



Early diagnosis  
of **critical**  
heart diseases



# The Problem - Misdiagnosed dyspnea

Research<sup>1</sup> shows, that in **16-68%** of cases **dyspnea** is **misdiagnosed!**

A pulmonary issue



**COPD**



**1**

Similar symptoms,  
different therapies

A cardiac issue



**HF**

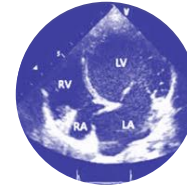
## Diagnostic process

Using conventional approach:

Diagnosis time **+4 weeks**

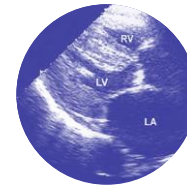
Cost per patient **~450€**

Heart Failure with reduced Ejection Fraction (HFrEF)



**2**

Each requires a  
different therapy



Heart Failure with preserved Ejection Fraction (HFpEF)

<sup>1</sup> <https://psnet.ahrq.gov/issue/misdiagnosis-heart-failure-systematic-review-literature>  
<https://vasolabs.com/heart-disease-misdiagnosis-and-underdiagnosis-an-ongoing-crisis/>

# The Solution: System MUDISOCARD

## Diagnostic process

### Using Mudisocard:

Diagnosis time	<b>30 min</b>
Costs per patient	<b>~99€</b>

## MUDISOCARD

A **multi-dimensional**  
system for  
**cardiac dynamics**

A medical testing tool  
including 3 parts:

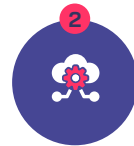
## Design of the Device



## First working prototype



The Device



The Platform



The Algorithms



Medical Report



Healthcare Professional

# Aligning science and experience to change the way heart failure is diagnosed and treated

## Management



**Miłosz Jamroży**

PhD Eng, MD, CEO

Co-founder



**Filip Janowski**

CFO



**Aleksander Cudny**

CTO



**Karol Pawelec**

Q&R Affairs Director

## Supervisory Board



**Paweł Szydłowski**

TerraSeed VC

Chairman



**Krzysztof Lewenstein**

Prof. Eng, Biomedical Engineer

Co-founder



**Maciej Jutrzenka -  
Trzebiatowski**

Legal Counsel



**Krzysztof Andrijew**

PhD Eng, Operations Liaison



**Tomasz Leyko**

MD, Clinical Expert

Co-founder

## Advisory Board



**Marcin Szuba**

MD, Clinical Advisor



**Przemysław Leszek**

PhD MD, Cardiology Expert



**Henrik Krogen**

M.Sc., Commercialization  
Advisor



Complete team of experts aligned in making this project great

# Achieved milestones and future plans

## Achieved milestones in 2023:

- Developed a working prototype of the device,
- Prepared regulatory strategies for EU and US,
- QMS certification in accordance with ISO 13485:2016,
- Patent applications filed (EU, US, SA, UEA, South Korea),
- Bridge Alpha project submitted,
- Contracts signed:
  - cooperation with the Polish National Institute of Cardiology
  - MSA with an international CRO



## Plans for 2024:

- Development of a clinical trial protocol
- Preparation for the serial production of the device
- Commencement of product testing and CE certification process (MDR)
- Production of 200 prototypes
- Further development of the Telemedical platform and algorithms

Currently raising **1 mln €**

First sales planned for 2025



# EFM

Engineers For Medicine

## Thank you

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