BioMedIT Network: Swiss Federation of Trusted Research Environments

Shubham Kapoor
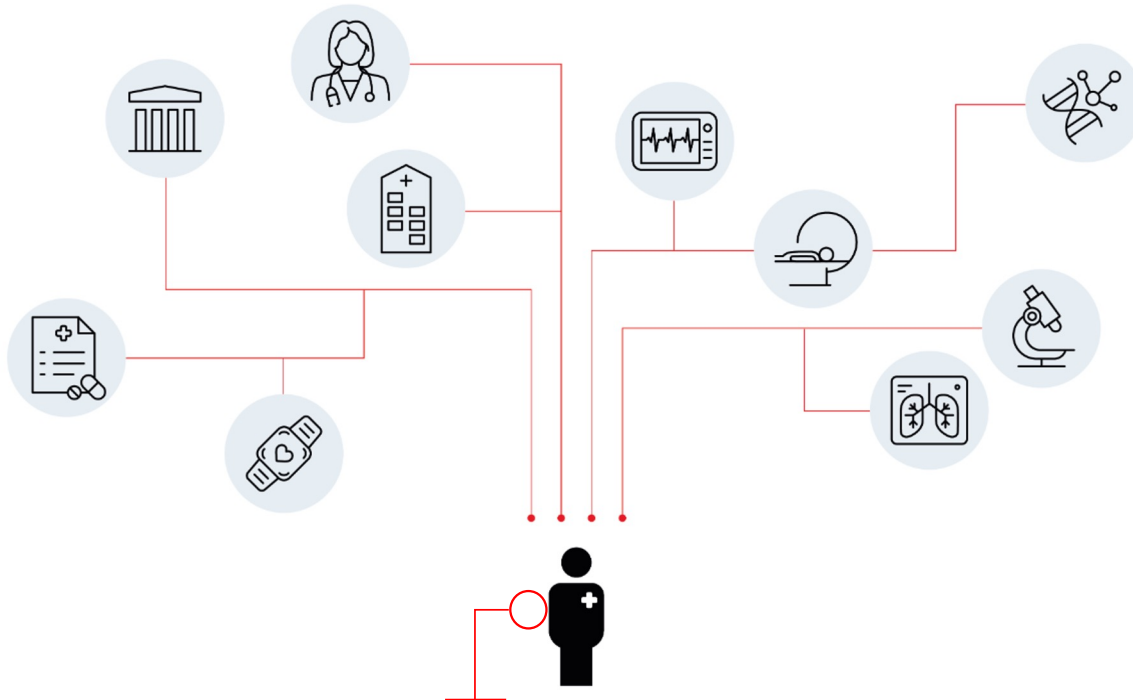Lead BioMedIT Research IT Services & Team
SPHN Data Coordination Center
SIB Swiss Institute of Bioinformatics

30.10.24

Personalized Health Research: Need for TREs

Hefty civil, criminal and administrative penalties possible otherwise.

Obligation to research subjects.

Maintain trust of public & funders.

Trusted Data management solutions strengthens grant proposals.

Trust can improve subject recruitment.

Research on Personalized Health Data requires special security measures: protect individual's privacy and ensure confidentiality of data OVER THE FULL DATA LIFECYCLE

BioMedIT: Switzerland's Trusted Research Environment

- Integral part of SPHN, Launched in 2017.
- Secure Cloud & HPC offerings.
- BioMedIT Portal as entry point, central tools and collaborative services.
- Secure mobilization, processing and storage of sensitive research data.
- 3 physical nodes providing scientific IT services.
- Central coordination (DCC).
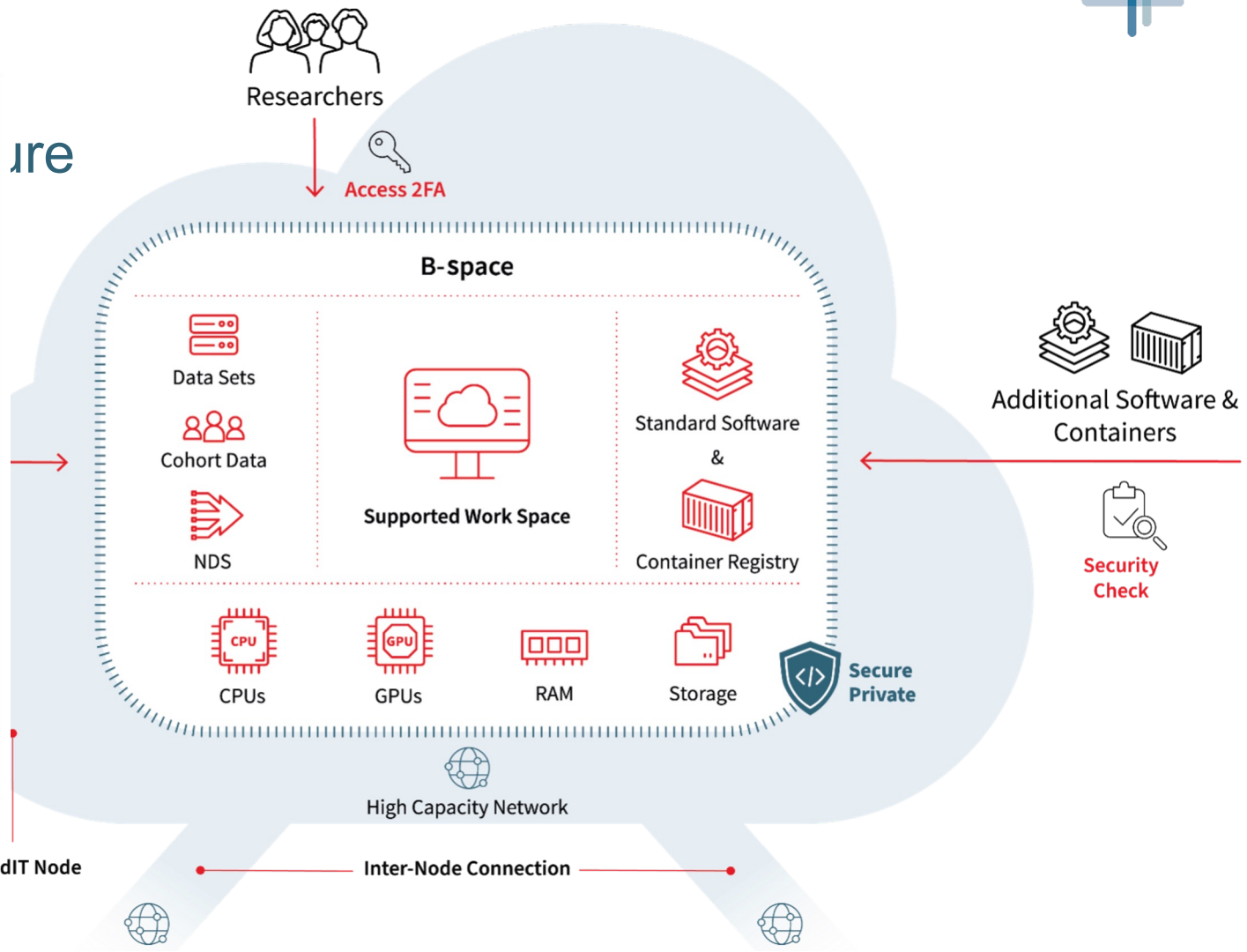- Operating under one Information security policy.

BIOMEDIT

SPHN — Swiss Personalized Health Network
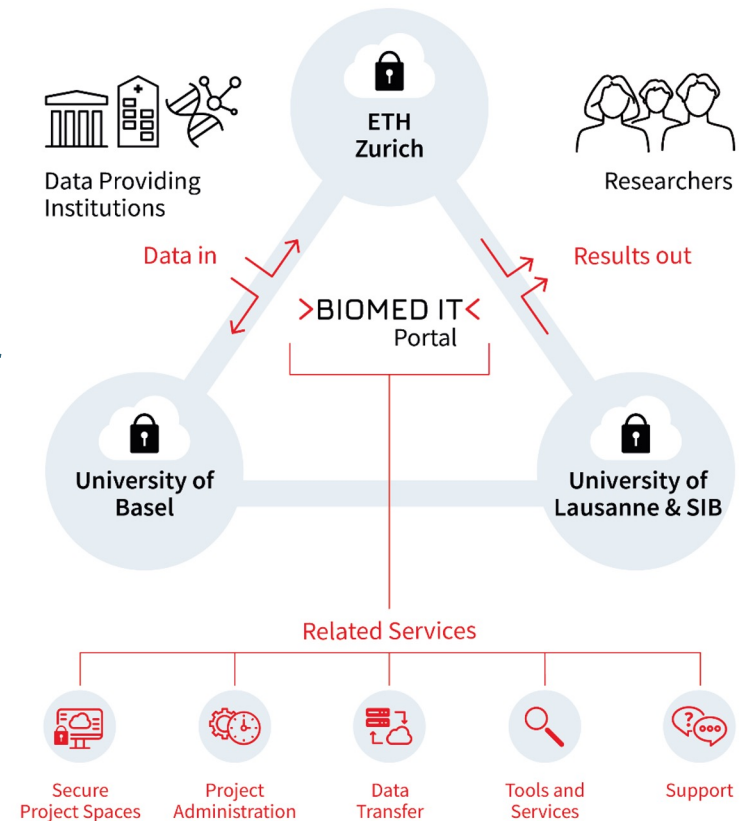
Central Services

Terminology Service
SNOMED CT / LOINC

SPHN DCC Confluence

Schema Forge
SPHN Schema Forge

SPHN Federated Query System

GitLab

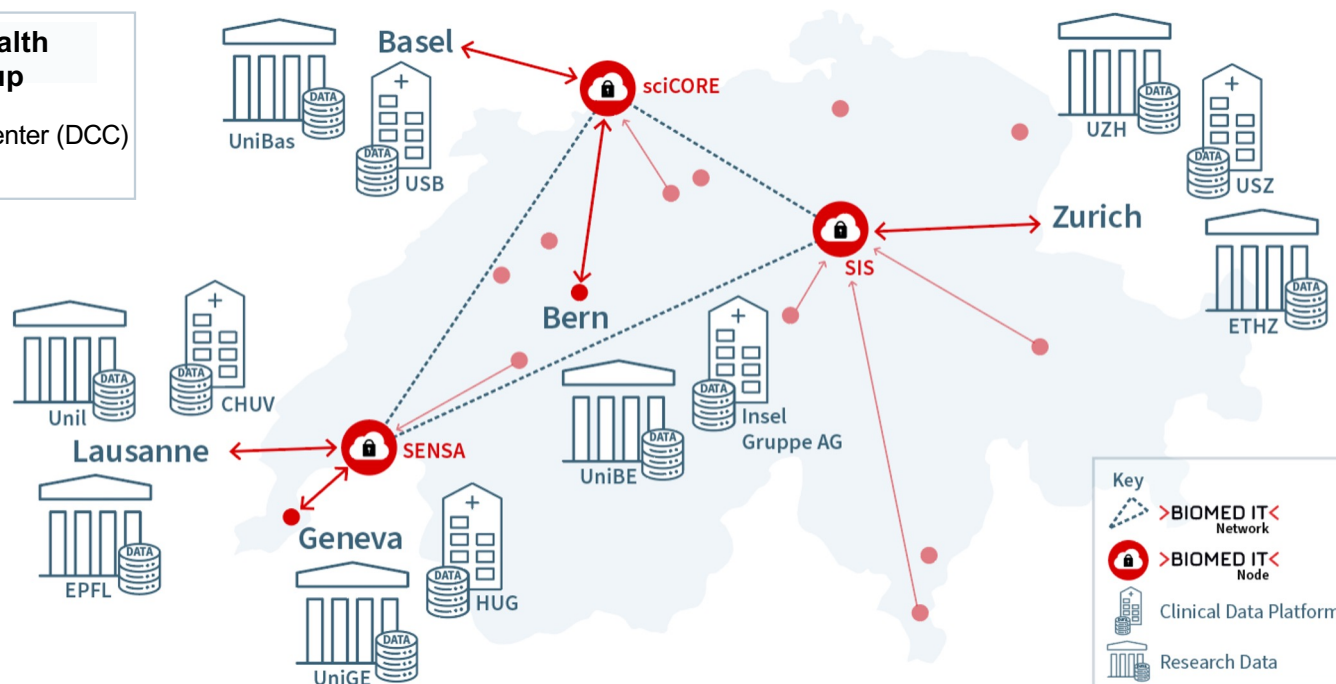**>BIOMED IT<** sett   **>BIOMED IT<** Portal

Portal git   Tools & Resources

Researchers

Access 2FA

B-space

Data Sets

Cohort Data

NDS

Supported Work Space

Standard Software &

Container Registry

CPUs   GPUs   RAM   Storage

Secure Private

High Capacity Network

Additional Software & Containers

Security Check

BioMedIT Node   **Inter-Node Connection**

National Landscape

> 120 national and
international projects
> 30 data providers
connected
> 800+ users

What's Next

— Setting up of
  Swiss FEGA

Setting the foundation for the first Swiss archive for human genomics data

24 September 2024

A consortium of Swiss institutions launches an initiative designed to enhance human genomic research by providing a secure, legally compliant environment for the deposition and access of sensitive Swiss genomic data. This Swiss Federated European Genome-phenome Archive (Swiss FEGA) will support scientific discoveries, facilitate data sharing, and foster collaboration across national borders. Launched under the coordination of SIB in July, as part of the SPHN initiative, this project aims to join the broader FEGA network, with a live service expected to be operational in 2025.

What's Next

– Expansion of Network

What's Next
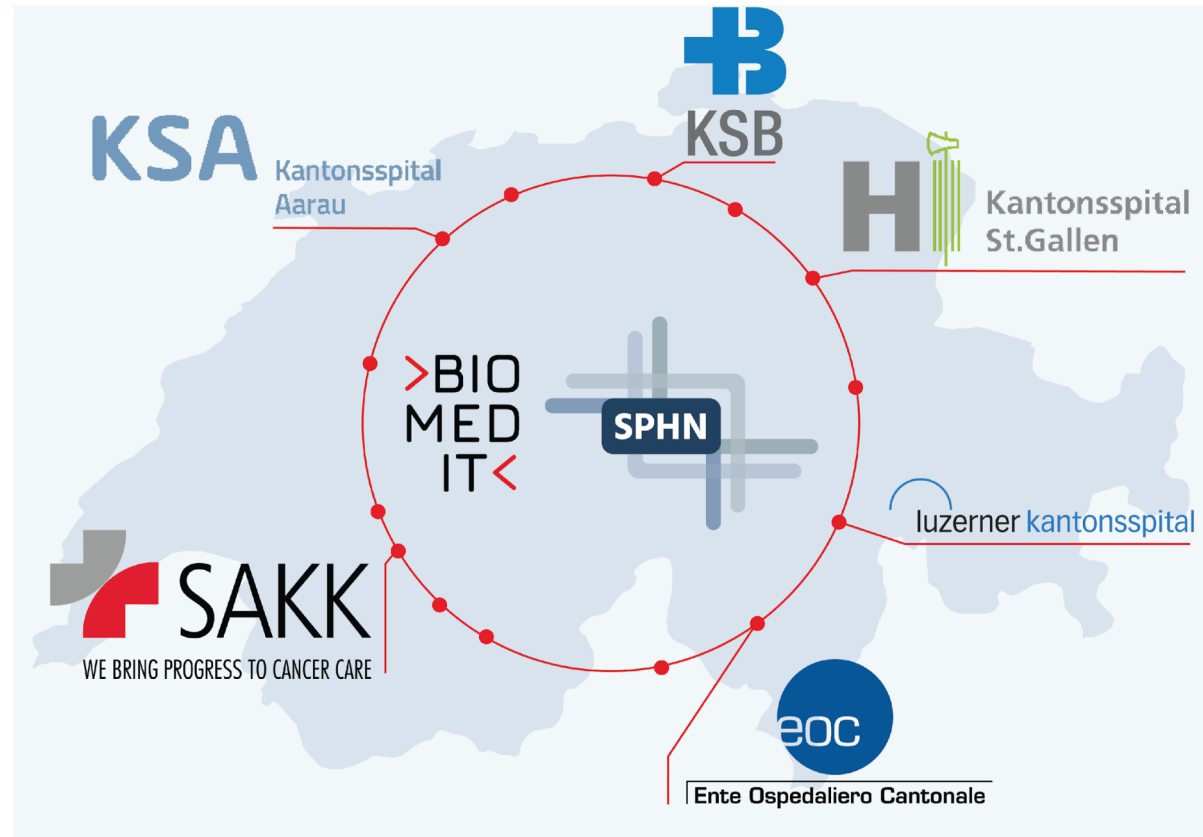
- BioMedIT Whitepaper(s)

Versatile Trusted Research Environments: An approach for Switzerland

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Executive Summary

Widespread adoption of versatile Trusted Research Environments (TREs) is essential for conducting research analysis involving sensitive personal data, which plays a pivotal role in advancing research across healthcare, social sciences, and humanities in order to meet societal challenges.

Despite the immense potential of sensitive data analysis, there are substantial risks linked to its use as well as

Acknowledgements

The SPHN Implementation Teams (MO and DCC):

Thomas Geiger, Christine Remund, Deepak Unni, Harald Witte,
Jan Armida, Judit Kiss Blind, Julia Maurer, Manuela Paganini,
Michaela Egli, Michael Müller-Breckenridge, Owen Appleton,
Patricia Fernandez Pinilla, Regan Geissmann, Sabine Österle,
Sarah Vermij, Shubham Kapoor,
Sergio Guarino, Simone Guzzi, Vasundra Touré

The SPHN NSB and NAB, Task Forces & WGs

The BioMedIT Board and workforces @ ETHZ, Unibas, Unil/SIB

The Hospital workforces @ USZ, USB, CHUV, Insel, HUG

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