

# metabio

Digital Innovations for Life Sciences



# Metabio Group

Innovates **IT services** in **Life Science** sector

**Accelerates research** for drug development

Elevates **patient engagement**

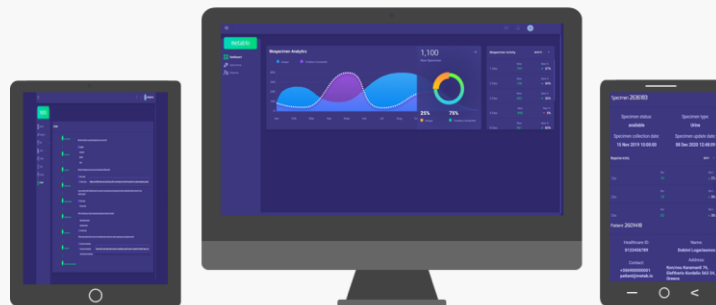
**Standardizes & Harmonizes** Healthcare data

Delivers **precision medicine** tools for  
**self-management** interventions

Decreases **cost** and **timeframes** in Healthcare  
and Biomedical Research



## SNEAK PEEK

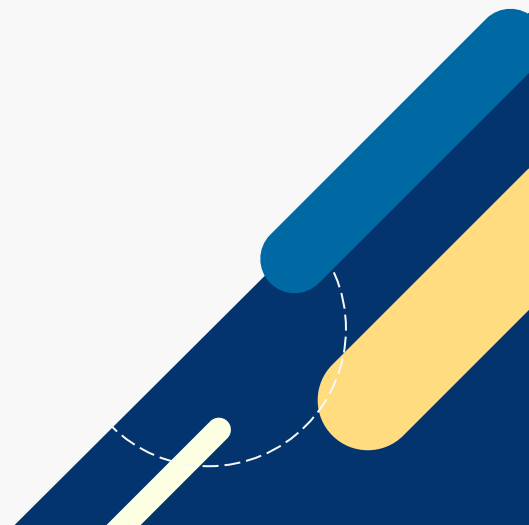


e-Metabio, the go to solution for biospecimen  
and patient data collection & management

# e-MetaBio®

Your Platform for BioMedical data collection

e-MetaBio tracks and captures biosample related data from each member of the usage chain, patients, healthcare, biobanks, research labs



# Main pitfalls addressed...



## Incomplete electronic health records

Difficulties in obtaining holistic biosample & patient profiles



## Decreased cohort validation

Difficulties in locating suitable candidates for given research and clinical trials in time; increased recruitment phase



## Increased cost & time during basic research

Decreased ability to record biosamples' pre-analytical data; bias in research results, false positive/negative



## Ad-hoc systems

Decreased ability to provide interoperability, standardization and harmonization, for data in the initial phase of basic research



## Decreased off-site monitoring

Difficulties in monitoring patients in real-time and capturing RWD for a spectrum of adverse events and similar initiatives



## Inability to remotely Reconsent

Long-lasting procedures for patient reconsenting, in the event of research hypothesis alteration



# ...the solution

**All-In-One** vertical, modular and interoperable platform offering flexibility, unprecedented information and interaction, for all members of the biosample usage chain.

**UMBRELLA system**, works seamlessly on top of current IT infrastructure, with no need for change in routinely used system, easing the integration process.

**AI reactive tool**, produces, in real time, Quality Assessment of biosamples, with simultaneous prediction of their suitability for downstream use in a given research activity, based on preanalytical data evaluation.

**Unified IoT**, syncing with existing devices & environmental sensing appliances, providing high level security and blockchain based technologies.

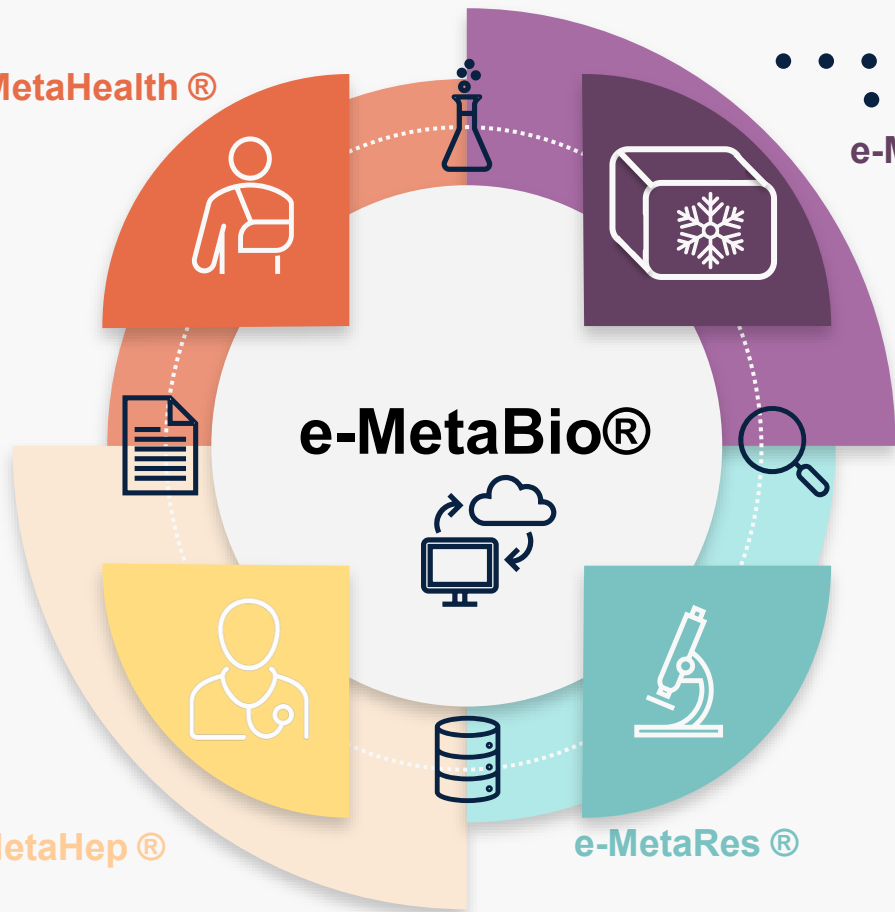
e-MetaHealth<sup>®</sup>

e-MetaBank<sup>®</sup>

e-MetaBio<sup>®</sup>

e-MetaHep<sup>®</sup>

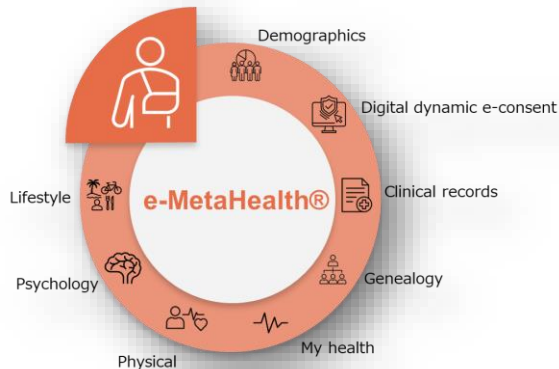
e-MetaRes<sup>®</sup>



# e-MetaBio Platforms

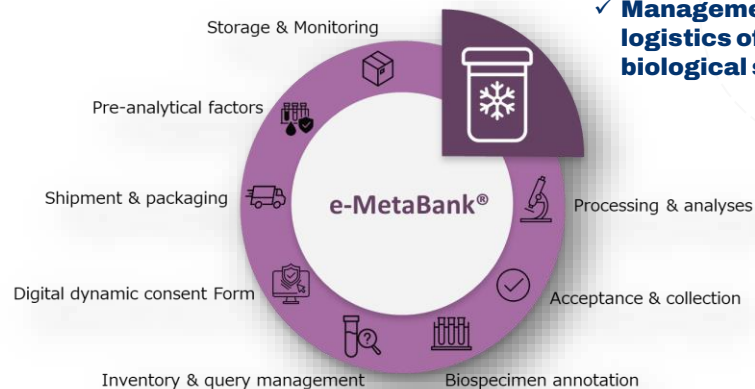
## Patients

- ✓ Platform for RWD & remote disease self-management



## Biobanks & Repositories

- ✓ Management and logistics of biological samples



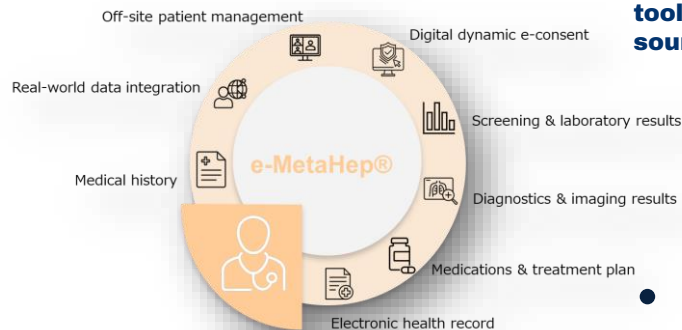
## Healthcare professionals

- ✓ Complete EHRs & remote disease monitoring

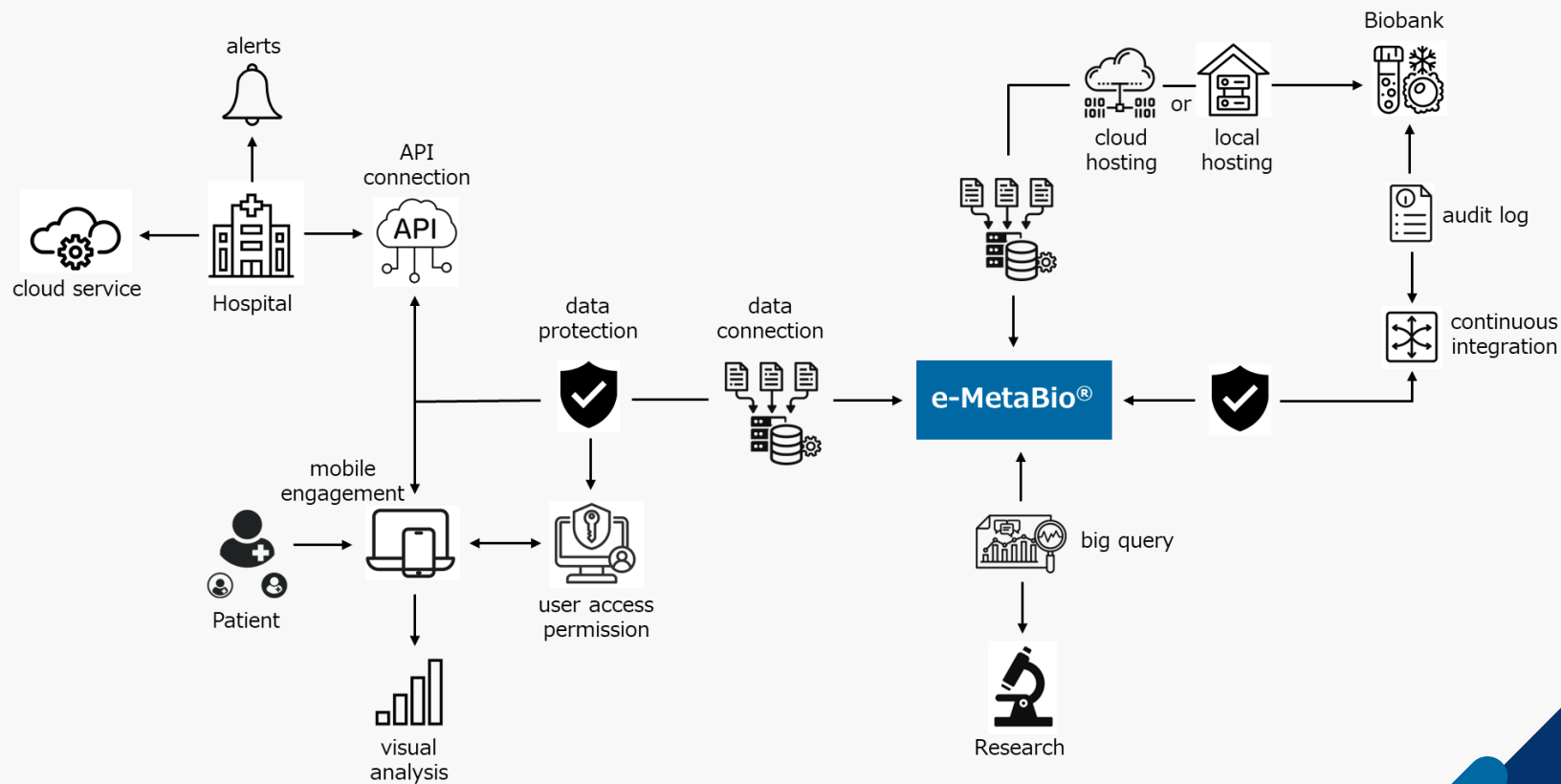


## Researchers / Industry

- ✓ Real-time collaboration tool & access to multi-source data cohorts



# The Network





# e-Metabio offers the ability to:



Enhance  
Recruitment  
Procedures

use of e-consent  
module for  
reconsenting



Decrease Time of  
Basic Research

limit biosample  
profile search  
timeframes



Decrease Costs

basic-research cycle  
during drug-development  
by 75%



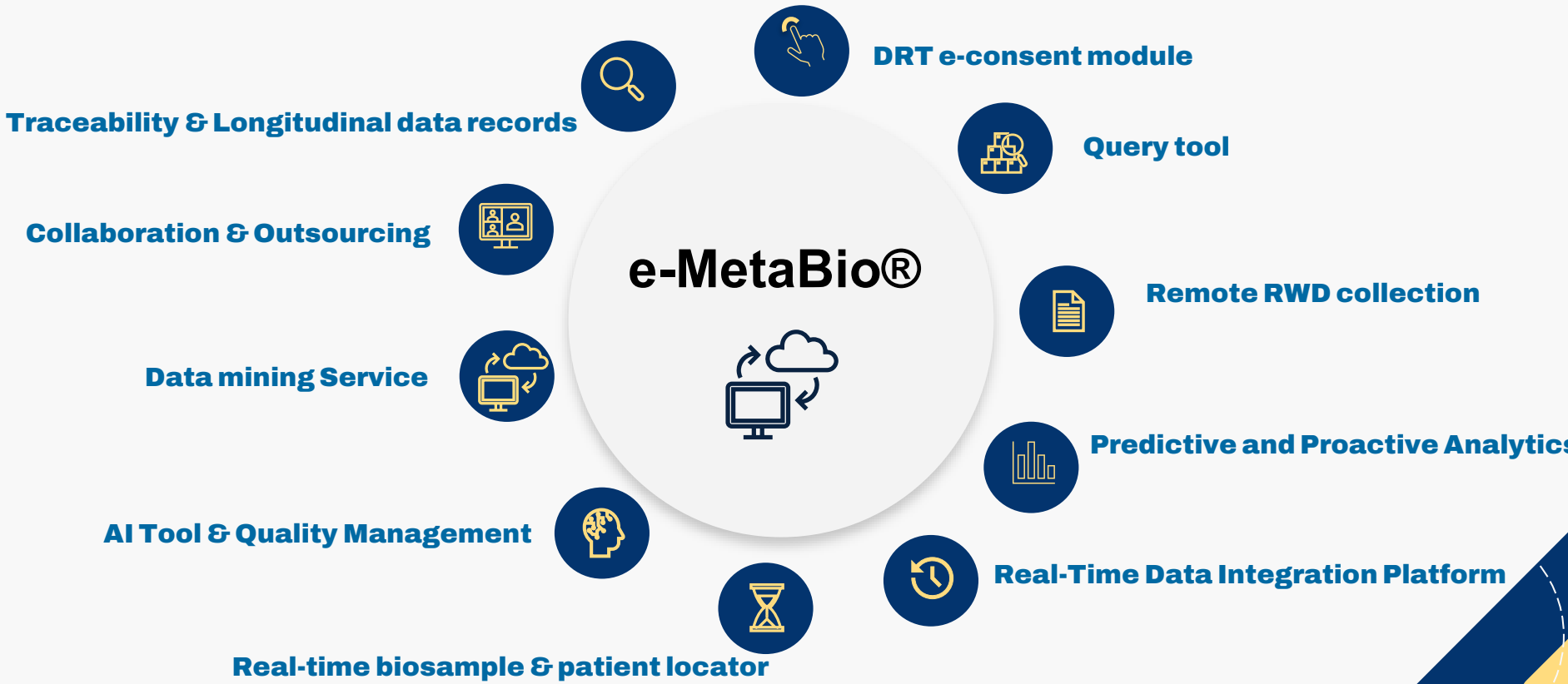
Increase Value

biosample scientific and  
market raised up to  
250%





# we provide:



# Innovation

## Added value

Cost elimination for recontact "\$600/patient"



Increased biosample scientific & market value  
"up to 150%"



Decreased cost for basic-research and project  
implementation "\$80 to 200M"



Decreased significant bias in basic research



Improved accreditation and certification system in  
biobanking sector



Decreased waste of biosamples not suitable for  
given downstream analytics



Limits biosample profile search timeframes  
"2 to 4 years"



High Quality Biosample and Data  
Assurance.....



Quality  
Accuracy  
Reproducibility  
Comparability

## USPs

1  
Real-time qualified biosample and patient cohort locator

2  
Interoperable solution, for network data sharing across  
different systems

3  
e-consent Real-time & Dynamic, enabling patients'  
enrollment in healthcare management

4  
Longitudinal data, from all data sources from the  
patient to researcher

5  
All in one vertical solution, across B2B  
networks and data usage chains

6  
100% GDPR & HIPAA compliance for Biomedical  
data

7  
Real time Quality Management System for biosamples





# Biolink

## Decentralized Marketplace for the Life Sciences

connects biobanks, hospitals, researchers, and patients through secure, transparent, and patient-centric biospecimen and data transactions



# 1st worldwide marketplace for biospecimen & data



## Stakeholder Benefits

-  **Biobanks** → Connect to multiple healthcare providers and multiple researchers
-  **Researchers** → Sourcing and quality management of biospecimens
-  **Hospitals** → Specimen and related data management and donation
-  **Patients** → Privacy-preserving data control and monetization





# DLT Marketplace for Biosamples

## Purpose:

A decentralized marketplace ensuring secure and ethical transactions of biospecimens and related data

**Integrates DLT & AI tools**



secure audit trails and smart contracts & AI-driven quality assessment of biosample

**Empowers Biobanks, Hospitals, Researchers & Patients**



seamless transactions and data security

**Revolutionary Patient-Centric Approach**



patients can monetize their donations and gain control over their biological data

**Endless Possibilities in Biospecimen Usage**

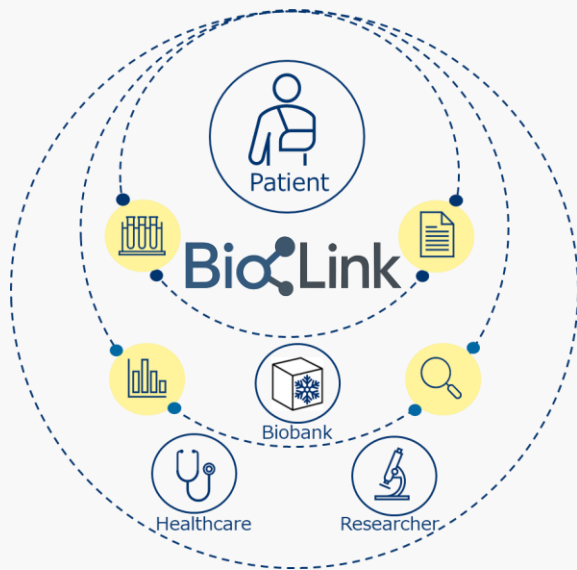


enhancing research, precision medicine, and clinical trials

# Transformative solution for data and biosample commodities

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- ✓ Offers secure, transparent and compliant transactions
- ✓ Customized to diverse organizations
- ✓ Reduces biomedical research cost & improves interoperability



SNEAK PEEK



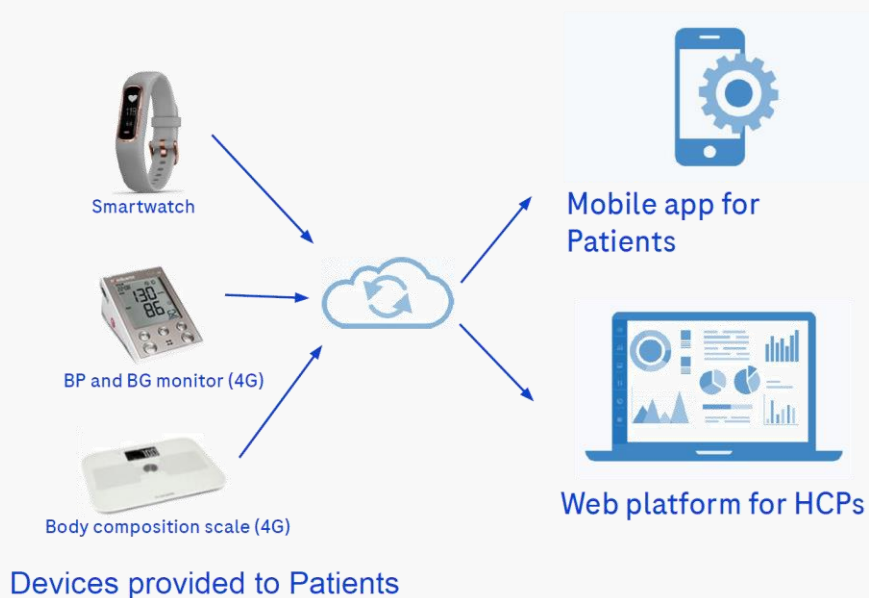
# Biomedical IoT

Next Generation Self-management solution

# IoT Health platform

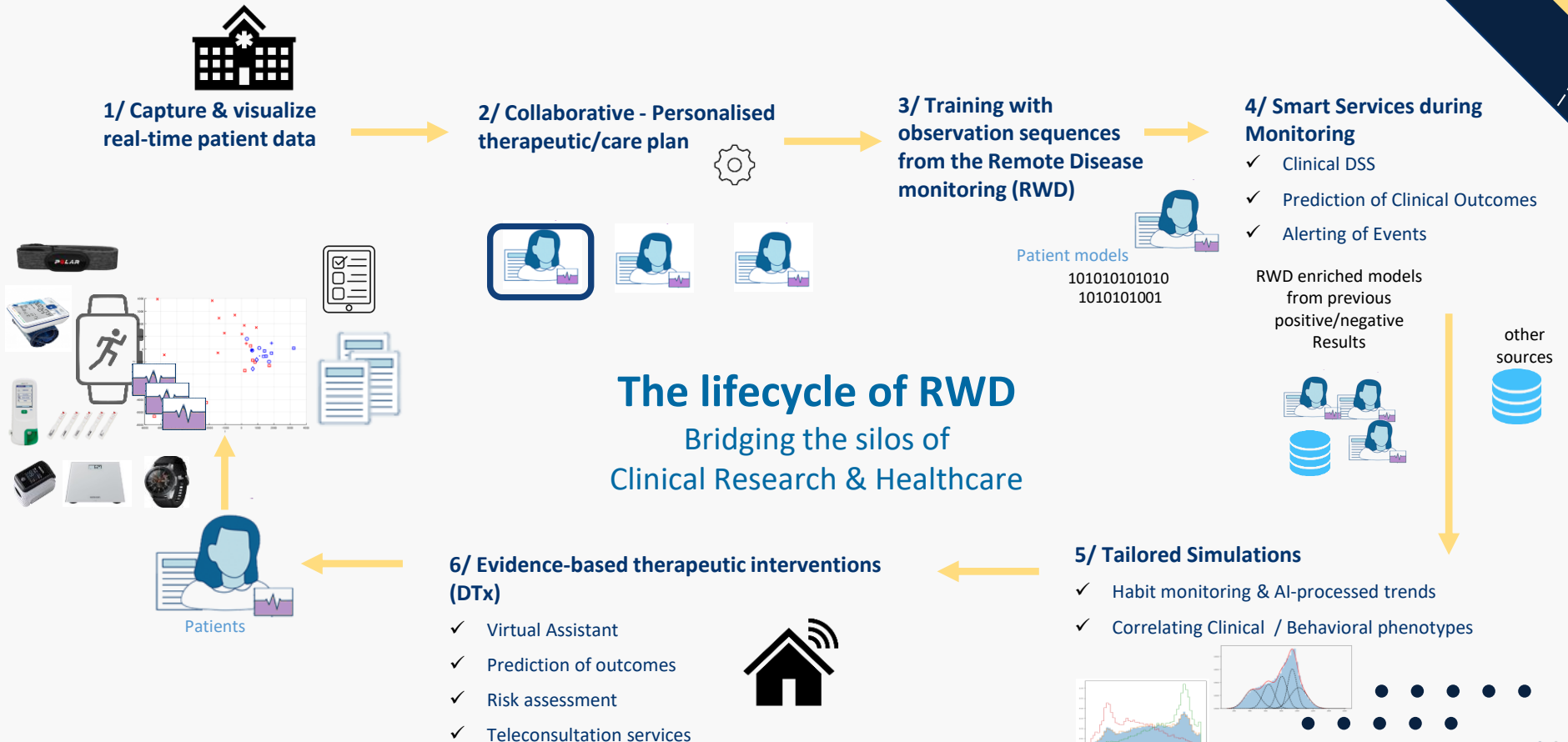
## Intelligence monitoring providing:

- Integrated solution with hospitals
- Seamless exchange of health Data with local and nation EHRs
- Remote Patient Monitoring
- AI-based monitoring and assistance
- Patients support & predictive analytics
- Smart devices
- Indoor Environmental Monitoring Device
- Shared Care Plan (HL7) / Education , Nutrition, Drug Interaction





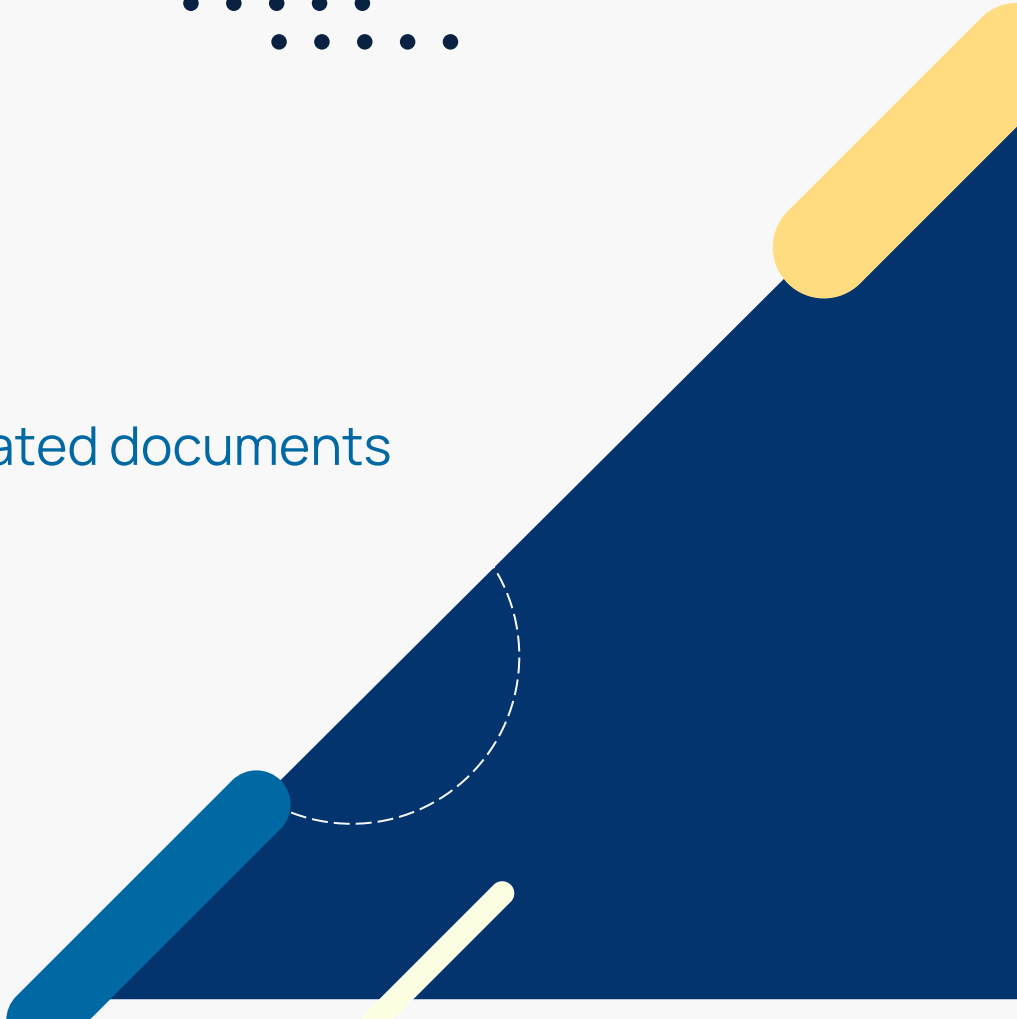
# Deep Learning & Patient-centric approach





# Lock Sign

Secure Signatures for all Health-related documents



# The product

LockSign is a patented secure signature platform.

LockSign combines user and document information into an encrypted QR code which is embedded in every signature.

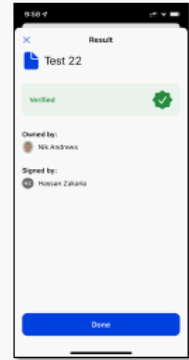
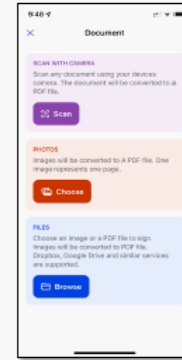
Allows for a signature that cannot be copied or forged as it is unique to the specific document/ user.

LockSign signatures are verified via the platform.



# Key features

- ❖ Secure & Unique Signatures.
- ❖ Cannot be copied or forged.
- ❖ Easy Signature Verification in digital and paper form.
- ❖ No additional security tokens or certificated needed.
- ❖ Simple Document Workflow.





# Services

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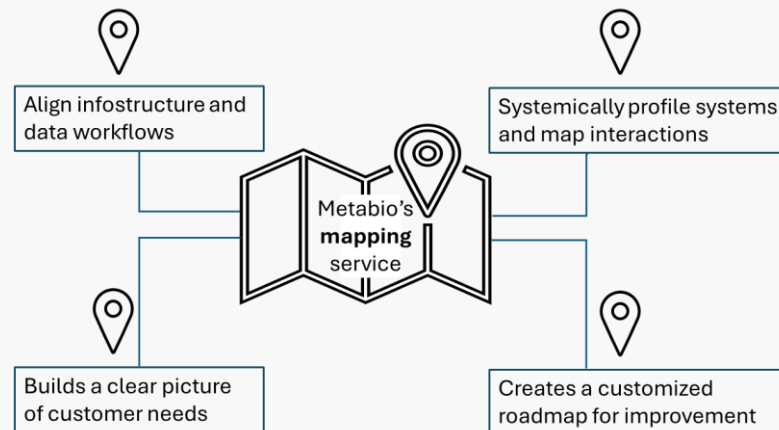
# Mapping services



Mapping

Mapping of infrastructures and data workflows within your company and associated networks.

- on-site
- fit-for-the-purpose solution
- continuous monitoring
- iterative improvements
- adaptations according to market demands



- ★ automation
- ★ efficiency
- ★ scalability



# Customer support



Customer  
Support

Robust and reliable customer support to ensure your systems run smoothly and deliver maximum value over time.

**24/7** Communication and support

by phone, videoconference, and email

- ✓ responsive
- ✓ reliable
- ✓ personalized



- ★ performance
- ★ continuity
- ★ sustainability



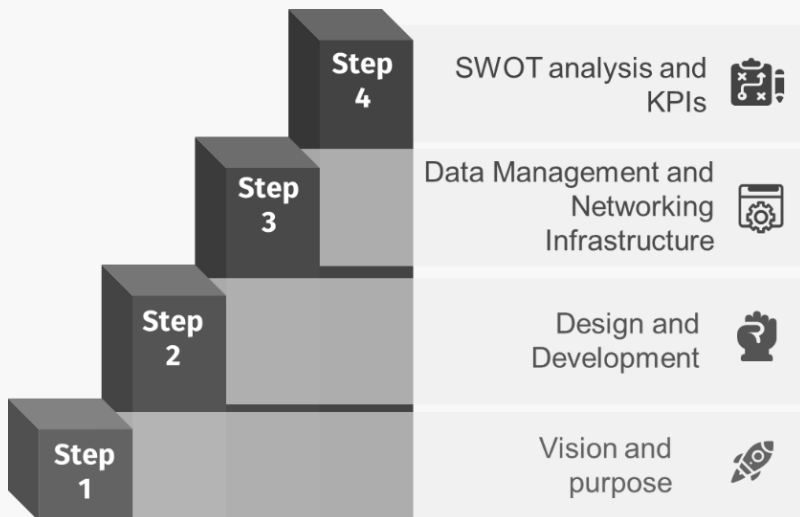
# Consultancy & Brokerage



BioStrat  
Consulting

4-step process that facilitates the design and development of biobanks:

- Long-Term Vision and Purpose
- Design and Development
- Data Management and Networking Infrastructure
- SWOT Analysis and Key Performance Indicators (KPIs)



*Whether you are building a new biobank or optimizing an existing one, Metabio's consultancy services empower your organization with the expertise, tools, and processes needed to create a reliable and innovative biobanking environment.*

- ★ sustainability
- ★ compliance
- ★ optimization
- ★ efficiency





# Training



Training

Tailored training programs ensure your team is fully equipped to **maximize the benefits of the newly implemented system.**

- Customized Content
- Role-Specific Training
- Flexible Delivery Modes

Follow-up support, including refresher sessions, documentation, and on-demand assistance to address any questions or challenges.



- ★ trust
- ★ efficiency
- ★ optimization



# Regulation and control of the security sector . . . . .

## DATA PROTECTION

- A.** Adoption of methods to control access and restrict users (principle of least privilege)
- B.** Encryption of data within the system
- C.** Anonymous and/or distinctive data is not accessible after anonymization /distinction is complete
- D.** Implement data integrity procedures
- F.** Consideration of data deletion methods (where required)



## Blockchain technology and end-to-end encryption

## SOFTWARE PROTECTION

- A.** SSL encrypted connection requests and responses
- B.** Firewall to allow only certain ports for communication to and from the server
- C.** Token-based JWT authentication for all requests to the server

# Modus Operandi



## Mapping needs

We work on-site to customize towards the ideal architecture and solution.

We implement e-MetaBio®, either as a cloud-based solution or locally into an in-situ white box.

## Implementation

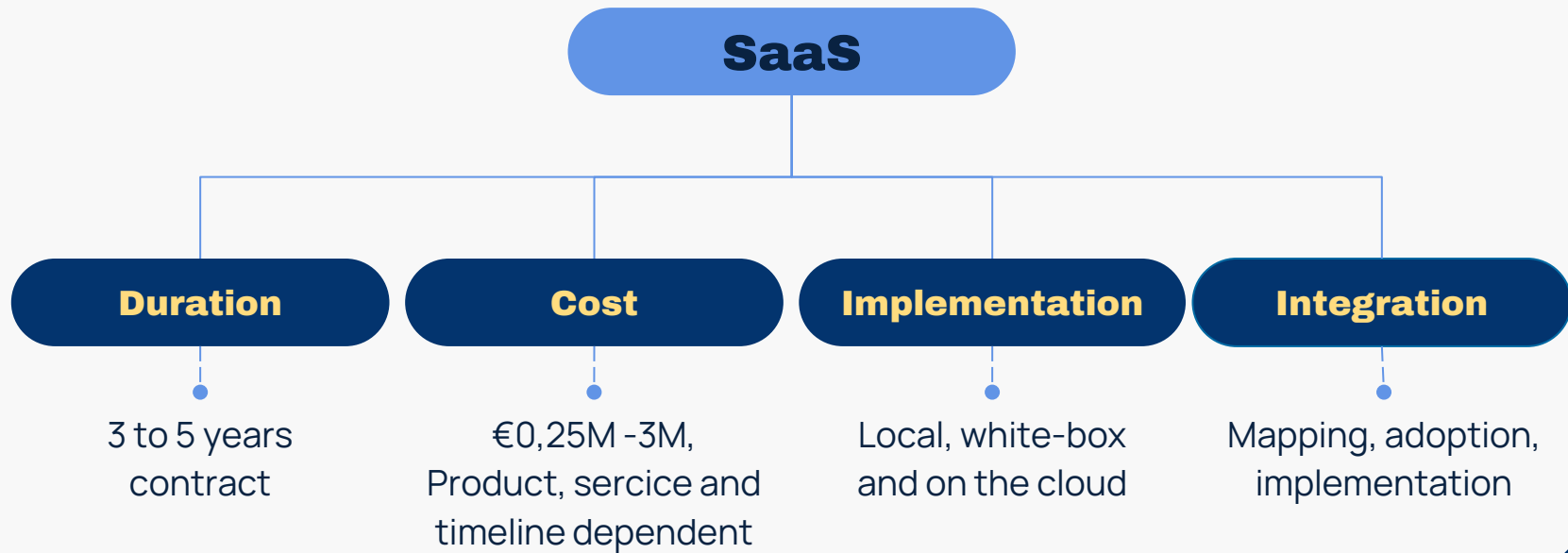


## Services

We are always with there to accelerate business and customize our platforms with a fit for purpose mentality, raising your KPIs.



# Business model



# THANK YOU!

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<https://metab.io>

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