

WHY MHMD?

With its 150 exabytes of stored data world-wide per year, **healthcare is a bright example of the much discussed “data explosion”**, playing a fundamental role in **fostering innovation and improving clinical outcomes**.

At the same time, though, **acquiring and storing patient information imposes high costs and liabilities on hospitals, biomedical research centres and businesses**, slowing down the pace of new discoveries, all in a sector where identity theft and privacy breaches are rampant.

Meanwhile, **no incentive to share data is available for those producing the data, the patients**, who remain disenfranchised of their right to control who uses their personal information and for what purposes.

In this context, MHMD stems from the urgency of **securing patient data, reducing “by design” the risk of identity theft and privacy breaches**, and introducing a new way to share private information **empowering their primary owners, the patients**.

CONSORTIUM

LYNKEUS.



gnúbila

Hes·SO GENÈVE
Haute Ecole Spécialisée
de Suisse occidentale



SIEMENS
Healthineers



CHARITÉ
UNIVERSITÄTSMEDIZIN BERLIN

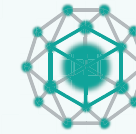


✉ info@myhealthmydata.eu myhealthmydata.eu

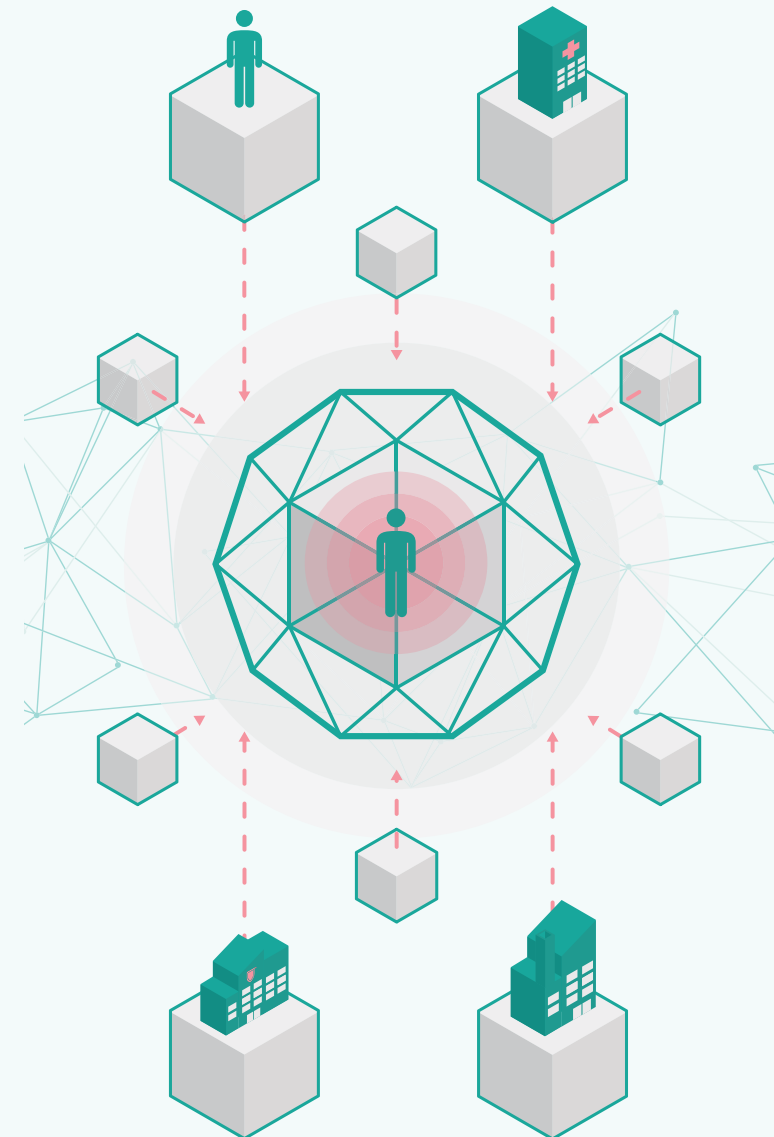
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MY HEALTH
MY DATA



A NEW PARADIGM IN HEALTHCARE DATA PRIVACY AND SECURITY

MyHealthMyData (MHMD) aims at fundamentally changing the way sensitive data are shared through an **innovative blockchain-based model enforcing consent and peer-to-peer data transactions between healthcare stakeholders in a probative, secure, open and decentralized manner**. By fostering the development of a true information marketplace, MHMD will fuel European future information economy and implement **new mechanisms of trust and direct, value-based relationships between EU citizens, hospitals, research centres and businesses**.

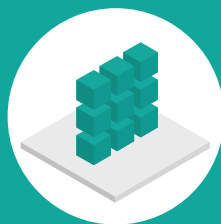
KEY INNOVATIONS >

OBJECTIVES

To protect personal data by implementing a blockchain infrastructure equipped with anonymisation and pseudonymisation procedures.

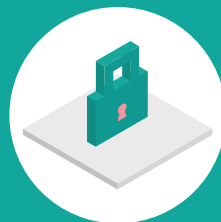
To empower EU citizens to exercise full control over their data and leverage their value through the use of dynamic consent interfaces, personal data accounts and smart contracts.

To enhance the value of big data in healthcare by allowing lawful data access to a plurality of stakeholders, and developing advanced analytics and model-based clinical applications.



BLOCKCHAIN

The data platform will rely on the blockchain system, a digital ledger where data is trimmed in hash-based language code and data transactions are visible to the entire network of stakeholders, minimizing any possibility of fraudulent usage.



MULTILEVEL DE-IDENTIFICATION AND ENCRYPTION TECHNOLOGIES

Multi-party secure computation and homomorphic encryption techniques will be employed for encoding and de-associating sensible data from the owners' identity, still allowing the application of advanced analytics on pseudonymised or anonymised data.



DYNAMIC CONSENT

A dynamic consent interface will allow users to grant, deny or revoke consent to data access for different uses according to their preferences.



PERSONAL DATA ACCOUNTS

Personal storage clouds will enable individuals to access their data from any technological device through the blockchain and employ them for personal use.



SMART CONTRACTS

Self-executing contractual states, based on the formalisation of contractual relations in digital form, will automate the execution of peer-to-peer transactions under user-defined conditions.



BIG DATA ANALYTICS

The project will explore the feasibility of applications leveraging the value of large clinical datasets, particularly advanced data analytics, medical annotation retrieval engines and patient-specific models for physiological prediction.