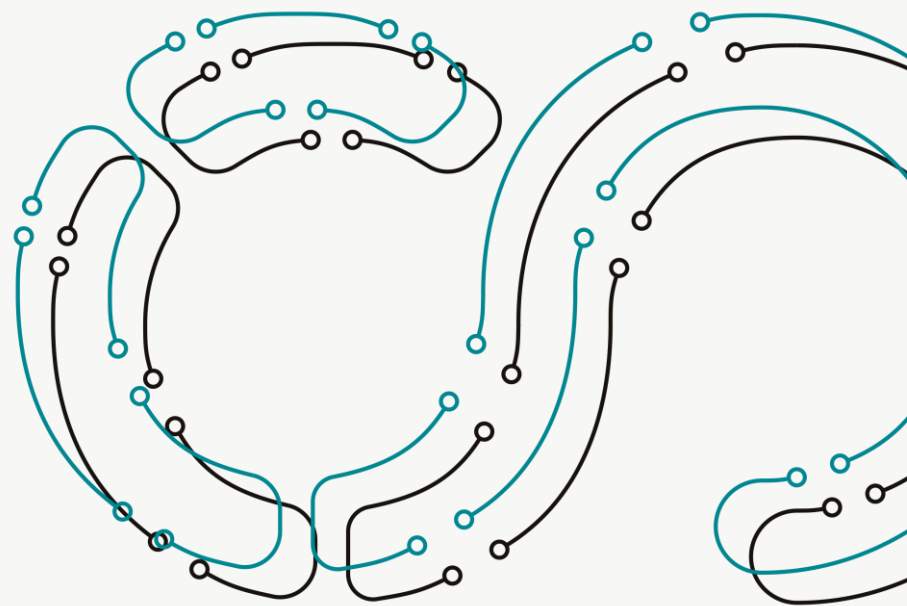


Bringing Paediatric Health Data Into EOSC: From Federation To AI

Rafał P. Bartczuk, PhD

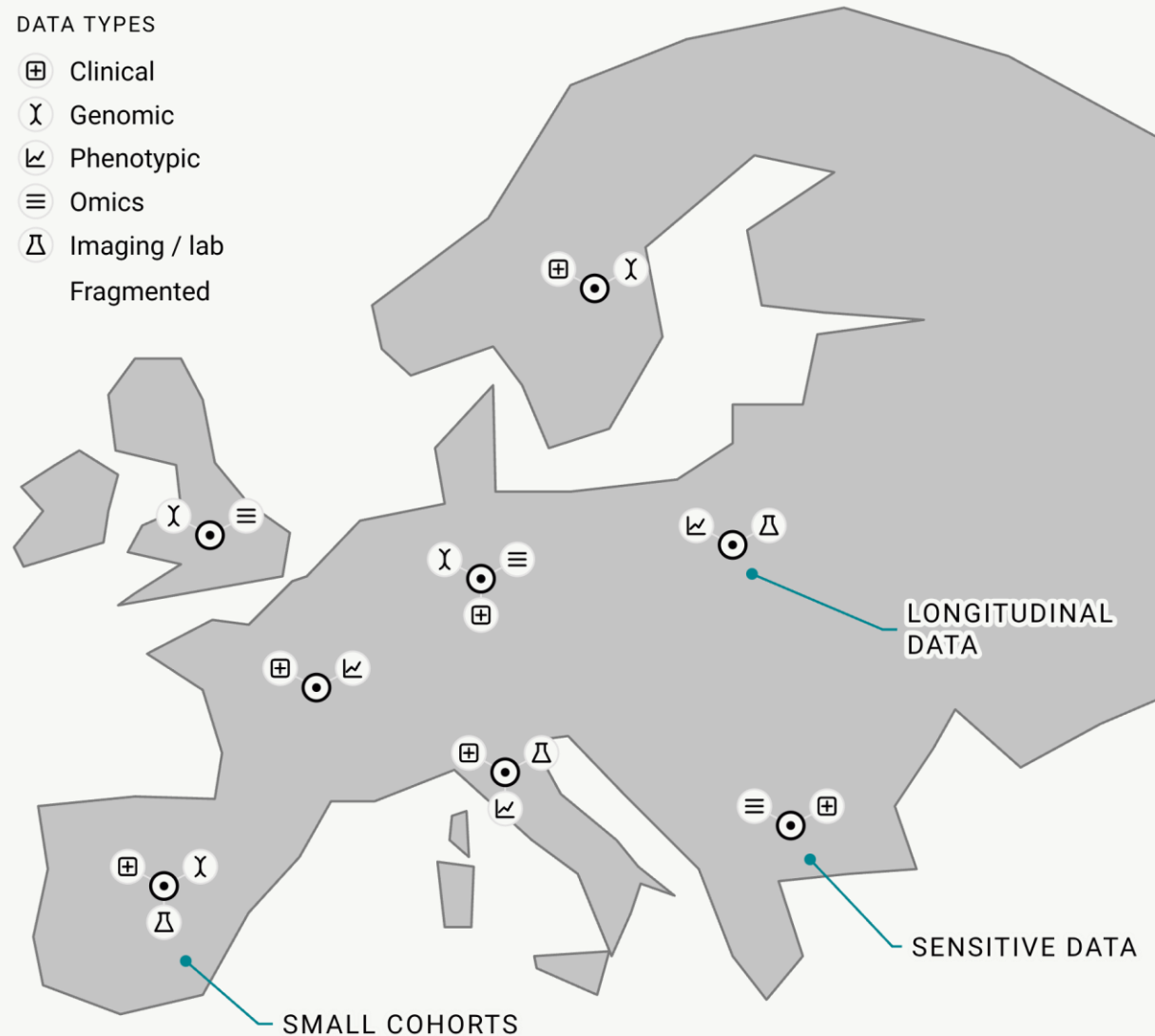


Children's Memorial Health Institute
European Paediatric Transnational Research Infrastructure (EPTRI)



Why paediatrics needs its own EOSC entry point

- Children are not simply “small adults”
- Paediatric research combines small cohorts, longitudinal development and strict ethical safeguards
- Data remain fragmented across clinical and research infrastructures



OUR VISION

PAEDIATRIC NODE

- A thematic EOSC Node connecting paediatric data, services and research communities
- Federated, not centralised: local sites stay autonomous
- FAIR, interoperable and privacy-preserving by design

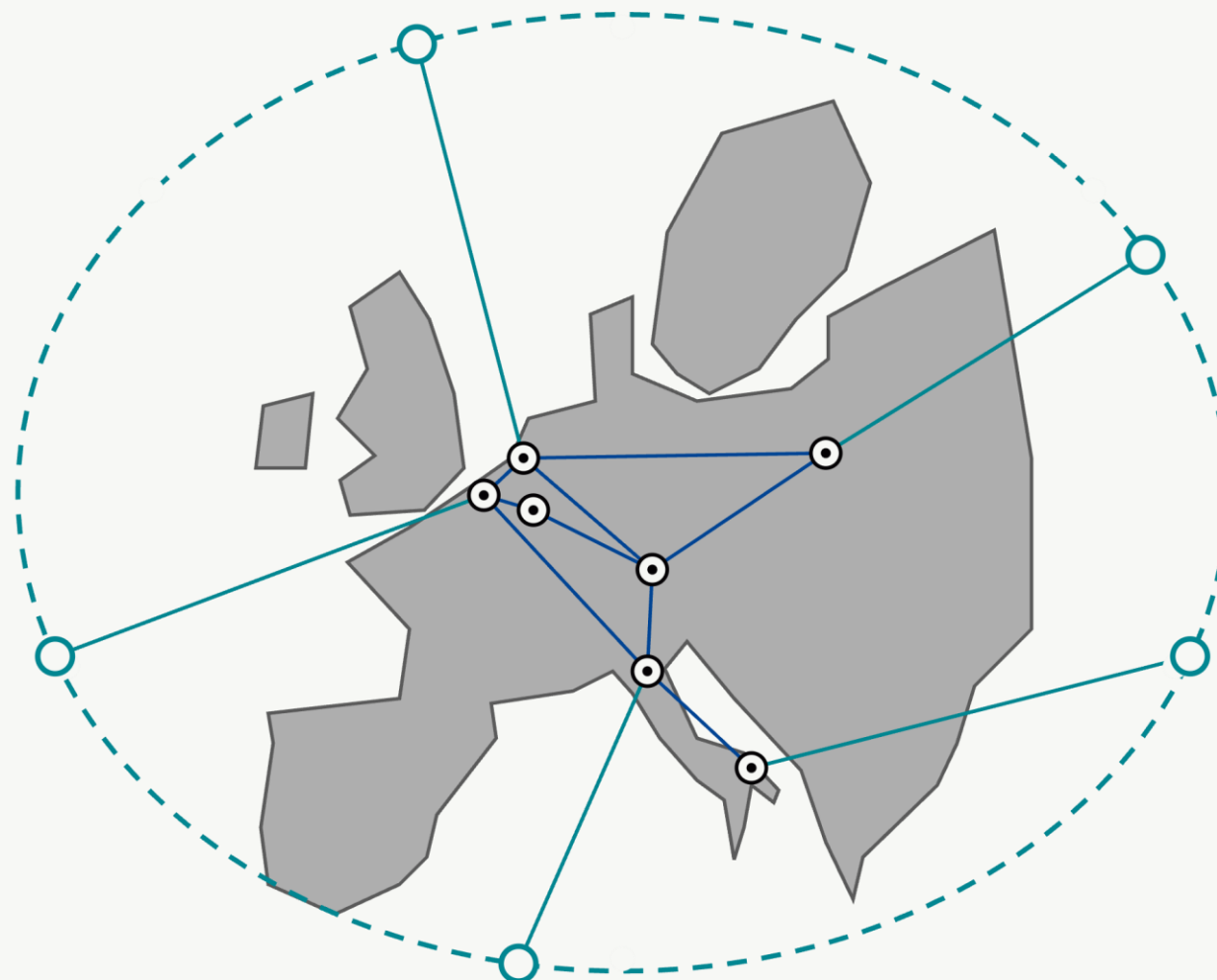


Built on the European paediatric research ecosystem, including EPTRI.

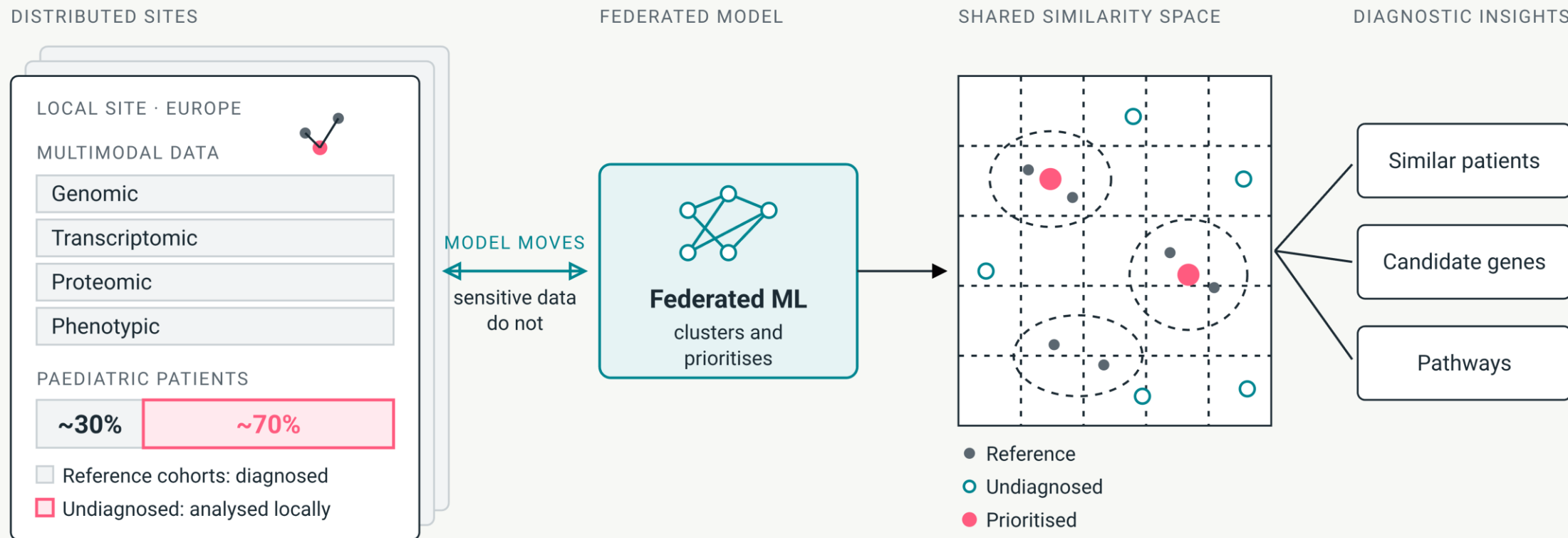
— Federated layer: models and queries move

● Data stay at each local site

○ EOSC Nodes of the wider EOSC Federation



Federated AI for rare-disease diagnostics



Federated ML clusters and prioritises undiagnosed patients; **the model moves, sensitive data do not.**

Three EOSC-facing capabilities

Data stay local.

Discovery, analysis and learning become **federated**.



Discover

Metadata catalogue, searchable datasets



Analyse

Federated queries, aggregated non-identifiable exploration

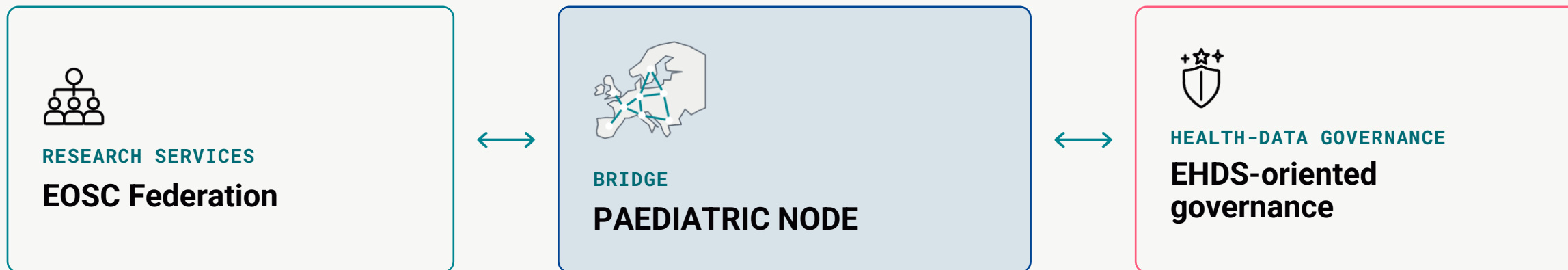


Learn

Federated ML services, distributed training



A reusable model for sensitive data



Connects EOSC research services with EHDS-oriented health-data governance

REUSE DOMAINS



Rare diseases



Clinical research



Sensitive biomedical data communities

- A model for responsible AI on sensitive health data
- Lessons reusable by other thematic Nodes and high-compliance communities

Paediatrics as a demonstrator for federated, responsible AI on sensitive data.