European Commission

EUROPEAN CANCER IMAGING INITIATIVE

#euCancerImaging

Equity, excellence and innovation – modern cancer care for all
Europe's Beating Cancer Plan – eradicating inequalities within cancer care
High-level conference on cancer
1 February 2023, Stockholm

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Vice-director CNECT.H Digital Society, Trust and Cybersecurity

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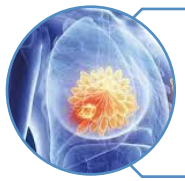
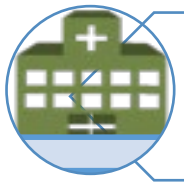
Vision and Mission of this Initiative

Deploy a pan-European **federated infrastructure** to power up AI & Imaging to beat cancer

Provide a **Research Platform** for the development & benchmarking of AI tools toward Precision Medicine



Address the fragmentation of the existing cancer image repositories by building a **distributed Atlas of Cancer Images** *(>60M cancer images)*



Create a **Federated Datawarehouse** approach for deploying Observational Studies and populate the centralized Image Repository

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Genomic Data Infrastructure (GDI) – cancer use case

Cancer Mission projects and initiatives, e.g. UCAN.EU, Comprehensive Cancer Infrastructures

National repositories and initiatives on secondary use of health data

Research repositories (HE R&I projects)

Research infrastructures (Euro-Bioimaging, BBMRI-ERIC, EATRIS, ELIXIR…)

Hospitals/ clinical centres / EHRs

Data donations by citizens

EUCAIM

Experimentation platform for development & benchmarking of AI tools towards precision medicine in cancer diagnosis and treatment

hybrid distributed and centralized infrastructure of cancer images

Researchers

Innovators
AI developers
SMEs

Clinicians

New computer-aided tools to improve personalised medicine and innovative solutions in cancer care

Digital Innovation Hubs

Testing and Experimentation facilities (TEF-Health)

HPC capabilities

Clinical validation and evaluation

Benchmarking of AI tools

Enabled by / Synergy with:

- Data Governance Act
- European Health Data Space Regulation
- Coordinated Plan on Artificial Intelligence/AI Act
- …

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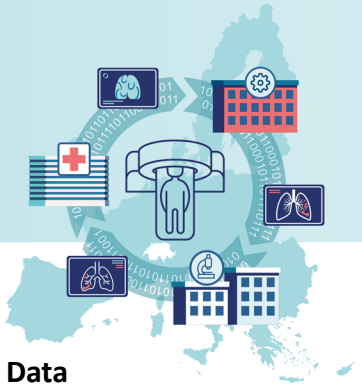
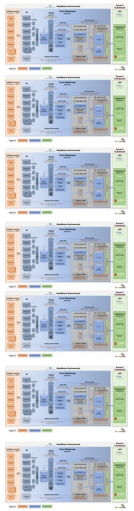
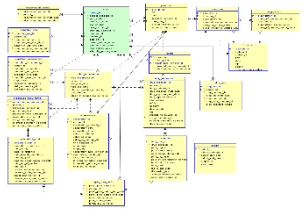


Hybrid Platform

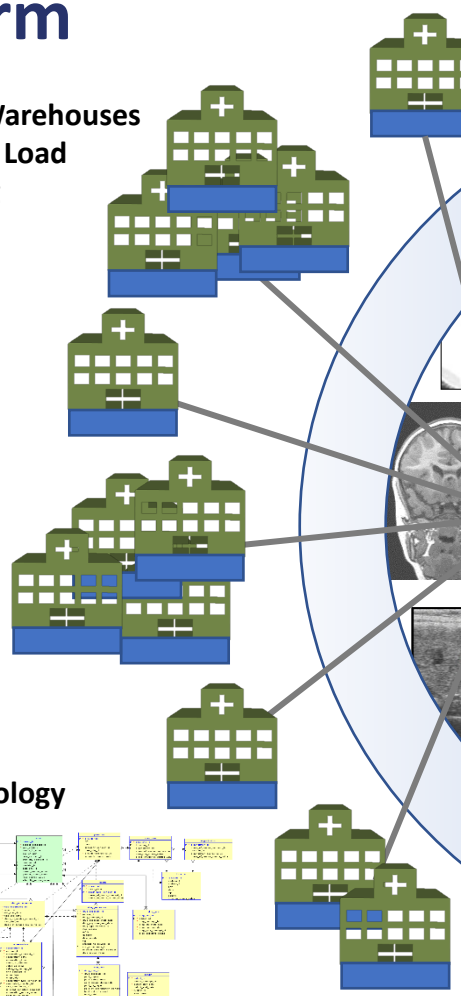
Distributed RW Data Warehouses
Extract, Transform and Load
ML Federated Learning



CDM hyper-ontology



DIGITAL-2022-CLOUD-AI-02-CANCER-IMAGE



Metadata Catalogue
Annotated Structured Data
AI Experimentation Platform

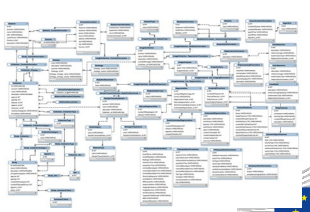
AI4Health Imaging

ERIC
EUROPEAN RESEARCH INFRASTRUCTURE CONSORTIUM

CLINICAL TRIALS

Findable Accessible Interoperable Reusable

DICOM-MIABIS



Data Altruism

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Links to TEF-Health

- World class reference sites for experimentation and testing AI
- Equipped with infrastructure and latest AI + access to cloud/data/HPC…

https://digital-strategy.ec.europa.eu/en/activities/testing-and-experimentation-facilities

Links to Digital Innovation Hubs

Test before invest:

Testing HPC, AI, cybersecurity, blockchain for public admin

Facilitate agile procurement through working with smaller GovTech suppliers

Giving advice on digital by default

Skills and training:

Awareness raising about the potential of AI, HPC, cybersecurity and European CEF DSIs.

Training public administrations on CEF DSIs, once only principle, Single Digital Gateway, eIDAS, etc.

DIHs as one-stop-shops

Support to find investments:

DIHs could help public administrations develop specifications for joint innovation procurement (PPI/PCP)

Innovation ecosystem and networking opportunities

Replicating locally developed digital public services via DIHs

Offering CEF DSIs to SMEs Liaising with DIH of other specialisation

https://digital-strategy.ec.europa.eu/en/news/cycle-workshops-european-digital-innovation-hubs

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Timeline

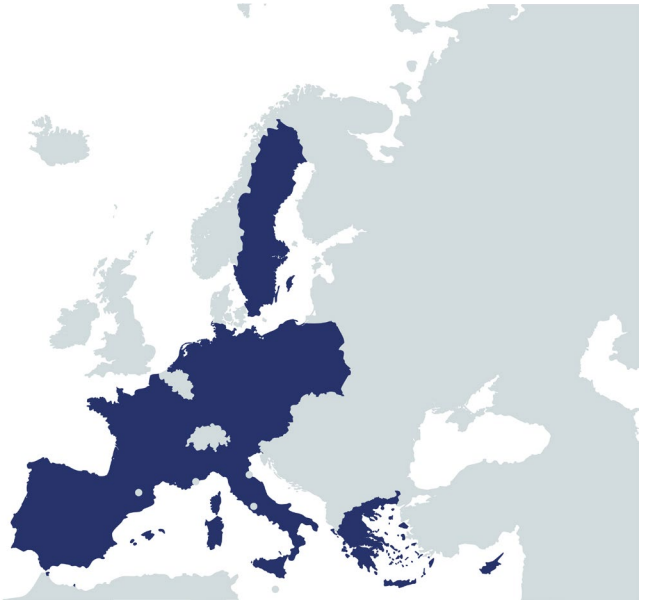
Jan 2023
- Launch of the EUCAIM project
- Launch of the AI Testing and Experimentation Facility for Health (TEF-Health)

Dec 2023
- Design of the pan-European digital infrastructure completed
- Collaboration mechanisms established. Data providers are able to connect with the new European federated platform

End 2024
- Release of the first version of the platform

End 2025
- Final release

2026
- Digital infrastructure fully operational and running



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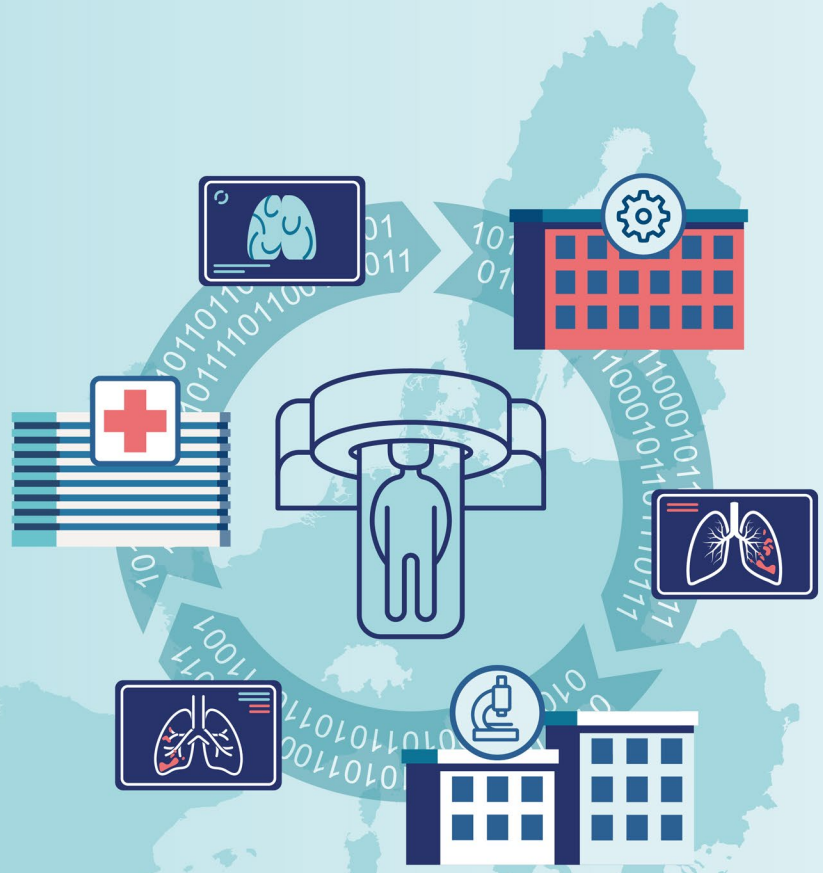

ec.europa.eu/
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