

metab.io

AANG group member



who we are



Location:	Based in Thessaloniki (HQ) - Athens (Sub) – Greece, Delaware –USA (Sub) and Sofia - Bulgaria (Sub)
Services :	Novel IT solutions for Biobanking, Biomedical Research, Healthcare, Personalized Medicine and Life sciences.
Products :	e-MetaBio, AI-MetaBloQ, e-embryo, Medical IoT
Technologies:	Big Data, Blockchain, Artificial Intelligence, IoT
Personnel:	> 15, Multidisciplinary, Biomedical Researchers, Engineers, Business



AI-MetaBloQ
PROVIDE - CONSUME - MONETIZE

- Biobanking Systems
- Biomedical Research Systems
- Laboratory Information Systems



- Cancer Biobank
- Cancer Diagnostics
- Predictive analyses

metabio Group

MindMed

- Personalized Cancer Diagnostics Biobank
- Remote AI-based Patient Monitoring
- Medical IoT solutions

LOCKSIGN

DRT e-consent

- Dynamic Real-time Tiered e-consent
- Patient empowering tool
- Biometric signature solution

Membership-Collaboration-Support

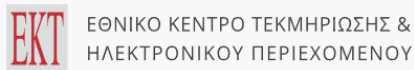
Certification



Funding



Business Development



European Recognition

European Commission
Horizon Europe

SEAL of EXCELLENCE awarded in February 2025



HORIZON-EIC-2024-ACCELERATOROPEN-01
— EIC Accelerator Open 2024



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



Scientific Publications

Research Article

Increasing the Value of Real-World Crowdsourcing Health Data with e-MetaBio, a Novel Patient-Centric IT Infrastructure

Desislava Ivanova¹, Panagiotis Katsaounis¹, Konstantinos Votis¹

¹Metabio, Thessaloniki, Greece

Address correspondence to Panagiotis Katsaounis (katsaounis-ceo@metabio.io).

Sources of support: None. Conflict of Interest: The authors are employed by Metabio, and the described technology is created and implemented for commercial purposes.

Submitted: Nov 14, 2023; First Revision Received: Jan 22, 2024; Accepted: Jan 25, 2024

Ivanova D, Katsaounis P, Votis K. Increasing the value of real-world crowdsourcing health data with e-MetaBio, a novel patient-centric IT infrastructure. *Innov Dig Health Diagn Bio*. 2024; 4:15–24. DOI: 10.36401/IDDB-23-14.

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Conference Proceedings

2023 Advancing Healthcare Innovation Summit (AHIS): Executive Summary

Gail Pyne-Geithman MS, PhD^{1,2}

¹Cincinnati Children's Hospital Medical Center, Cincinnati, OH, USA

²Innovative Healthcare Institute, Cincinnati, OH, USA

Address correspondence to Gail Pyne-Geithman (innovativeexpresseditor@gmail.com).

Source of Support: None. Conflict of Interest: None.

Submitted: Dec 2, 2023; First Revision Received: Dec 7, 2023; Accepted: Dec 13, 2023

Pyne-Geithman G. 2023 Advancing Healthcare Innovation Summit (AHIS): executive summary. *Innov Dig Health Diagn Bio*. 2024; 4:2–5. DOI: 10.36401/IDDB-23-X3.

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Conference Proceedings

Workshop Proceedings: Informed Consent in Biobanking—from the Key Barriers, Challenges, and Perceptions to Digital Innovations

ISBER Virtual Annual Meeting and Exhibit, May 14–16, 2021

Desislava Ivanova¹, Panagiotis Katsaounis¹

¹Metabio, Thessaloniki, Greece

Address correspondence to Panagiotis Katsaounis (katsaounis-ceo@metabio.io).

Source of Support: None. Conflict of Interest: None.

Received: Dec 9, 2021; Revision Received: Jan 12, 2022; Accepted: Jan 17, 2022

Ivanova D, Katsaounis P. Informed consent in biobanking—from the key barriers, challenges, and perceptions to digital innovations. *Innov Dig Health Diagn Bio*. 2022; 2:16–26. DOI: 10.36401/IDDB-21-07.

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Brief Report

Real-Time Dynamic Tiered e-Consent: A Novel Tool for Patients' Engagement and Common Ontology System for the Management of Medical Data

Desislava Ivanova, Panagiotis Katsaounis

Metabio, Thessaloniki, Greece

Address correspondence to Panagiotis Katsaounis (katsaounis-ceo@metabio.io).

Received: Mar 29, 2021; Revision Received: Apr 22, 2021; Accepted: May 5, 2021

Source of Support: Metabio P.C. Conflict of Interest: Both authors are employed by Metabio, and the described technology is created and implemented for commercial purposes. *Innov Dig Health Diagn Bio*. Published online. DOI: 10.36401/IDDB-21-01.

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Brief Communication

CoronaBio: Using Crowdsourcing for Biomedical Research on COVID-19 to Manage a Pandemic

Konstantinos Votis¹, Zisis Kozlakidis², Panagiotis Katsaounis³

¹Metabio, Thessaloniki, Greece

²International Agency for Cancer Research (WHO), Lyon, France

³Metabio, Thessaloniki, Greece

Address correspondence to Panagiotis Katsaounis (katsaounis-ceo@metabio.io).

Source of Support: Metabio. Conflict of Interest: None.

Disclaimer: Where authors are identified as personnel of the International Agency for Research on Cancer (WHO), the authors alone are responsible for the views expressed in this article and they do not necessarily represent the decisions, policy or views of the International Agency for Research on Cancer (WHO).

Received: April 16, 2020; Accepted: August 11, 2020

Citation: Votis K, Kozlakidis Z, Katsaounis P. CoronaBio: Using crowdsourcing for biomedical research on COVID-19 to manage a pandemic. *Innov Dig Health Diagn Bio*. 2020; [Epub ahead of print]. DOI: 10.36401/IDDB-20-06.

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The digital revolution of biobanks: what role is precision medicine playing?

8th March 2019

Zisis Kozlakidis

International Agency for Research and Cancer (WHO)

Panagiotis Katsaounis

Metabio

<https://www.iarc.fr>

<https://metabio.io/>



Paradigm Changes in Health Biomedical Research

Proliferation, Ingestion, and Interpretation of Health Data in Low- and Middle-Income Countries (LMICS)

Sandra Nanyonga, Plebeian B. Medina, Zisis Kozlakidis, Debra Leilani Garcia, Desislava Ivanova, and Panagiotis Katsaounis

The Need for Patient-Pushed, Real-World Data on Neurodegenerative Diseases

By Metabio - April 27, 2021



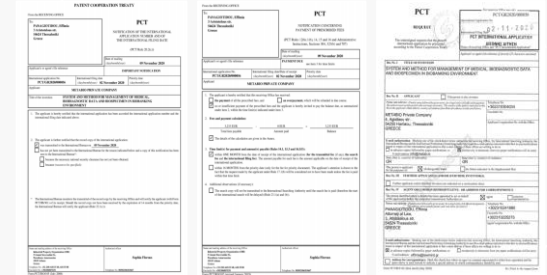
SESSION 3: DIGITAL HEALTH AND PERSONALIZED CARE ABSTRACT PRESENTATIONS

Ms. Desislava Ivanova (Metabio, Greece) started off session 3 (moderated by Drs. Burns and Jazieh) with a possible solution to the dilemma of having sufficient real-world data to train AI algorithms. Her talk was entitled “Increasing the Value of Crowdsourcing Data by Novel Patient-Centric IT Infrastructure for Longitudinal Real-World Data Collection.”

PCT Patent

PCT/GR2020/0000056

“System and method for management of medical, biodiagnostic data and biospecimen in biobanking environment.”



ISO

ISO/IEC 90003:2018, Software engineering
ISO/IEC 9001:2015, Quality Management Systems
ISO/IEC 27001:2013, Information Security Management



ISO 9001



ISO 27001



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



SNEAK PEEK



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

Main pitfalls addressed



Incomplete electronic health records

Difficulties in obtaining holistic biosample & patient profiles



Ad-hoc systems

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



Decreased cohort validation

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



Decreased off-site monitoring

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



Increased cost & time during basic research

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



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.

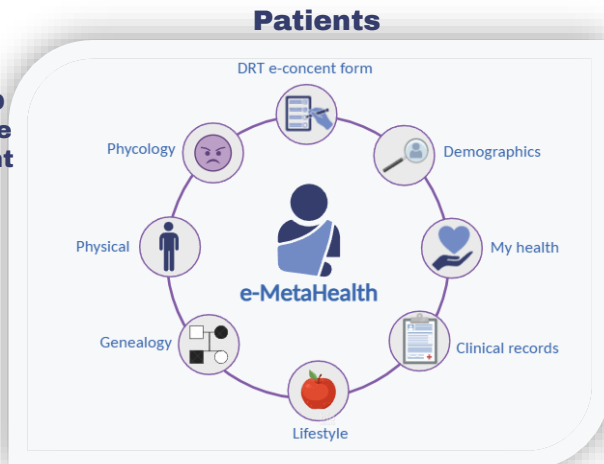
AI reactive tool, produces, in real time, Quality Assessment of biosamples, with simultaneous prediction of their suitability for downstream use in a given research activity, based on preanalytical data evaluation.

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



e-MetaBio Platforms

- ✓ **Platform for RWD & remote disease self-management**

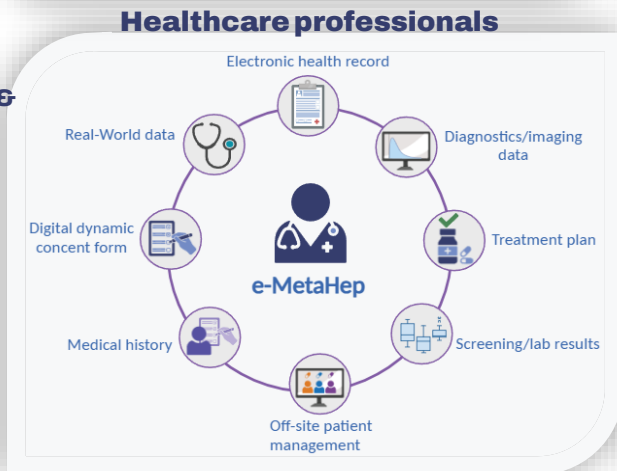


Biobanks & Repositories

- ✓ **Management and logistics of biological samples**

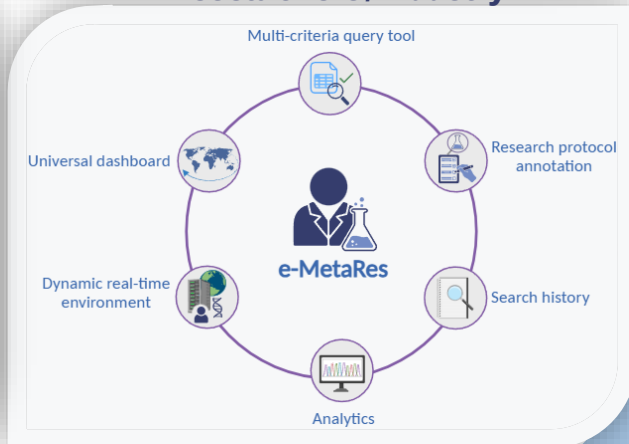


- ✓ **Complete EHRs & remote disease monitoring**



Researchers / Industry

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



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



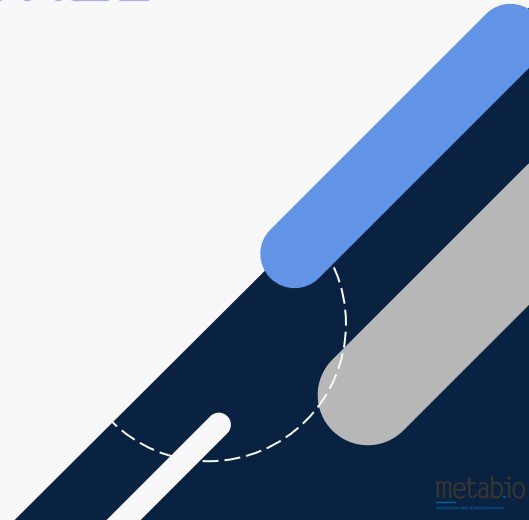
Decrease Costs

basic-research cycle
during drug-development
by 75%



Increase Value

biosample scientific and
market raised up to
250%



1st worldwide marketplace for biospecimen & data



Login as



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

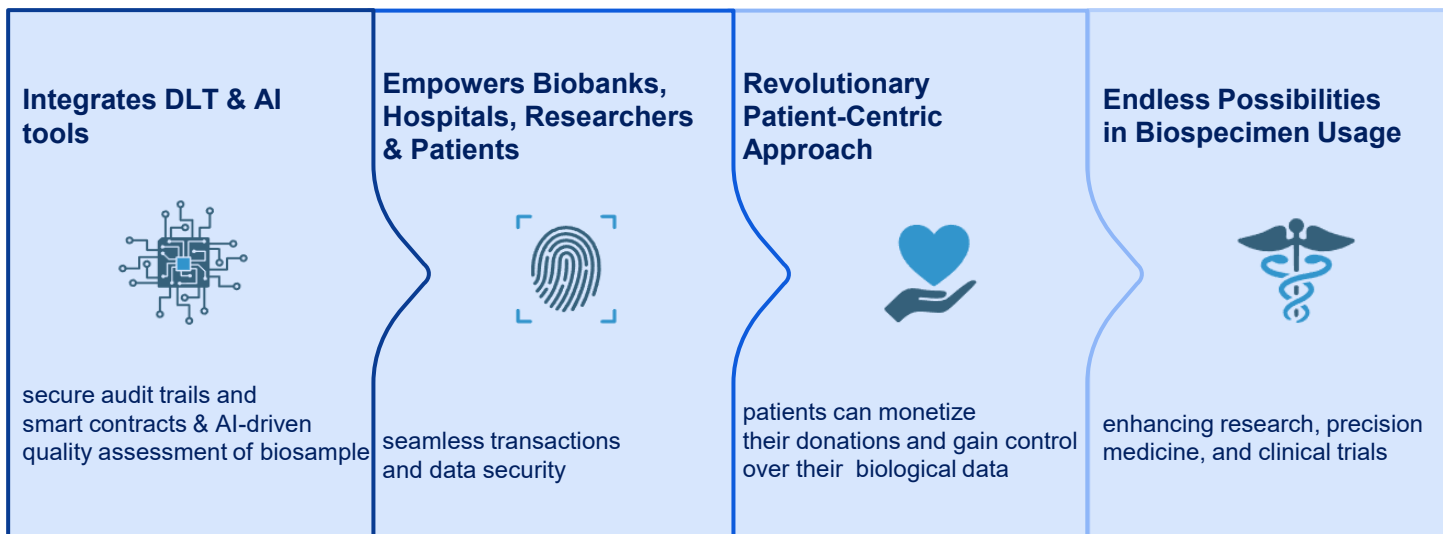


DLT Marketplace for Biosamples



Purpose:

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



Transformative solution for data and biosample commodities

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



SNEAK PEEK



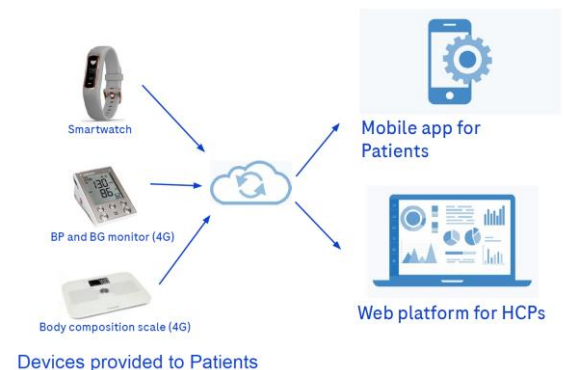
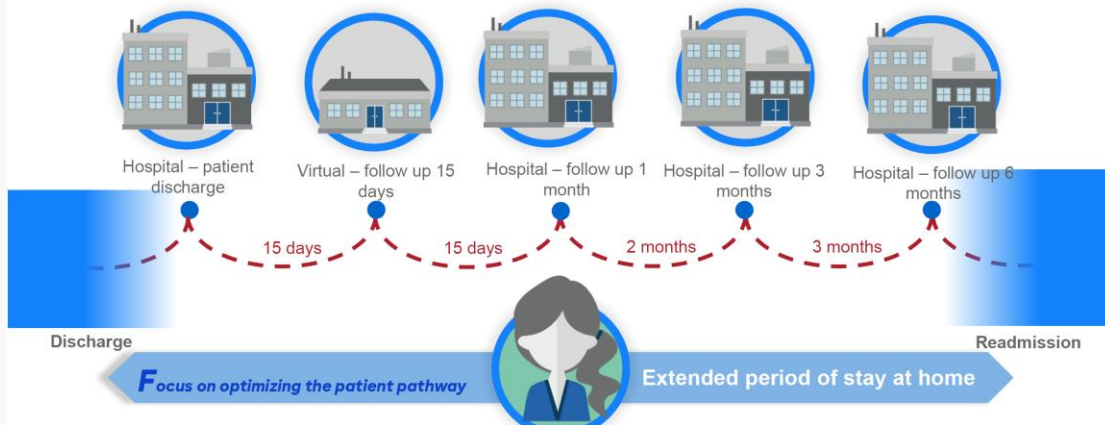
MindMed Health IoT

Next Generation Self-management solution

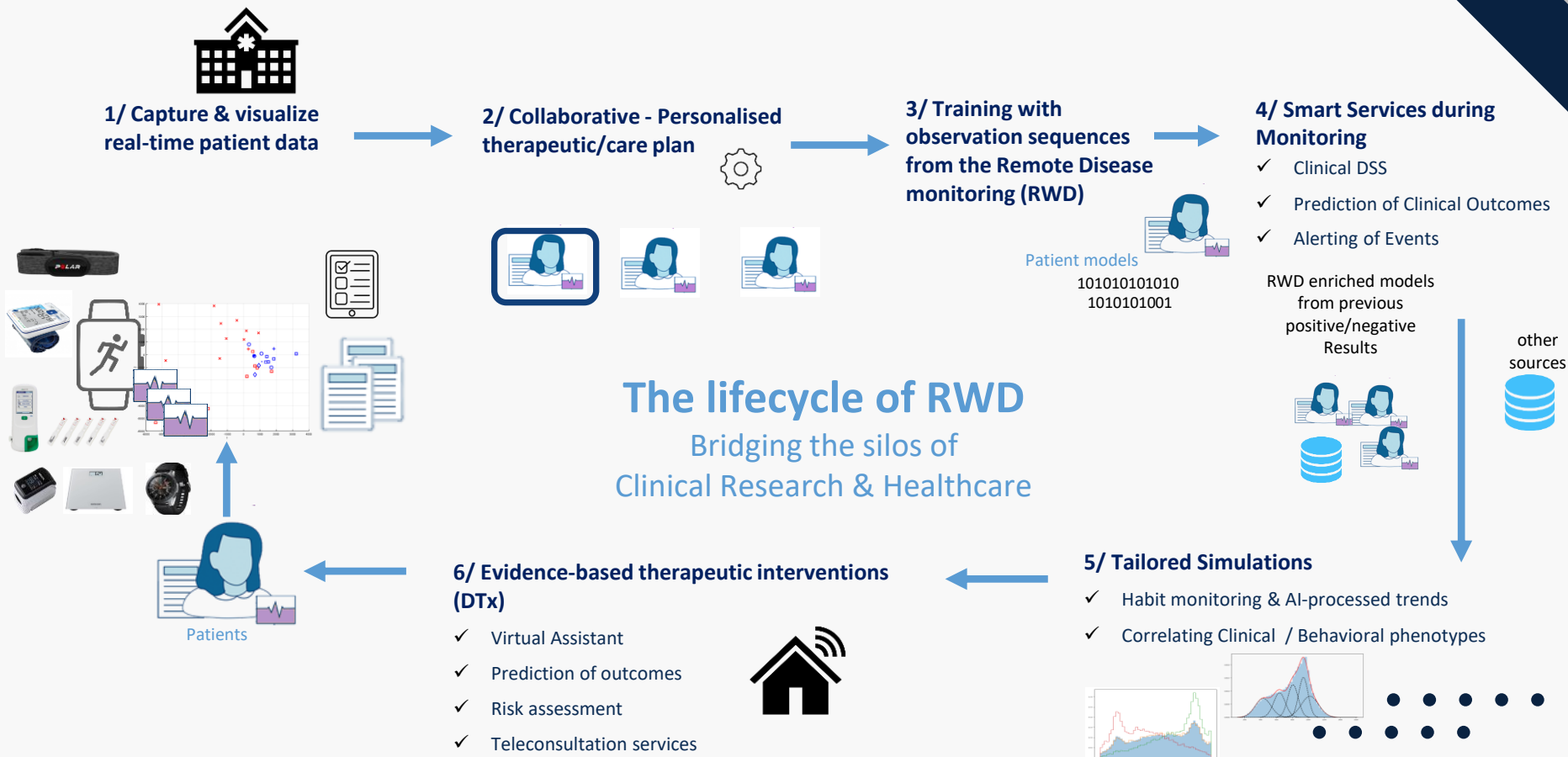
IoT Health platform

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



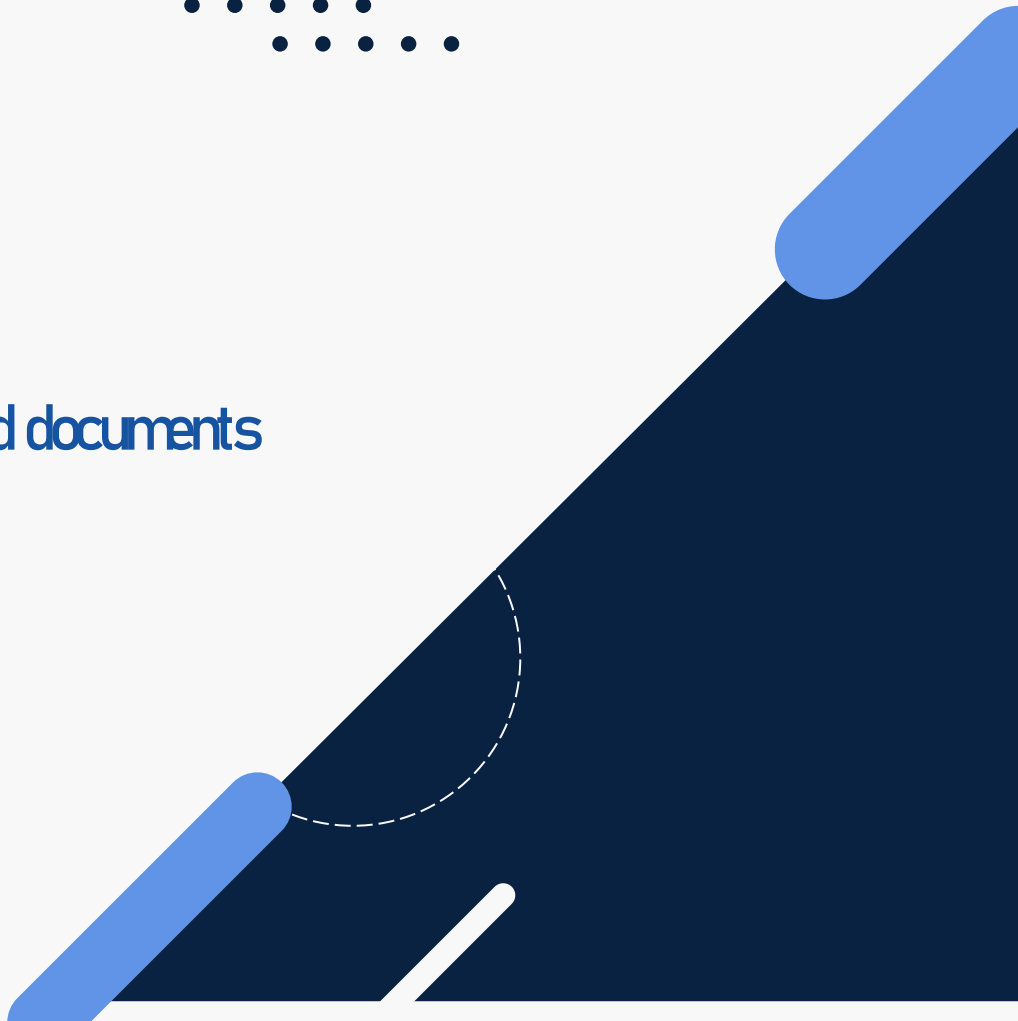
Deep Learning & Patient-centric approach





Lock Sign

Secure Signatures for all Health-related documents



The problem



- ❖ Existing free digital signature products are easily forged and cannot be verified.
- ❖ Existing paid digital signature products require additional security certificates which makes any verification process complicated.
- ❖ Neither product can be verified in printed form.

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.

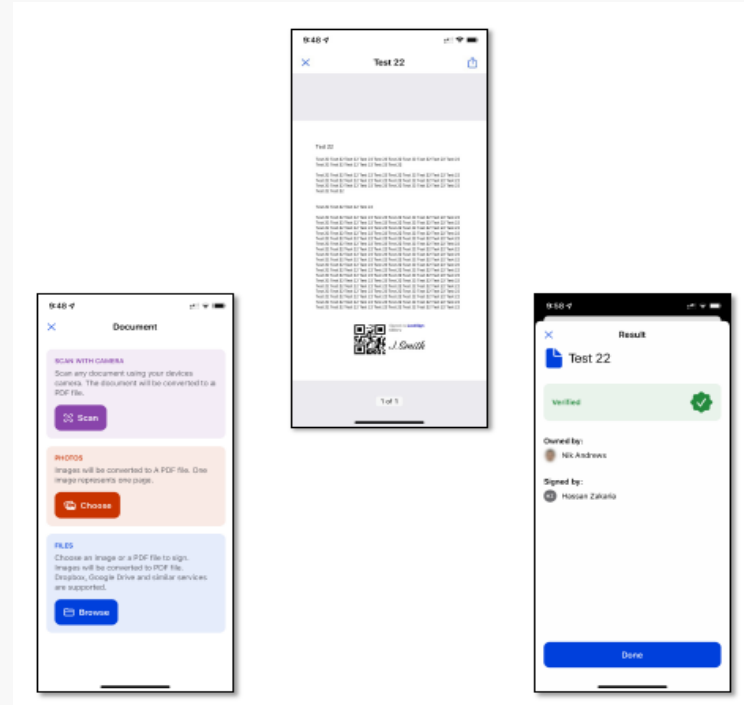
Allows for a signature that cannot be copied or forged as it is unique to the specific document/ user.

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.

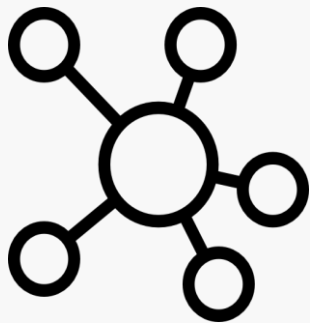




Services



Mapping services



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



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

24/7 Communication and support

- ★ responsive
- ★ reliable
- ★ personalized



Consultancy & Brokerage

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.



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.



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

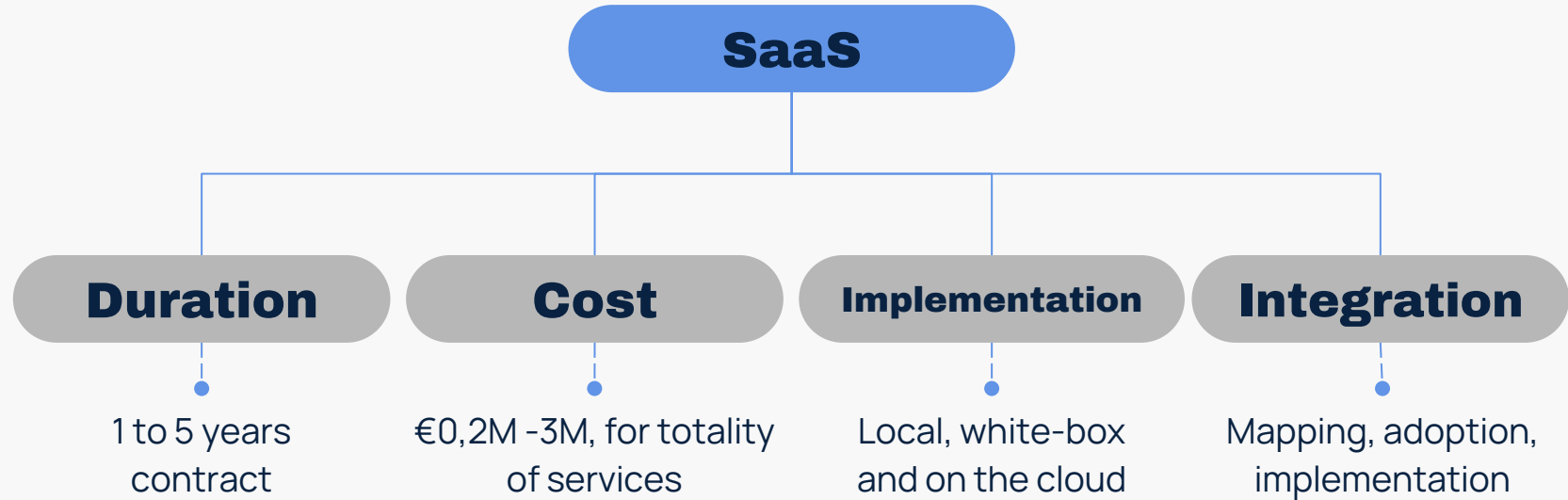


Services

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!

+30 2310 304034

<https://metab.io>

GREECE

Metabio IKE
Agisilaou 4, Harilaou, 54250, Greece
info@metab.io

BULGARIA

Metabio BG AD
6 Nikola Vaptsarov Blvd, Sofia, 1407, Bulgaria
metabioBG@metab.io

USA

Metabio USA Inc.
Lewes, Delaware, USA
metabioUSA@metab.io

