La Infraestructura Europea de Imágenes de Cáncer EUCAIM

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EUCAIM
CANCER IMAGE EUROPE

The Atlas of Cancer Images

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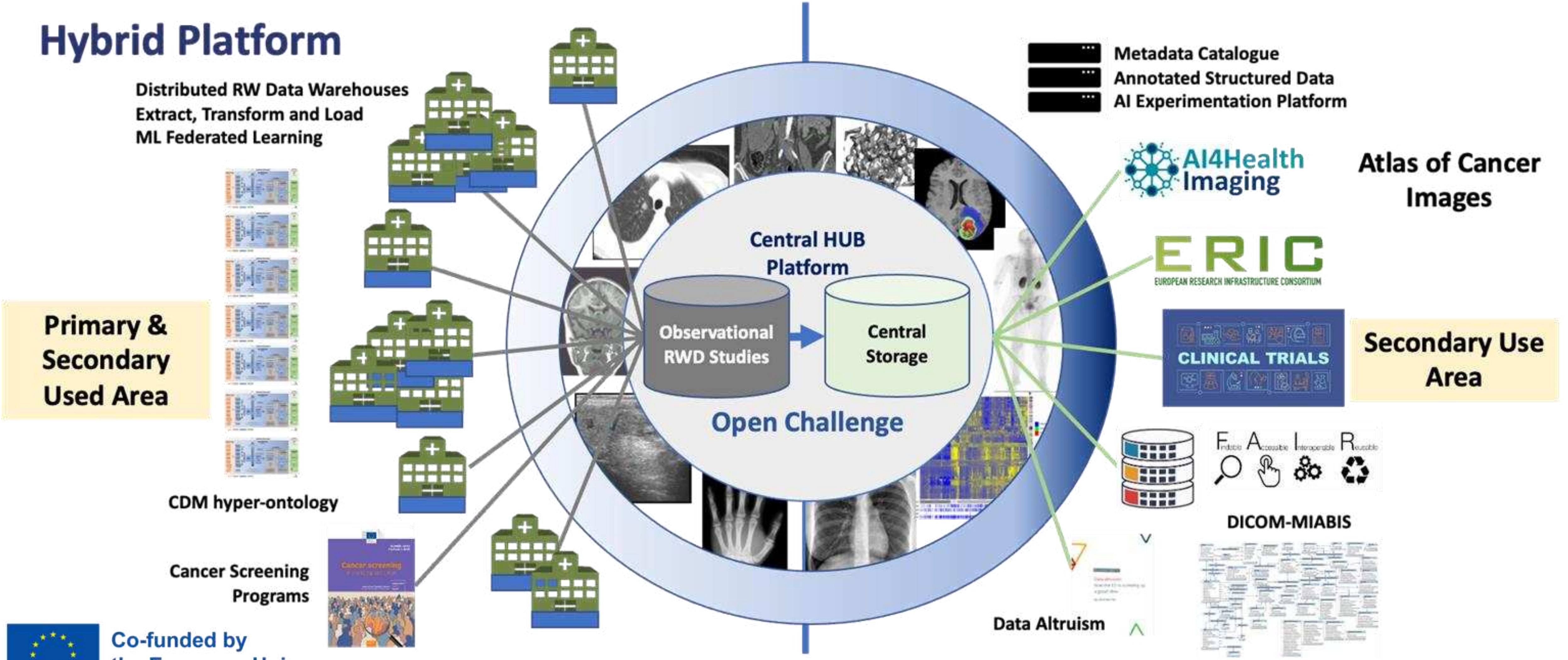

Hybrid Platform

Distributed RW Data Warehouses
Extract, Transform and Load
ML Federated Learning

Primary & Secondary Used Area

CDM hyper-ontology

Cancer Screening Programs

Cancer screening

Central HUB Platform

Observational RWD Studies

Central Storage

Open Challenge

Metadata Catalogue
Annotated Structured Data
AI Experimentation Platform

Atlas of Cancer Images

AI4Health Imaging
ERIC
EUROPEAN RESEARCH INFRASTRUCTURE CONSORTIUM
CLINICAL TRIALS
Findable Accessible Interoperable Reusable

Secondary Use Area

DICOM-MIABIS

Data Altruism

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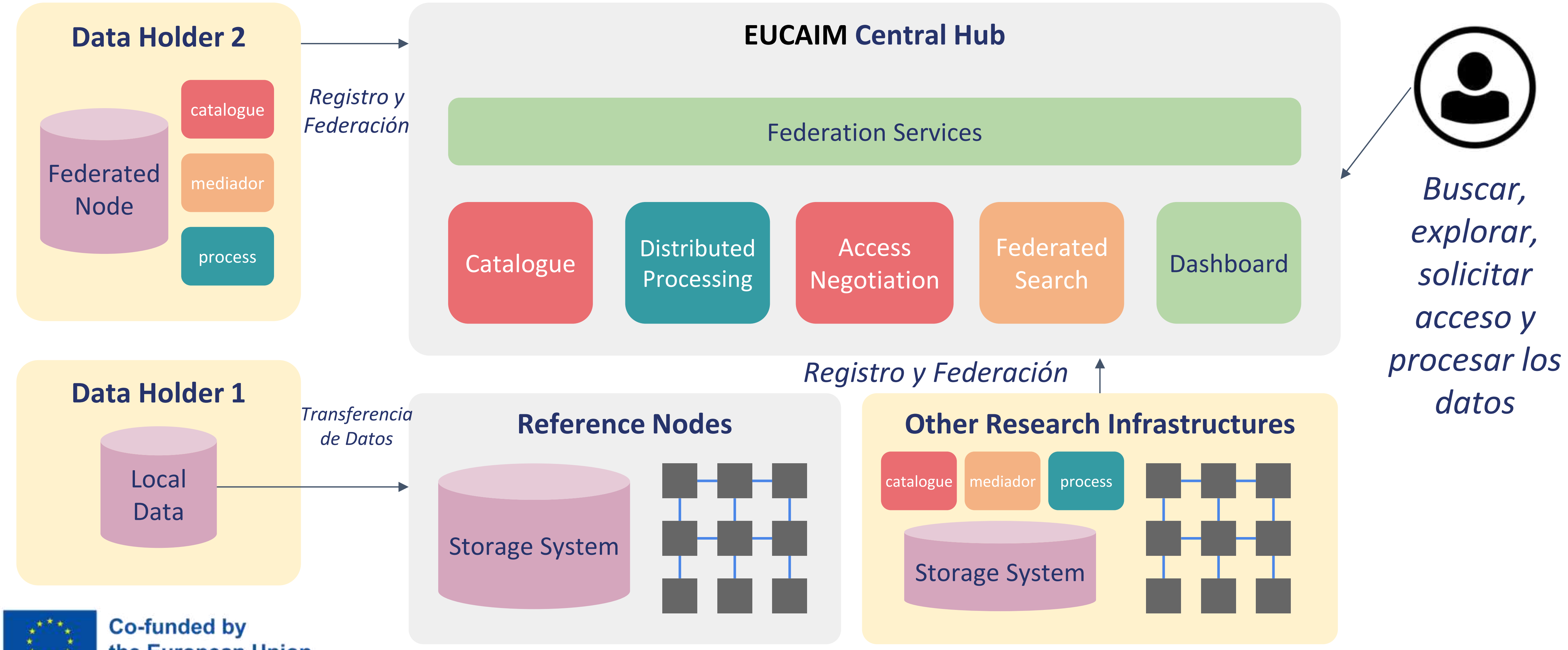

Data Holder 2

Federated Node

catalogue

mediador

process

Registro y Federación

EUCAIM Central Hub

Federation Services

Catalogue

Distributed Processing

Access Negotiation

Federated Search

Dashboard

Buscar, explorar, solicitar acceso y procesar los datos

Registro y Federación

Data Holder 1

Local Data

Transferencia de Datos

Reference Nodes

Storage System

Other Research Infrastructures

catalogue

mediador

process

Storage System

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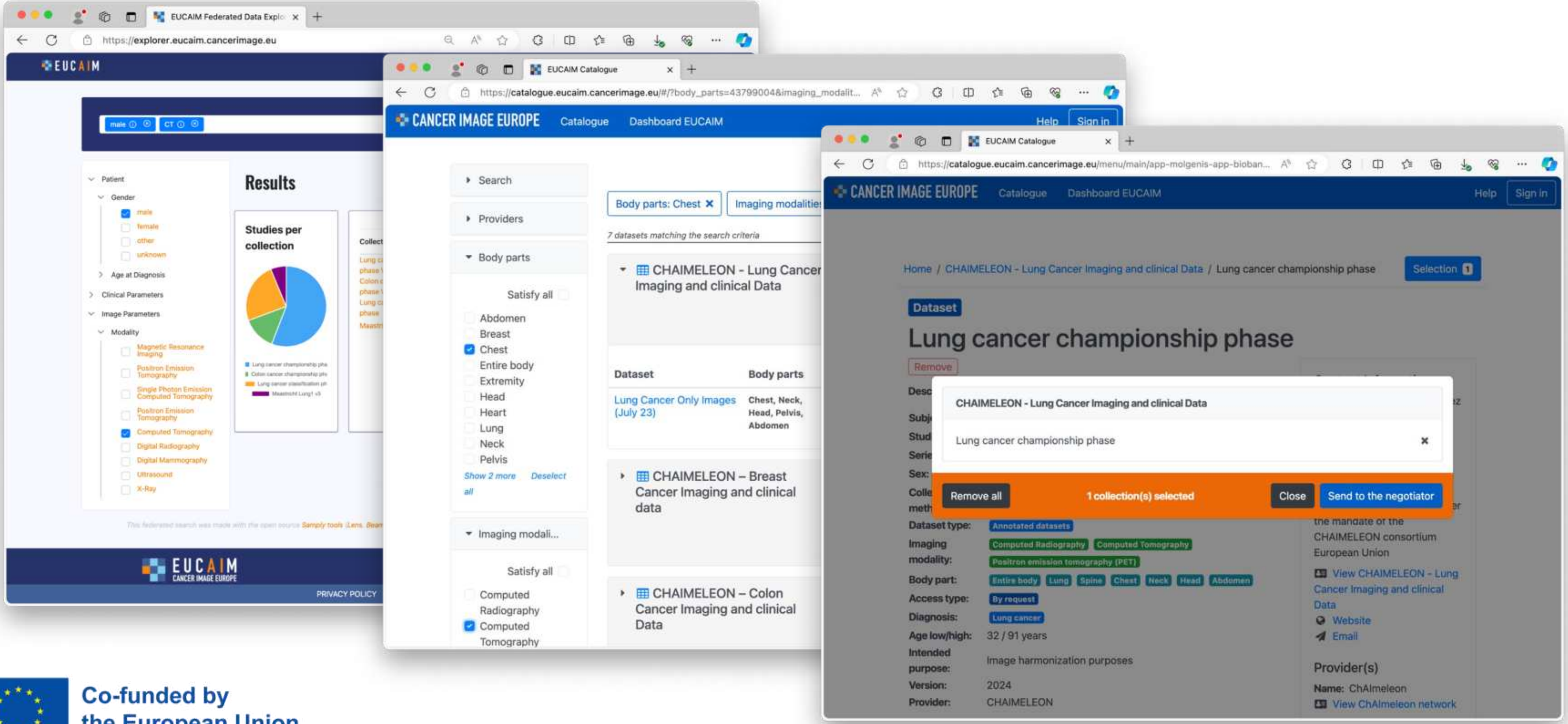
Data Journey: Búsqueda de los datos disponibles y solicitud de acceso


EUCAIM Federated Data Explo
https://explorer.eucaim.cancerimage.eu
EUCAIM
male
CT
Patient
Gender
☑ male
☐ female
☐ other
☐ unknown
Age at Diagnosis
Clinical Parameters
Image Parameters
Modality
☐ Magnetic Resonance Imaging
☐ Positron Emission Tomography
☐ Single Photon Emission Computed Tomography
☐ Positron Emission Tomography
☑ Computed Tomography
☐ Digital Radiography
☐ Digital Mammography
☐ Ultrasound
☐ X-Ray
Results
Studies per collection
Maastricht Lung1 v3
PRIVACY POLICY
EUCAIM Catalogue
https://catalogue.eucaim.cancerimage.eu/#/?body_parts=43799004&imaging_modalit...
CANCER IMAGE EUROPE
Catalogue
Dashboard EUCAIM
Help
Sign in
Search
Providers
Body parts
Satisfy all
☐ Abdomen
☐ Breast
☑ Chest
☐ Entire body
☐ Extremity
☐ Head
☐ Heart
☐ Lung
☐ Neck
☐ Pelvis
Show 2 more
Deselect all
Imaging modali...
Satisfy all
☐ Computed Radiography
☑ Computed Tomography
Body parts: Chest ✕
7 datasets matching the search criteria
CHAIMELEON - Lung Cancer Imaging and clinical Data
Dataset
Body parts
Lung Cancer Only Images (July 23)
Chest, Neck, Head, Pelvis, Abdomen
CHAIMELEON – Breast Cancer Imaging and clinical data
CHAIMELEON – Colon Cancer Imaging and clinical Data
https://catalogue.eucaim.cancerimage.eu/menu/main/app-molgenis-app-bioban...
Home / CHAIMELEON - Lung Cancer Imaging and clinical Data / Lung cancer championship phase
Selection 1
Dataset
Remove
CHAIMELEON - Lung Cancer Imaging and clinical Data
Lung cancer championship phase ✕
Remove all
1 collection(s) selected
Close
Send to the negotiator
View CHAIMELEON - Lung Cancer Imaging and clinical Data
Website
Email
View ChAImeleon network

Lung cancer championship phase

Dataset type: Annotated datasets
Imaging modality: Computed Radiography, Computed Tomography, Positron emission tomography (PET)
Body part: Entire body, Lung, Spine, Chest, Neck, Head, Abdomen
Access type: By request
Diagnosis: Lung cancer
Age low/high: 32 / 91 years
Intended purpose: Image harmonization purposes
Version: 2024
Provider: CHAIMELEON

the mandate of the CHAIMELEON consortium European Union

Provider(s)
Name: ChAImeleon

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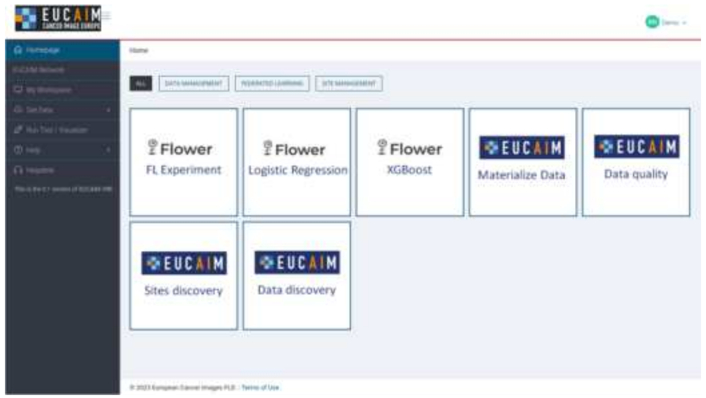
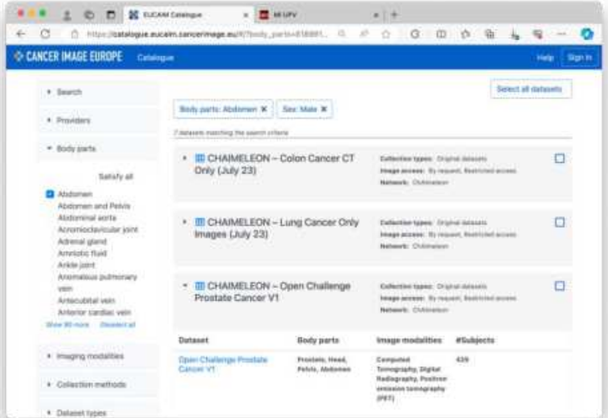
Data Journey: Modelos de explotación de los datos


Flower
FL Experiment
Flower
Logistic Regression
Flower
XGBoost
EUCAIM
Materialize Data
EUCAIM
Data quality
EUCAIM
Sites discovery
EUCAIM
Data discovery

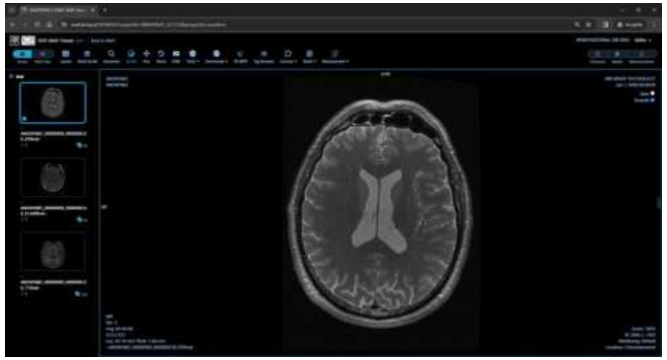
Proceso

Distribuido

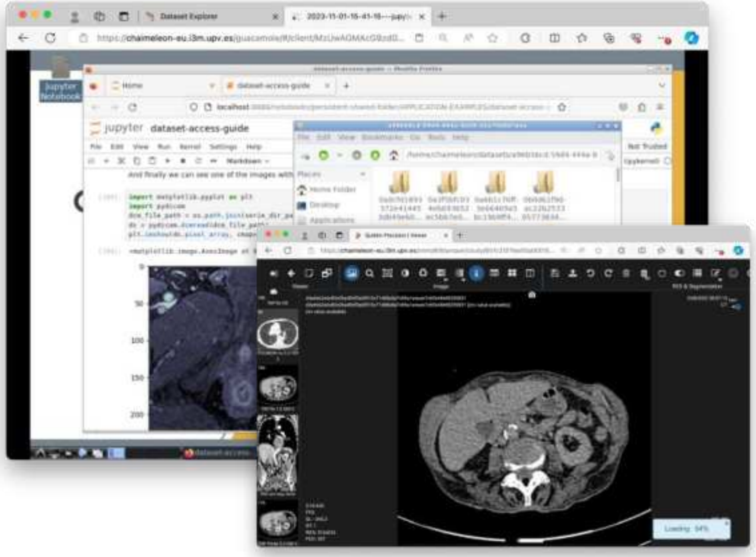

CANCER IMAGE EUROPE
Catalogue
CHAIMELEON – Colon Cancer CT Only (July 23)
CHAIMELEON – Lung Cancer Only Images (July 23)
CHAIMELEON – Open Challenge Prostate Cancer V1

Descarga

de datos



Proceso en un entorno virtual


Dataset Explorer
jupyter dataset-access-guide

1. Datos públicos o sin restricciones en trazabilidad.

2. Datos que no pueden descargarse pero pueden visualizarse y procesarse en entornos virtuales, garantizando la trazabilidad.

3. Datasets restringidos que solo pueden procesarse remotamente sin capacidad de visualización.

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El Futuro

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2024

First version of platform

- Platform validated and populated for external production
- Data providers connected
- Prototype for federated learning
- Benchmarking platform

2025

Final release of platform

- Federated learning
- Final version of tools and services
- Federation of new cancer images databases through open calls
- Implementation of clinical use cases

2026

Full operation of federated repository

- Integration with other data infrastructures
- Piloting of the business model
- Legal and operation model finalised

2027

Expansion

Alcanzar los 60 Millones de imágenes.

Integrarse con el Espacio Europeo de Datos de Salud.

Constituir una entidad jurídica internacional que permita sostener la infraestructura a largo plazo.

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cancerimage.eu

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