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EOSC4Cancer

A European-wide foundation to accelerate Data-driven Cancer Research

2022-2025

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Centro Nacional de Supercomputación

Funded by the European Union

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Context

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European Commission

European Health Data Space
European Cancer Mission

Alignment

EOSC-Life

UNCAN.eu

Open data standards

International Cancer Genome Consortium

ARGO Accelerating Research in Genomic Oncology
International Cancer Genome Consortium

Global Alliance for Genomics & Health
Collaborate. Innovate. Accelerate.

elixir

Stakeholders

1+MG

B1MG

EHDS

European Genomic Data Infrastructure

EUCAIM CANCER IMAGE EUROPE

FAIR-IMPACT
Expanding FAIR Solutions across EOSC

...

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- ➔ EOSC4Cancer as provider of the **infrastructure for the exploitation of cancer data** for the **EU Cancer Mission**.

- ➔ EOSC4Cancer brings together comprehensive **cancer centers**, **research infrastructures**, leading **research groups**, and major **computational infrastructures** across Europe to make the exploitation of the data possible.

- ➔ EOSC4Cancer will prepare **EOSC services** for cancer research and enrich EOSC with **data**, **tools** and **services** from the cancer community.

- ➔ **Start**: 1 September 2022 (30 months)
- ➔ **Consortium**: 28 full beneficiaries, 1 associated partner & 5 affiliated entities.

Partners, associates, and affiliated entities

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Objectives

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- ➔ Enable **storage, access, sharing, analysis** and processing of research data and other digital **research objects** from basic and clinical cancer research.
- ➔ Mobilise, **interconnect** and **interoperate datasets** relevant in cancer research.
- ➔ Make cancer research **data** and **analysis systems** accessible to basic and clinical scientists in the most used cancer **analysis portals**.
- ➔ Integrate digital tools, data analytics and Artificial Intelligence/Machine Learning tools for the analysis of cancer data in the cancer analysis portals.
- ➔ Contribute to the **European Health Data Space** (EHDS), the Horizon Europe **European Open Science Cloud** (EOSC) Partnership and the **Cancer Mission**

Expected Outcomes and Impact

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➔ ***Facilitate Cancer Research across Member States and Associated Countries***

Result #1: A platform that will enable **storage, sharing, access, analysis** and processing of research data and other digital research objects from **basic and clinical cancer research**.

Result #2: **Mobilisation, interconnection and interoperation** of **datasets relevant in cancer research**. Contribute with protocols and operating procedures to facilitate the progressive adoption of the **FAIR principles** across data sources but also for research software.

➔ ***Researchers, healthcare professionals, cancer patients, and survivors contributing to cancer research***

Result #3: **Cancer research data and analysis systems** made **easily accessible** to basic and clinical scientists in open cancer analysis portals.

Expected Outcomes and Impact

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Result #4: Integrated **digital tools, data analytics and Artificial Intelligence/Machine Learning methods** for the analysis of cancer-related data in the **cancer analysis environments**.

➔ ***Contribute to the Horizon Europe EOSC Partnership and other relevant partnerships related to cancer research.***

Result #5: Roadmap for EOSC support to an **European Cancer Data Space in the European Health Data Space (EHDS)** in partnership with the **Cancer Mission**. **Participation of patient/survivors associations** in the project's Stakeholder forum and in the Scientific Advisory Board together with the Ethics Advisory Board.

The patient journey

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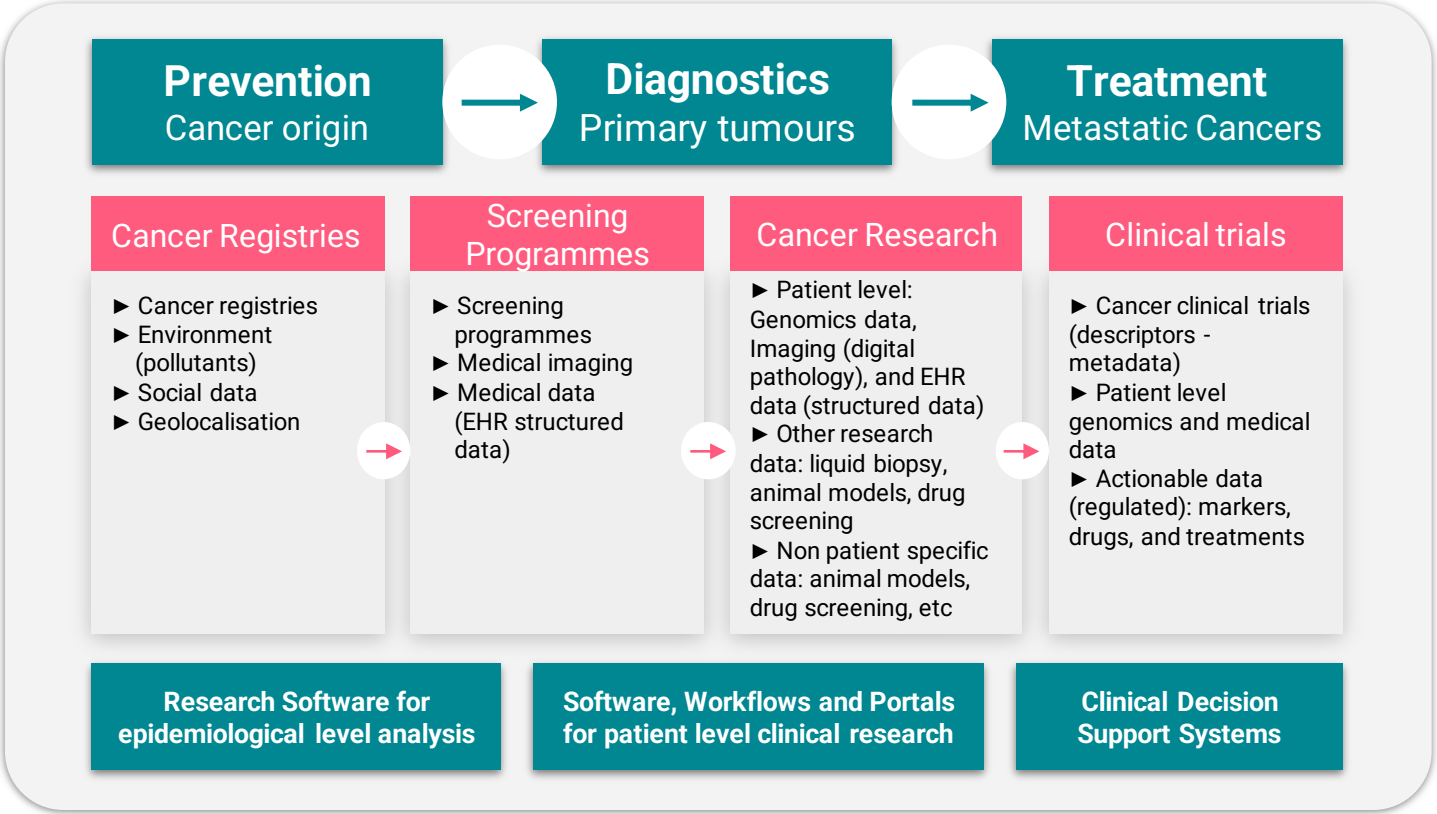

Technical overview

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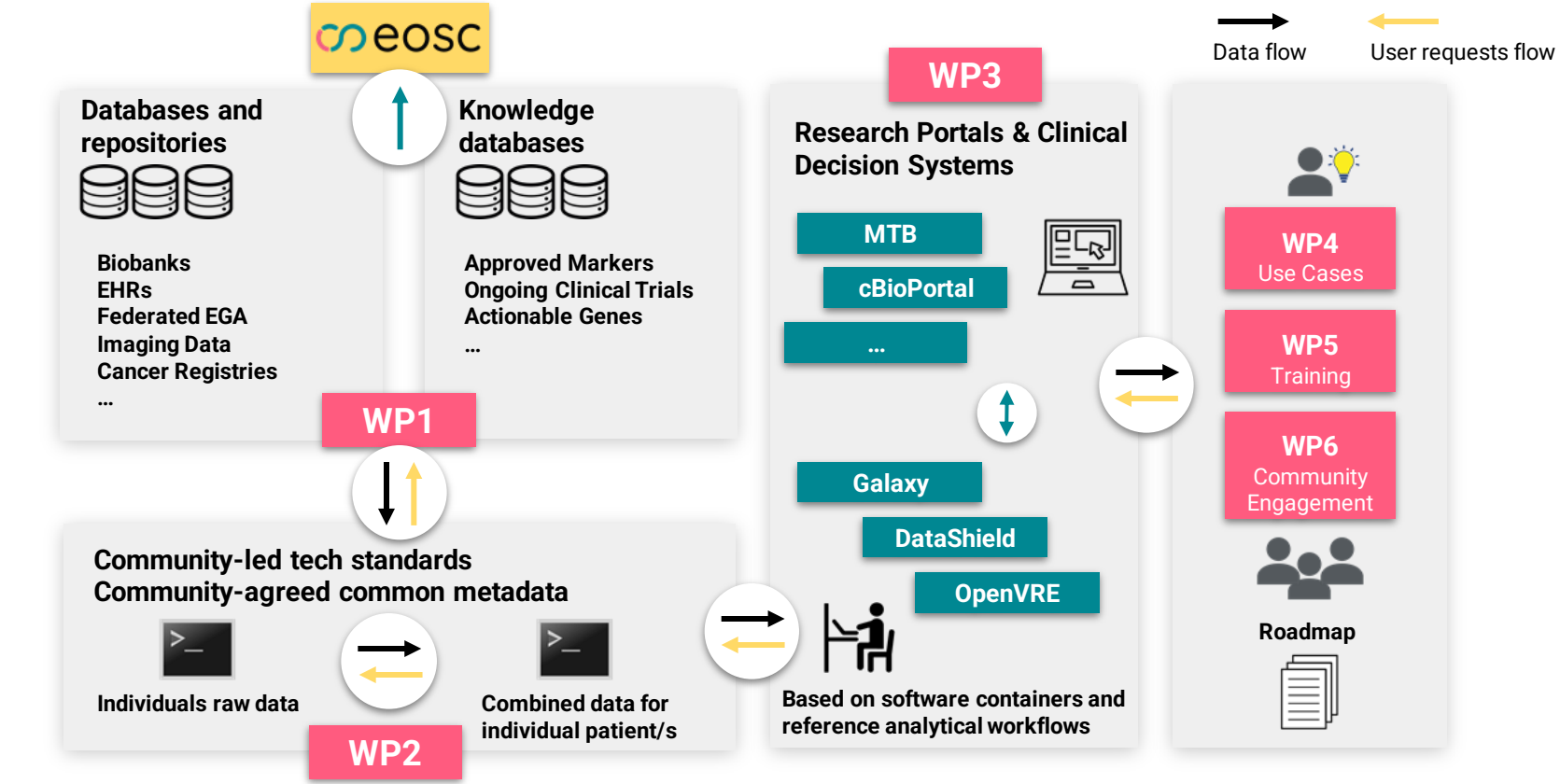
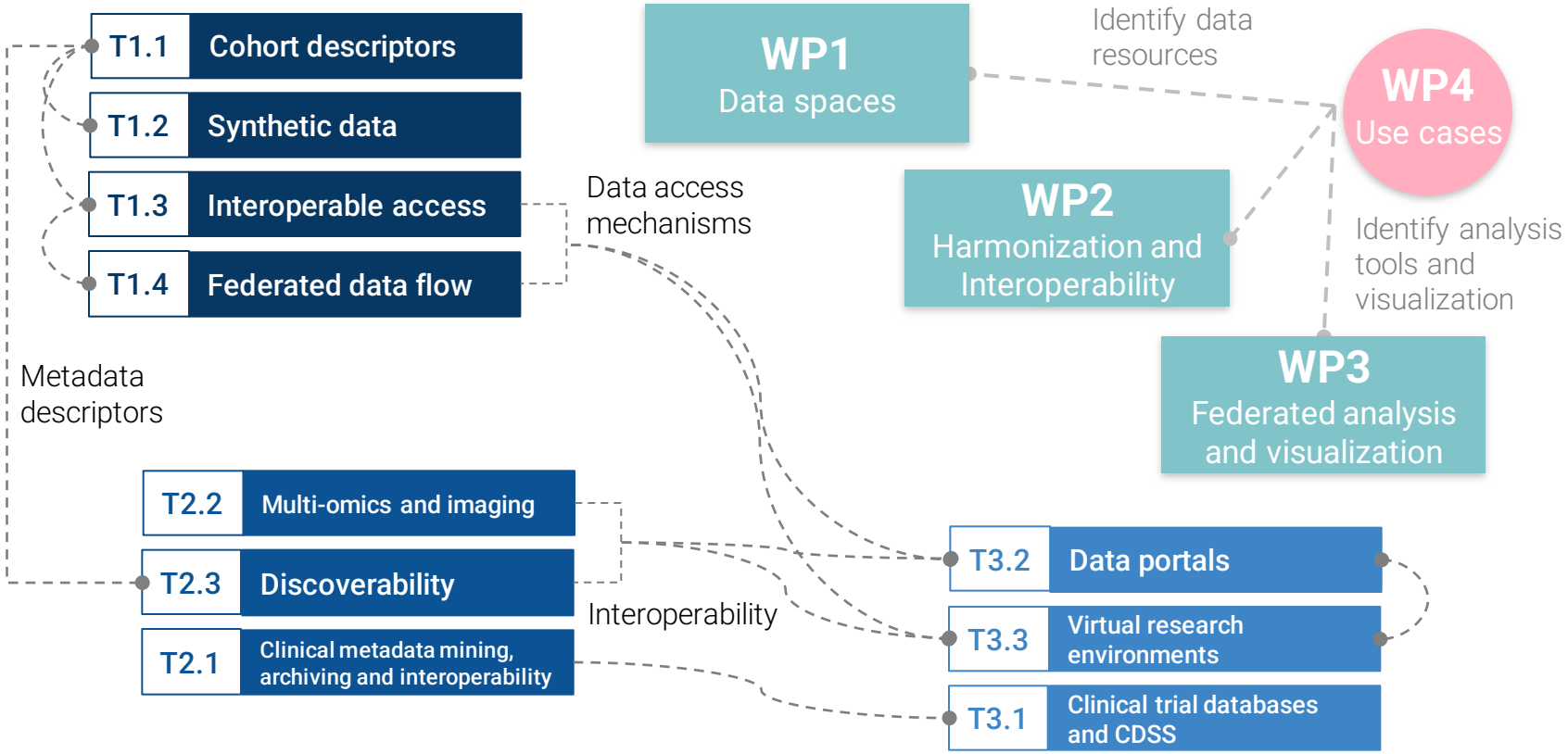


Technical WPs overview



Use-cases overview

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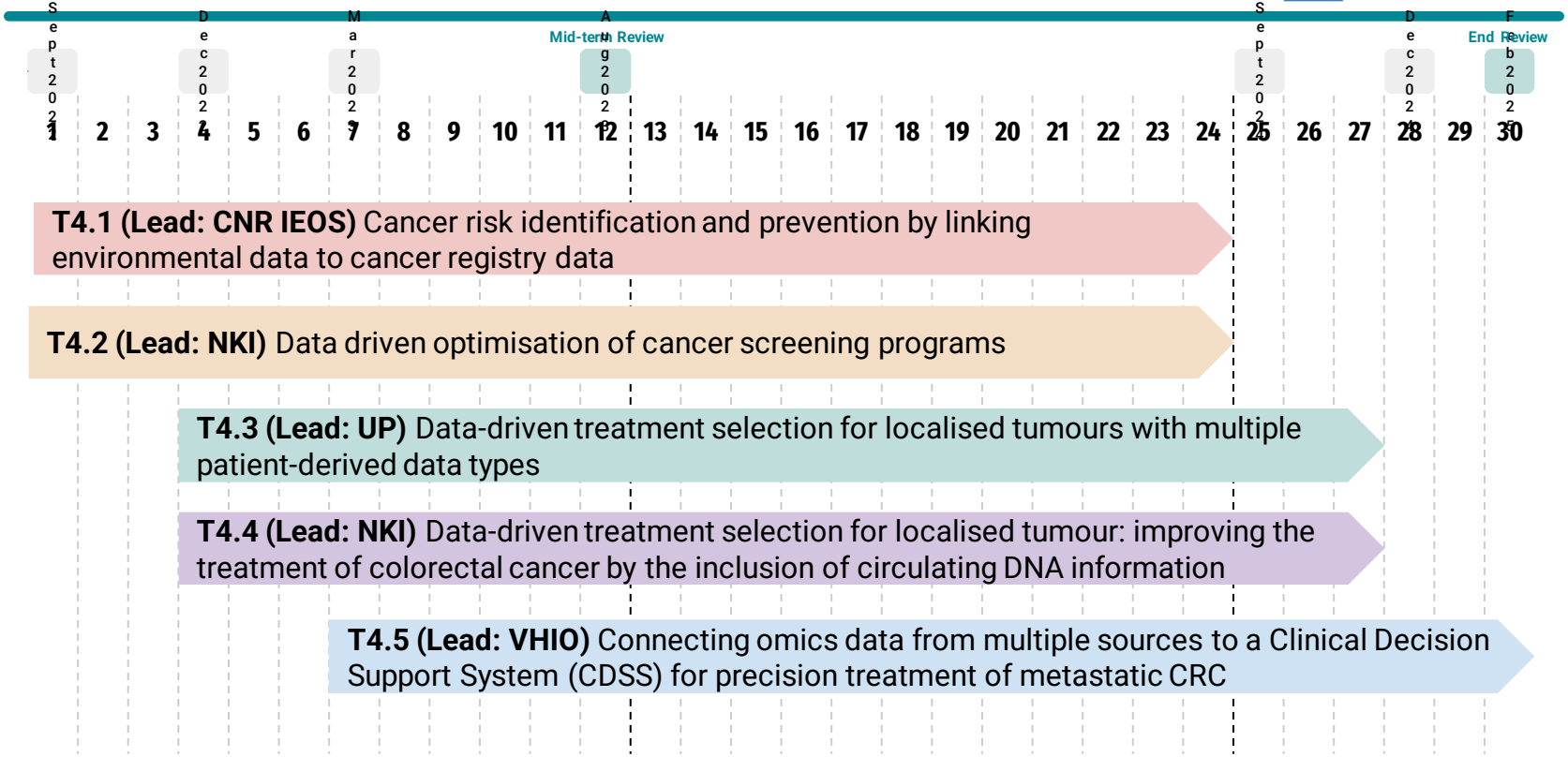

T4.4: Data-driven treatment selection for localised tumour

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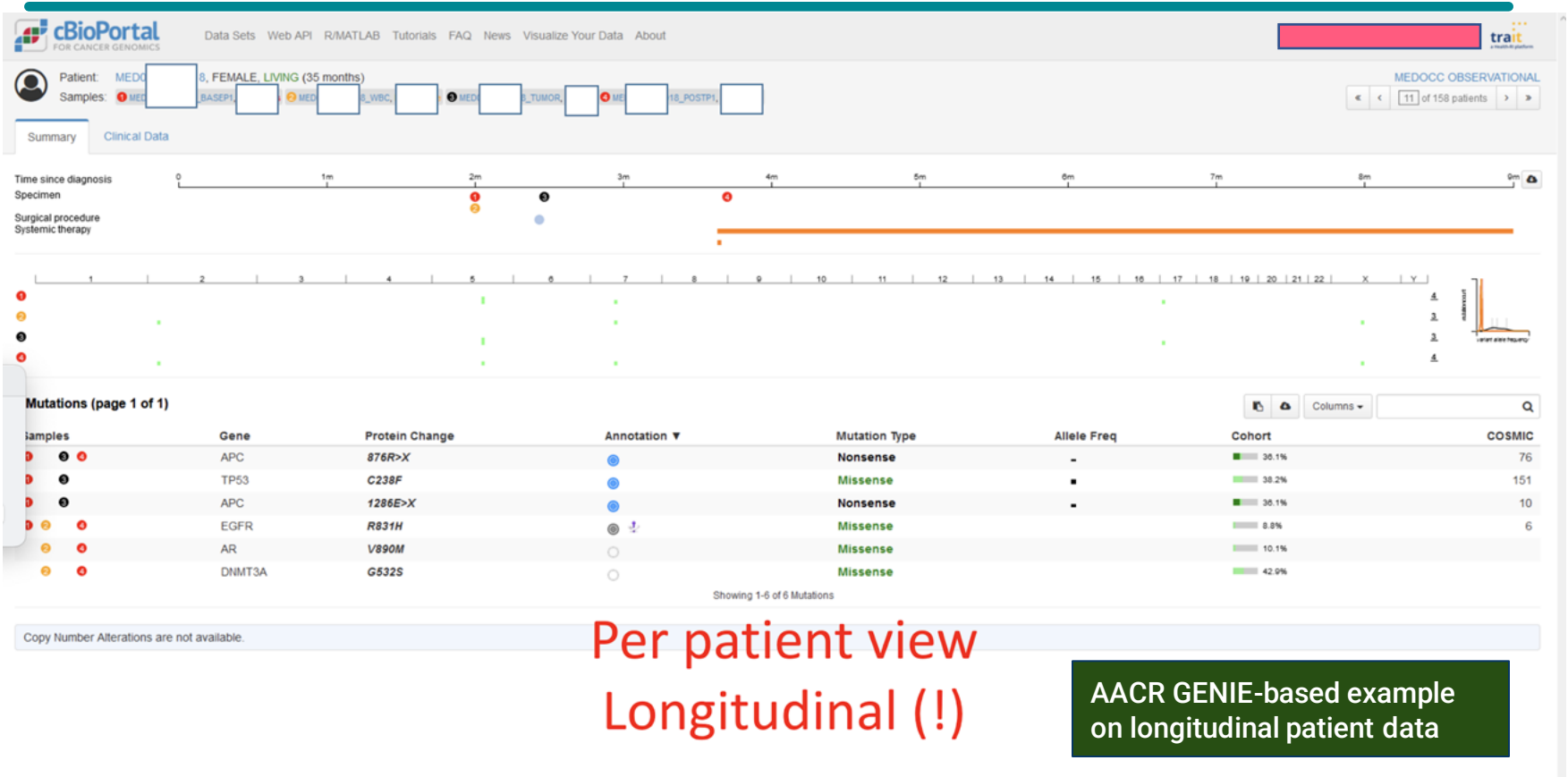

Per patient view

Longitudinal (!)

AACR GENIE-based example on longitudinal patient data

T4.5: Harmonizing Clinical Trials information

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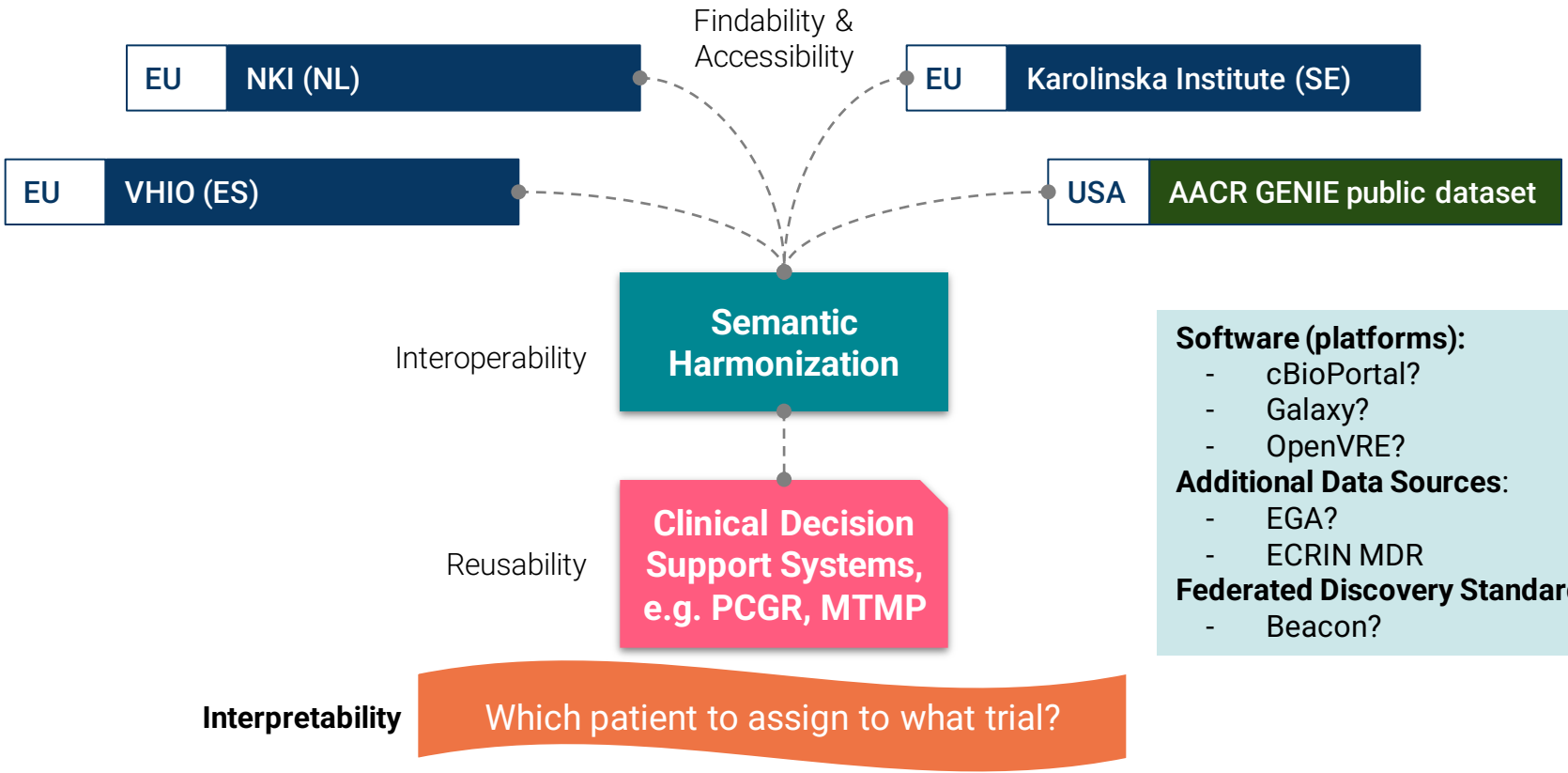
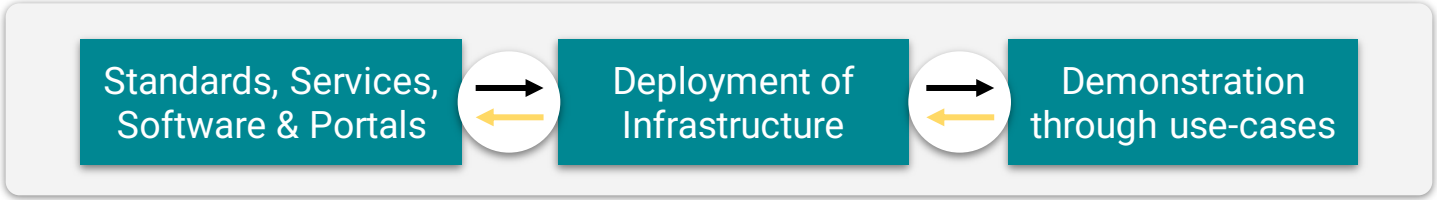


Software (platforms):
- cBioPortal?
- Galaxy?
- OpenVRE?

Additional Data Sources:
- EGA?
- ECRIN MDR

Federated Discovery Standards:
- Beacon?

Take away message



EUCAIM

European Genomic Data Infrastructure

B1MG

EHDS

Global Alliance for Genomics & Health

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Thank you!

Contact: info@eosc4cancer.eu

Website: eosc4cancer.eu/

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