initiative**
- **Sustainability: EDIC (European Digital Infrastructure Consortium)**

Timeline



Partners and Stakeholders



Beneficiaries: 65
 Affiliated Entities: 10
 Associated Partner: 1

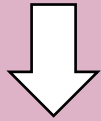
Partners: 76

Stakeholders: 145



Main Goals

Address the fragmentation of the existing cancer image repositories



Atlas of Cancer Images

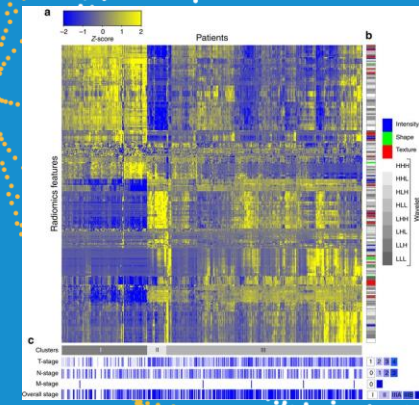
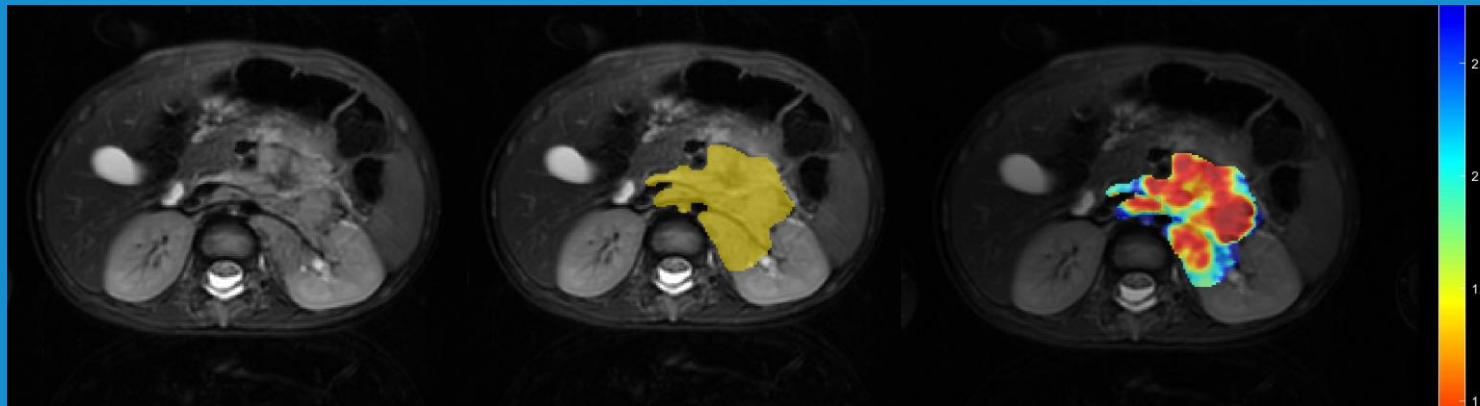
>60 million of anonymized cancer images

Accessible to clinicians, researchers and innovators

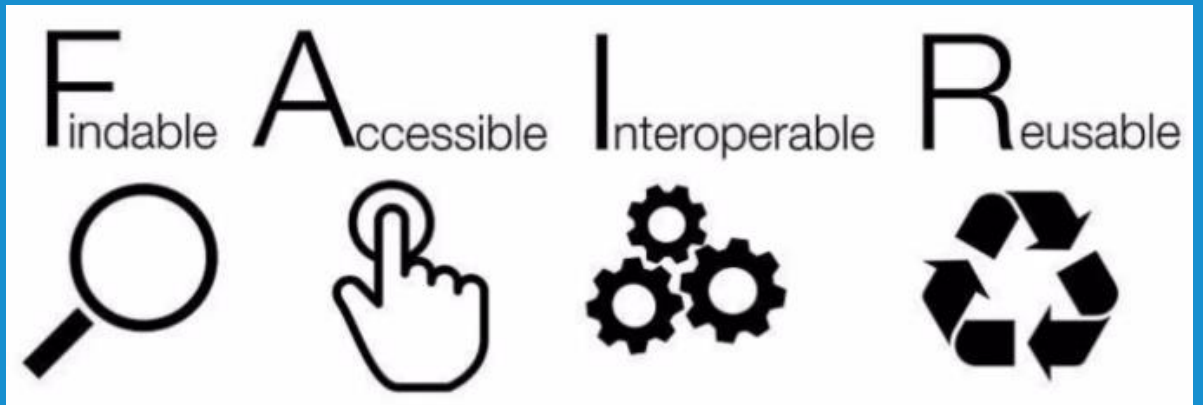
Enhance cancer diagnosis and treatment through AI tools

Provide a research platform for the development & benchmarking of AI tools toward Precision Medicine

Create a federated data warehouse approach for deploying observational studies



FAIR requirements



Clinical data

CDM

(Common data model)

OMOP

Cancer Images

DICOM

(Digital Imaging and Communications
in Medicine)

- CT - computed tomography
- MRI - magnetic resonance imaging
- PET - positron emission tomography
- Ultrasound

Metadata

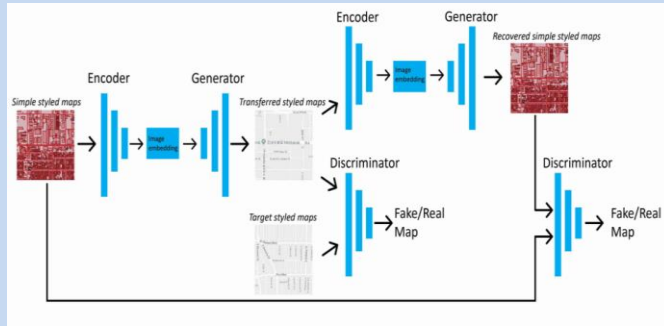
DCAT

(Data Catalog Vocabulary)

Other requirements to ensure interoperability

Image Harmonization

Increasing the comparability among different providers, scanners and acquisition protocols



Data De-identification and GDPR compliance

Ethical and legal aspects, AI ethics, data protection (storage, preservation, access rights and policy)

Data Quality and Cleaning

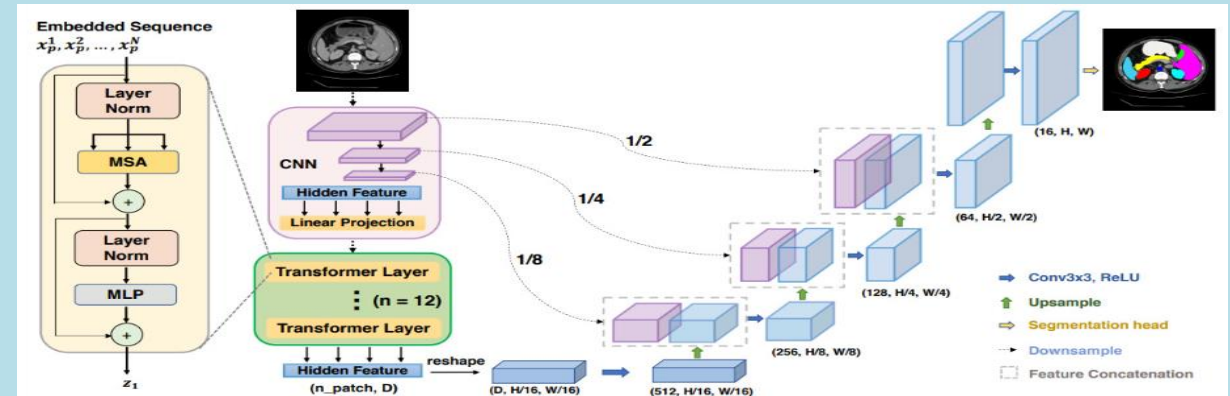
Data completeness and consistency, identification of corrupted/missing files

Hyper-ontology

Unified framework that can integrate and relate concepts

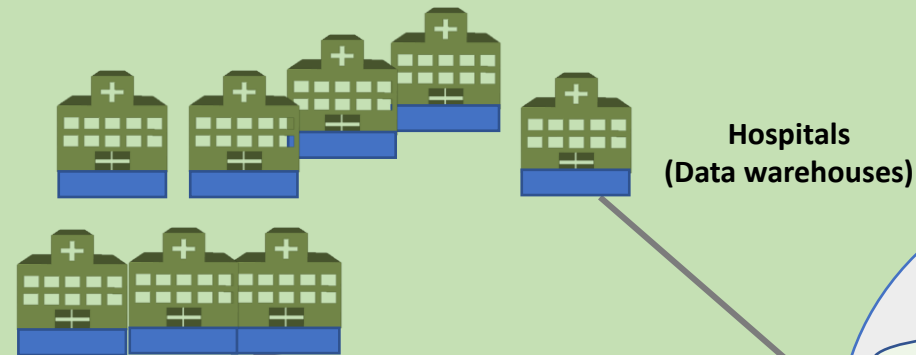
Data Annotation

Use of AI to reduce existing inter-/intra-observer variability of human processes



Hybrid platform: Atlas of Cancer Images

Observational Studies RWD



Cancer Screening Programs



Data Altruism

Governance & Access



Integrated / Standardized

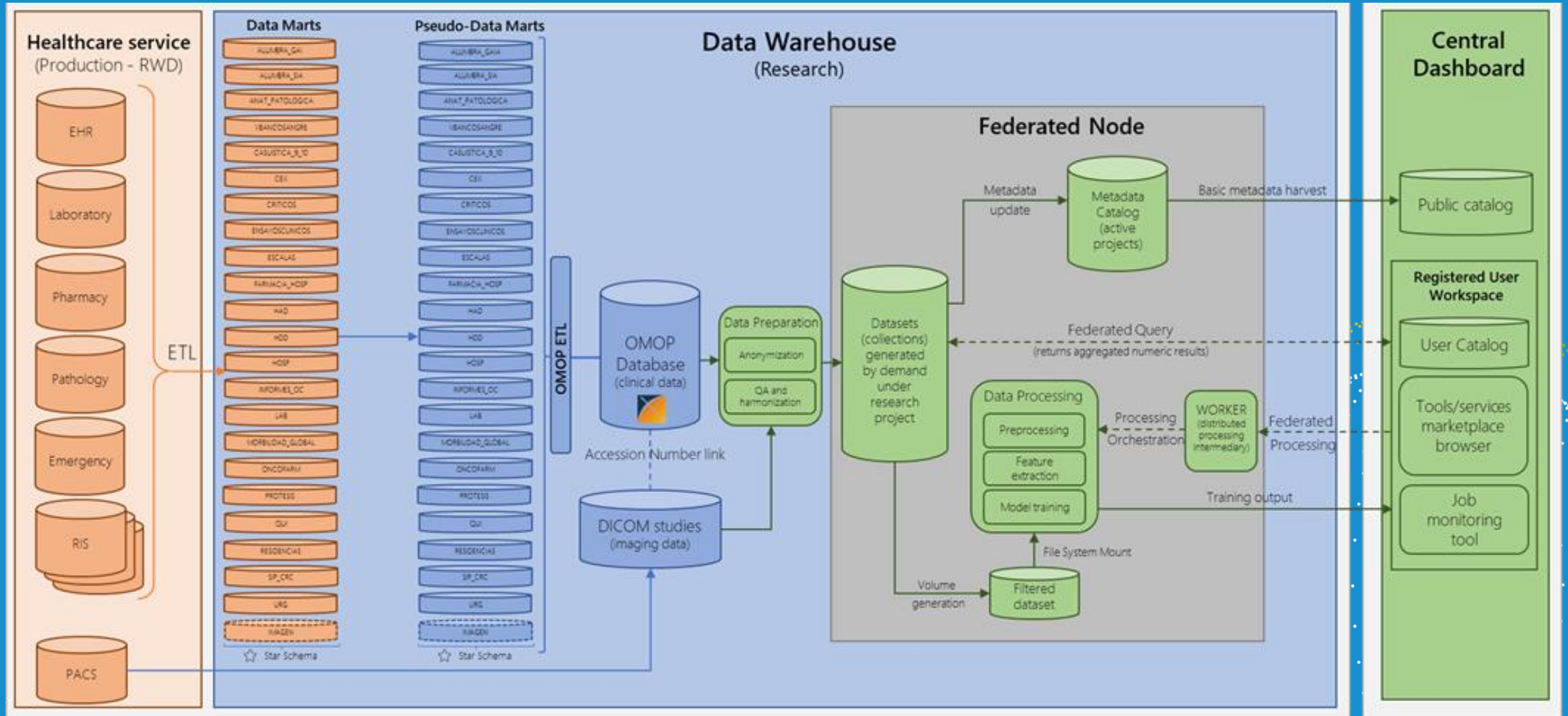
AI Image Optimization



Biobanks



Federated Infrastructure with a Central Node



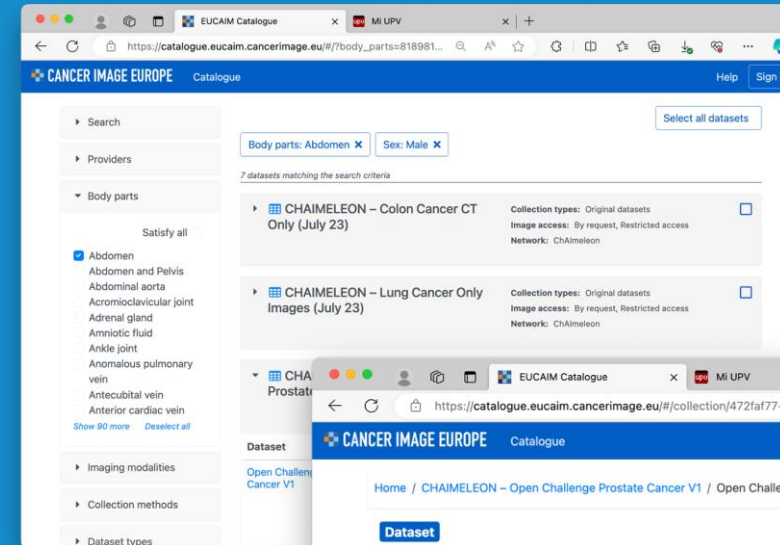
Discover Data



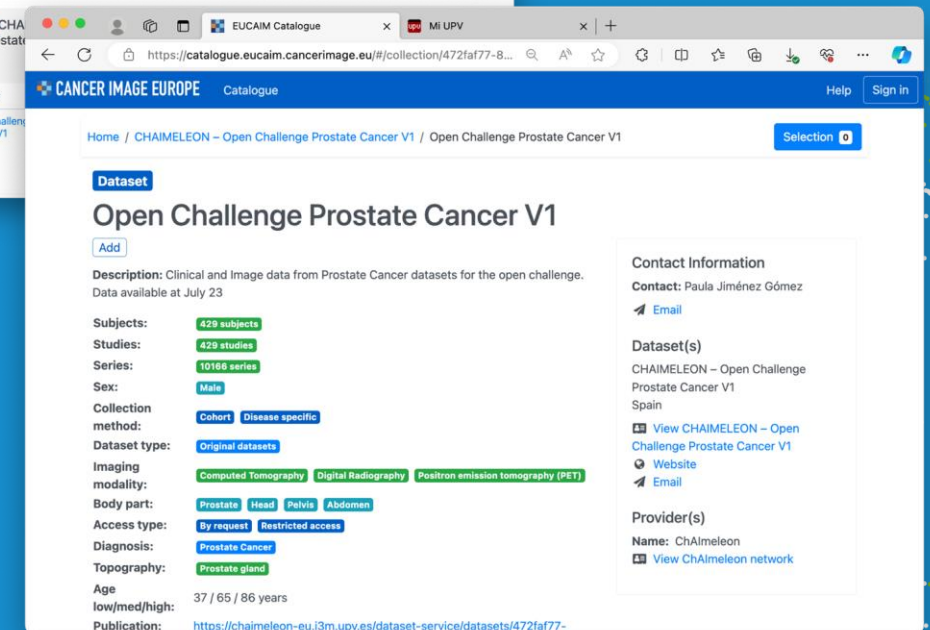
dashboard.eucaim.cancerimage.eu



Entry point for all the applications



Visualize the metadata of the collections of interest



Discover the 40 collections from the AI4HI projects

Explore and Request Access

The screenshot shows the EUCAIM Explorer interface. At the top, there are navigation links: HOME, PUBLIC CATALOGUE, HELPDESK, and MY PROFILE. A search bar contains the filters "male" and "50 <= age at diagnosis <= 70". Below the search bar, there are filters for Patient (Gender: male, female, other, unknown; Age at Diagnosis: from 50 to 70) and Clinical Parameters. The main content area is titled "RESULTS" and shows "Collections: 6" and "Patients: 24208". A pie chart titled "Studies per collection" is visible. A table lists the following data:

Collections	Provider	Studies	Subjects
Collection1	CHAIMLEON	435	5342
Collection2	CHAIMLEON	1	5
Collection3	CHAIMLEON	10	4322
Collection4	CHAIMLEON	543	4321
UC1	ProCancer1	6478	6457
UC2	ProCancer1	3763	3761

At the bottom, there is a note: "This federated search was made with the open source: *Samplify tools (Lens, Beam, Focus, Bridgehead)*, created by the *German Cancer Research Center (DKFZ)*".

Explore the cases matching a criteria in the datasets to refine your request

The screenshot shows the EUCAIM Catalogue interface. The search criteria are "Body parts: Abdomen" and "Sex: Male". A dialog box titled "CHAIMLEON - Open Challenge Prostate Cancer V1" is open, showing "1 dataset(s) selected" and "1 are non-commercial only". Buttons include "Remove all", "Cancel", and "Send to the negotiator".

Trigger the request of access to a specific dataset

The screenshot shows the EUCAIM Negotiator interface. The page title is "Request details". Below the title, there is a table with the following data:

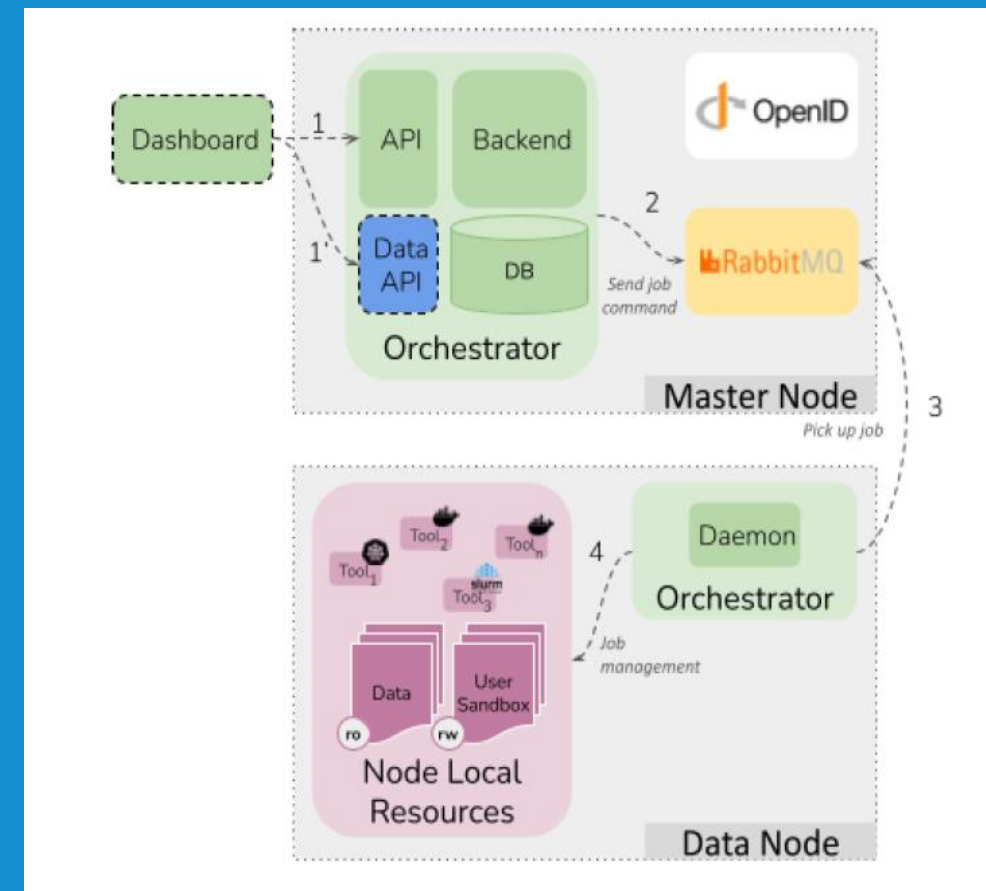
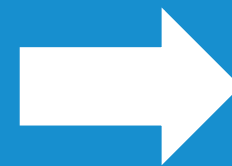
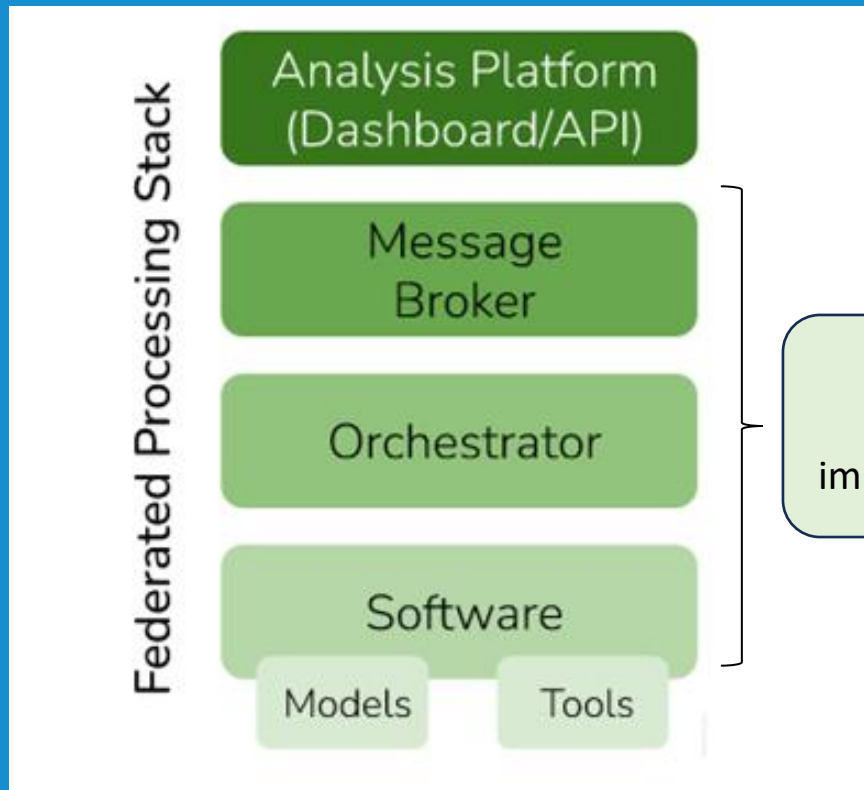
Directory	Search parameters	Collections matching search (remaining / not progressed)	Actions
EUCAIM Catalogue	#1: No filters used.	1	Edit search parameters

Below the table, there are input fields for "Title" and "Project description".

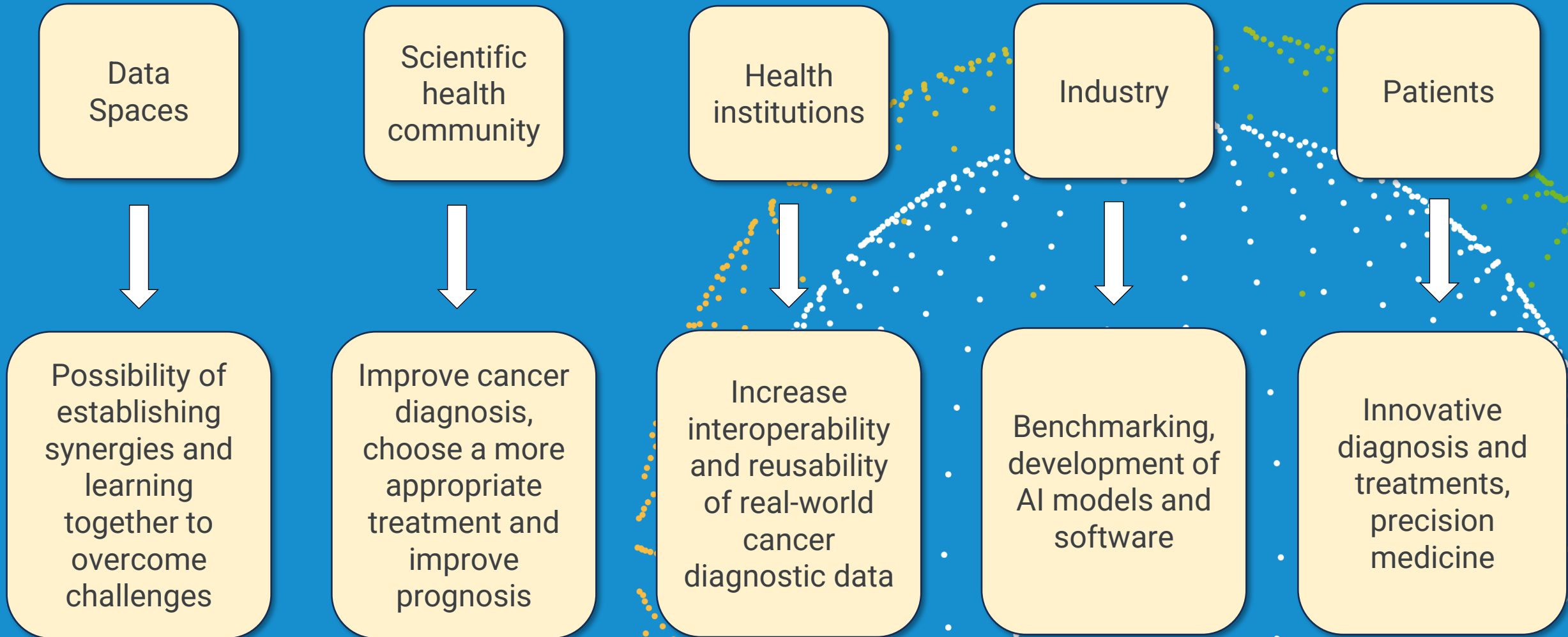
Fulfill the required information for the Access Committee

Federated processes

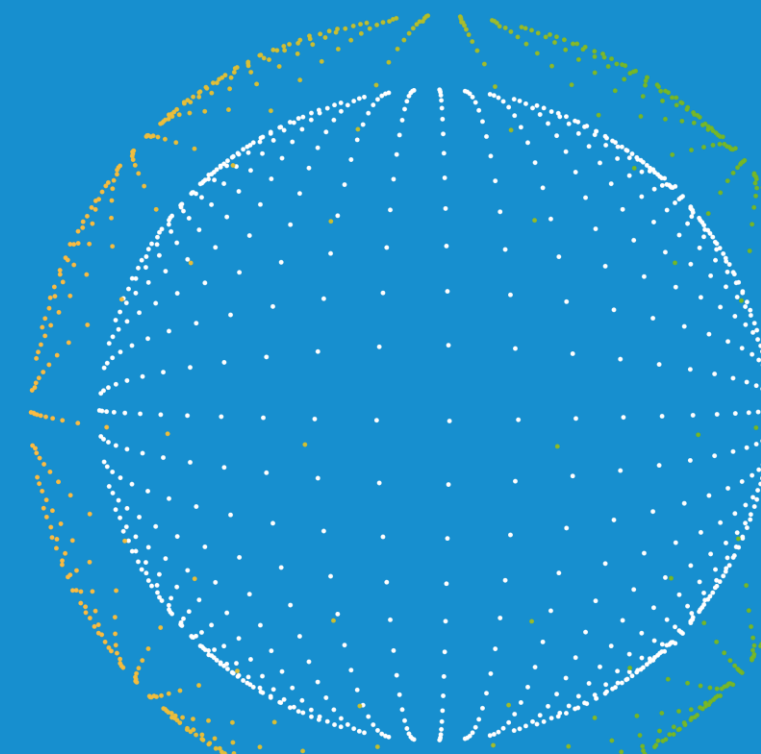
- Analysis software
- Federated learning
- AI/ML models



Conclusions



visit cancerimage.eu
for a first preview of the platform



Open call for new beneficiaries

[Home - Cancer Image Europe](#)

Our Open Call For New Collaborators Launches In April 2024

Opportunities for data holders & AI developers to contribute await! Let's join forces to enhance cancer diagnosis and treatment

Be The First To Know And Apply!

[SIGN UP TO RECEIVE MORE DETAILS](#)



Technical webinar of the platform

SAVE THE DATE
MARCH 14, 2024

DISCOVER THE CANCER IMAGE EUROPE PLATFORM

TECHNICAL DEMONSTRATION WEBINAR

Explore the potential for AI-driven cancer care advancements!

Learn how to access and utilize our federated cancer image repository. The webinar is for AI Innovators & Data Providers interested in the platform and will feature an introduction to EUCAIM & Cancer Image Europe and a demonstration of data exploration & access.

SIGN UP FOR THE WEBINAR

Thank you very much for your attention!

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