# 9th CHALLENGES in CARDIOLOGY

## JUNE 28th - 29th 2019

Palace Hotel Monte Real

9th CHALLENGES in CARDIOLOGY

# SUMTHINK

## MEDICAL DIAGNOSTICS

NANOPARTICLE-BASED
ULTRA HIGH SENSITIVITY
PORTABLE
TROPONIN MEASUREMENT

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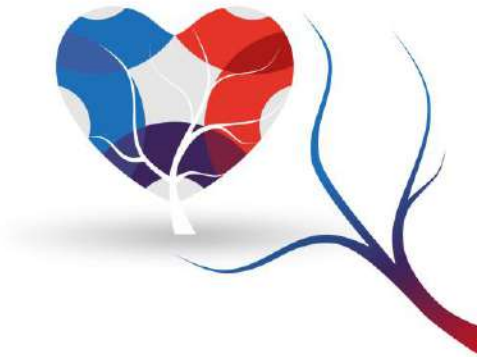
# CONFLICT OF INTERESTS



**NONE TO DECLARE**

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# UNMET CLINICAL NEED

**ISCHEMIC HEART DISEASE**
**NUMBER ONE CAUSE OF DEATH GLOBALLY [7.400.000/YEAR]**

**ACUTE**

**CHRONIC**

**TROPONIN**

**CARDIAC MUSCLE PROTEIN SPECIFIC MARKER OF CARDIAC DAMAGE**

WORLD HEALTH ORGANISATION, 2016

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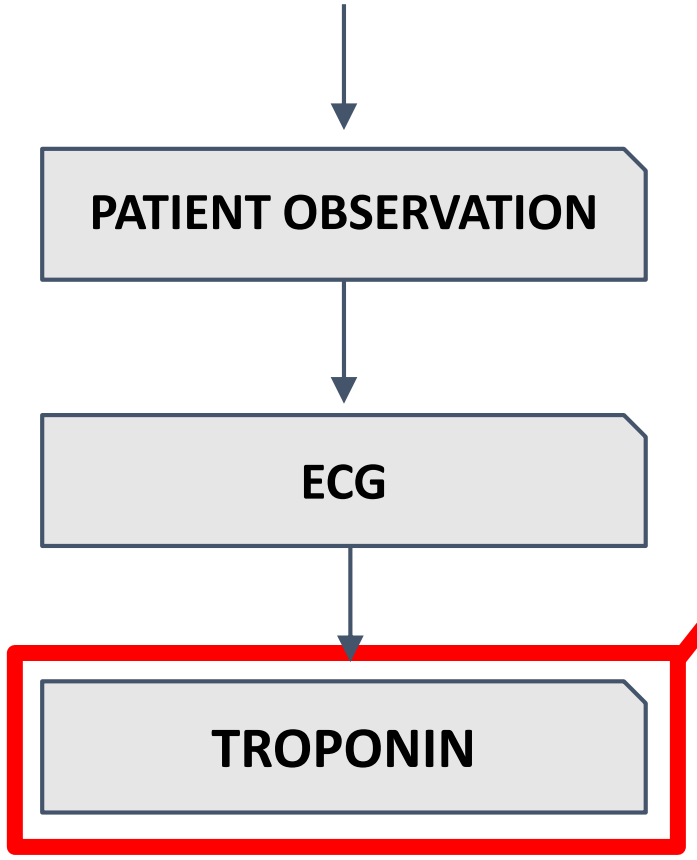
# UNMET CLINICAL NEED

## THE ACUTE PATIENT




Gold-standard

**2 measurements**

current methods:

**2 TO 6 HOURS +**

CURRENT SOLUTIONS

**ARE NOT FAST ENOUGH**

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# UNMET CLINICAL NEED

## THE ACUTE PATIENT

### PUSH FOR FAST DECISIONS

causing unnecessary costs and overcrowded hospitals

CURRENT SOLUTIONS

**ARE NOT FAST ENOUGH**

# UNMET CLINICAL NEED

## THE CHRONIC PATIENT

### PUSH FOR GREATER SENSITIVITY

| | Assay Criterion | Application<br>Diagnosis<br>Myocardial Infarction | Risk Stratification<br>Secondary Prevention | Risk Stratification<br>Primary Prevention |
|---|---|---|---|---|
| Conventional troponin | | + | (+) | - |
| Contemporary sensitive troponin | 10%CV<br>≤ 99th percentile | ++ | + | - |
| High sensitive troponin | Detectable in ≥ 50%<br>of a general population | ++ | ++ | + |
| Super sensitive troponin | Detectable in ≥ 95%<br>of a general population | ? | ? | ? |

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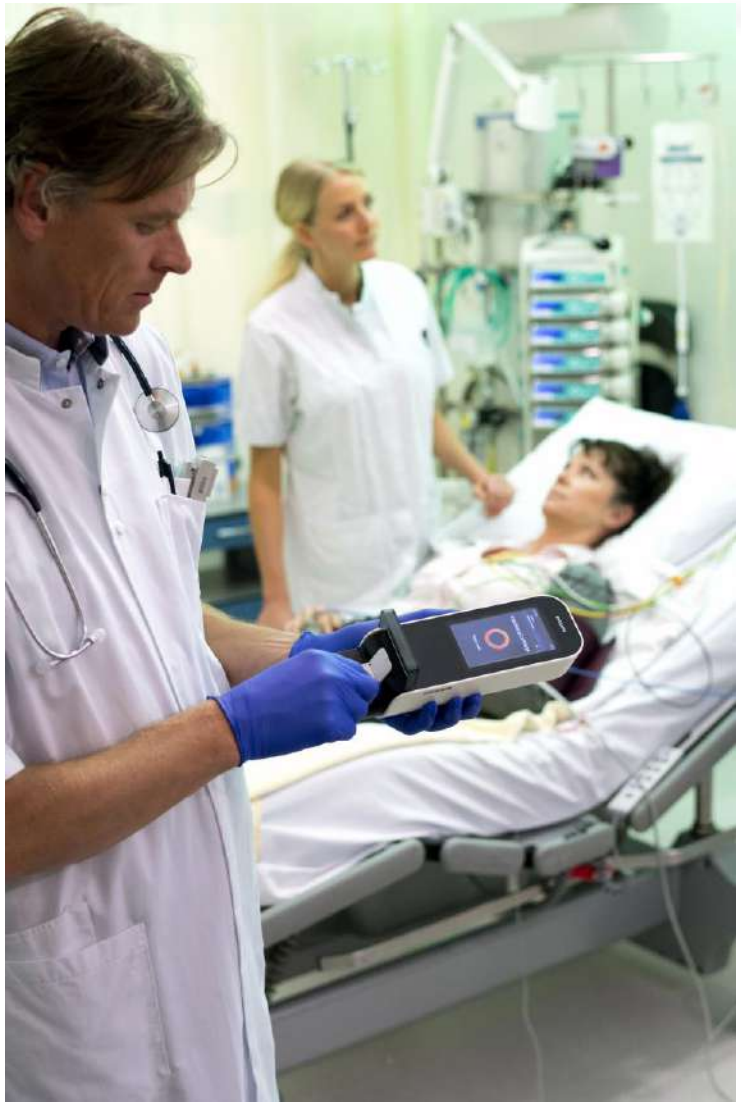
# COMPETITION



GENENGNEWS.COM, PHILIPS.COM

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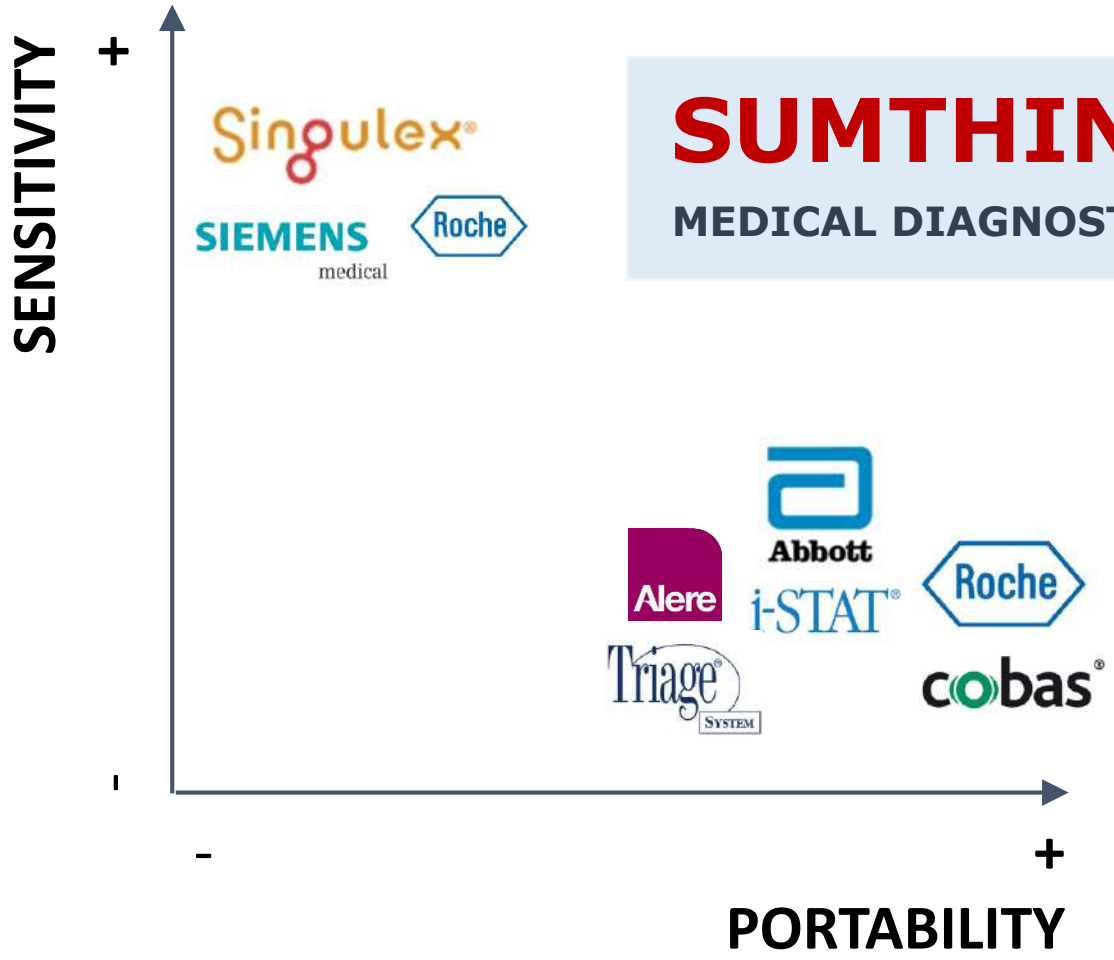
# COMPETITION




**SUMTHINK**

**MEDICAL DIAGNOSTICS**

**NO TURNAROUND TIME**

**SHORTER TIME TO RESULTS**

**30-90MIN**

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# TECHNOLOGY

**customized NANOPARTICLES**

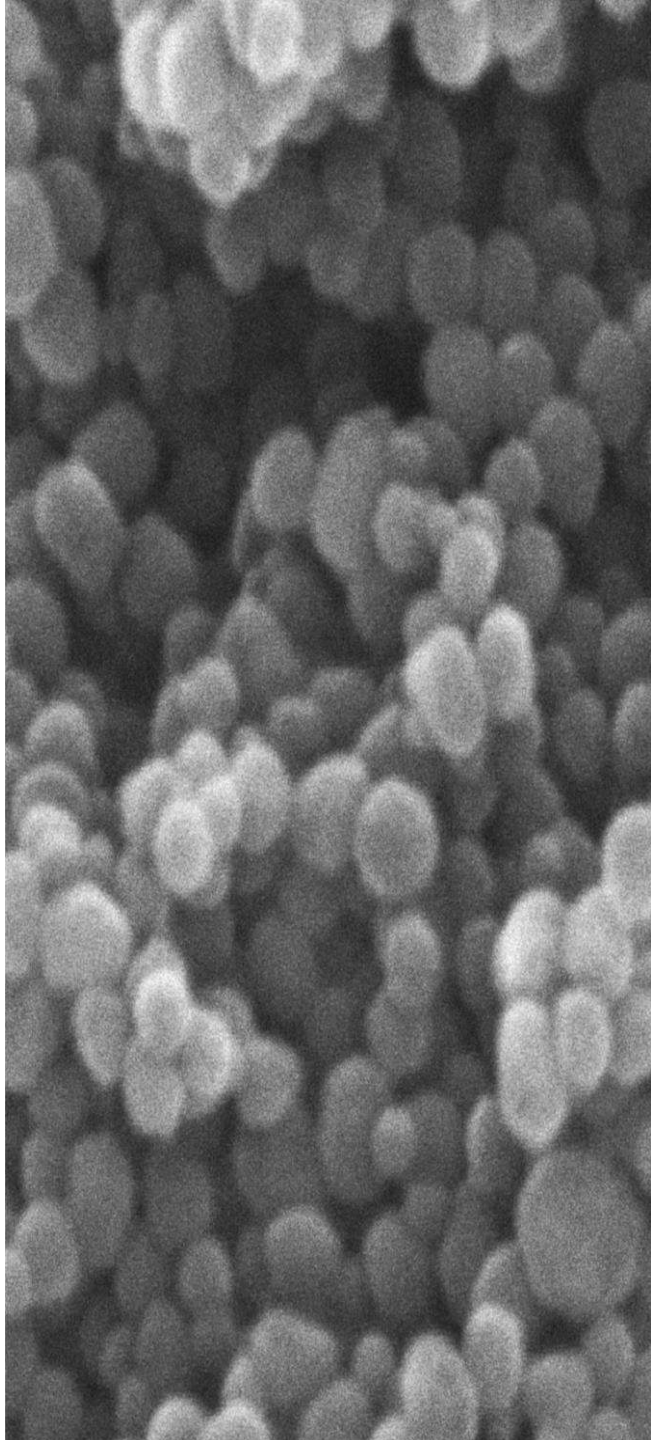
lowers **DETECTION LIMIT**

**SYNTHETIC COMPOUND**

binds specifically to **TROPONIN**

**LOWERING DETECTION LIMITS**

allowing to precisely detect smaller **CONCENTRATIONS and VARIATIONS OF TROPONIN**



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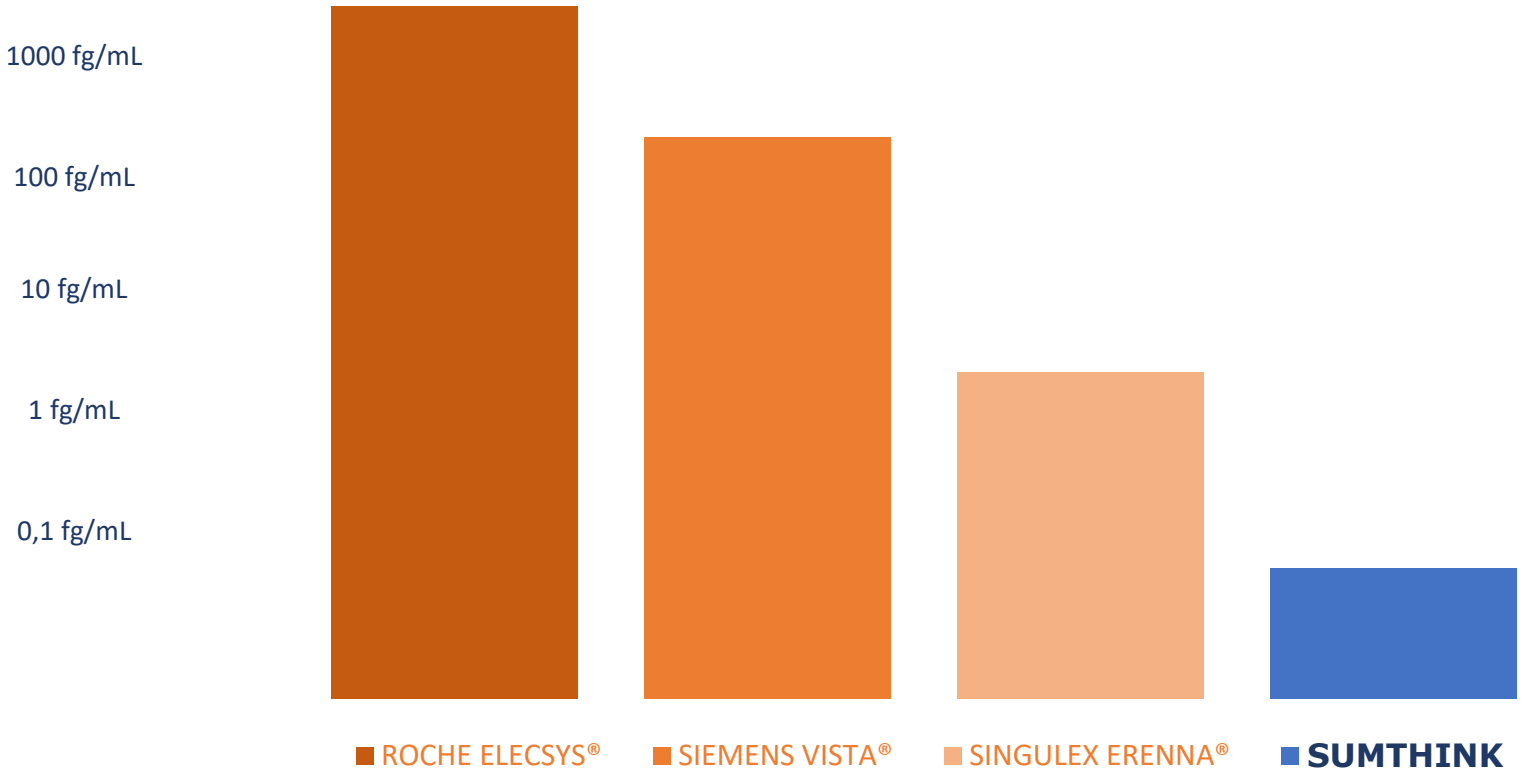
# COMPETITION

## DETECTION LIMIT



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# PRODUCT

**PORTABLE** AND **USER-FRIENDLY** DEVICE

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# UNMET CLINICAL NEED

## ISCHEMIC HEART DISEASE

### ACUTE

**80%**

FASTER DISCHARGE

### CHRONIC

PROGNOSTIC VALUE
DECISIONAL INPUT
TAILORED APPROACH

**SAVING $350.000**

[PER HOSPITAL/ PER YEAR]

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# MARKET

## ADDRESSABLE MARKET: $1.25B

## TROPONIN DETECTION

POC: $350 MILLION
LAB: $900 MILLION

**12% GROWTH**

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# MARKET

**21,812 HOSPITALS IN EUROPE AND NORTH AMERICA**

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# BUSINESS MODEL

**outsource** | **in house** | **distribution** | **customers**

NANOPARTICLES

SYNTHETIC COMPOUND

CHIP

REVJ Diagnostics

CardinalHealth

Fisher Scientific

MEDLINE

Accumedix, Inc.
Contract Medical Device Manufacturing

→ HOSPITALS
CLINICS
HOME?

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# BUSINESS MODEL

RAZOR AND BLADE

PATENT AND LICENSING MODEL

**HANDHELD D[illegible]** → **CONSUMABLES**

on[illegible]

multiple times

**CONTINUOUS REVENUE**

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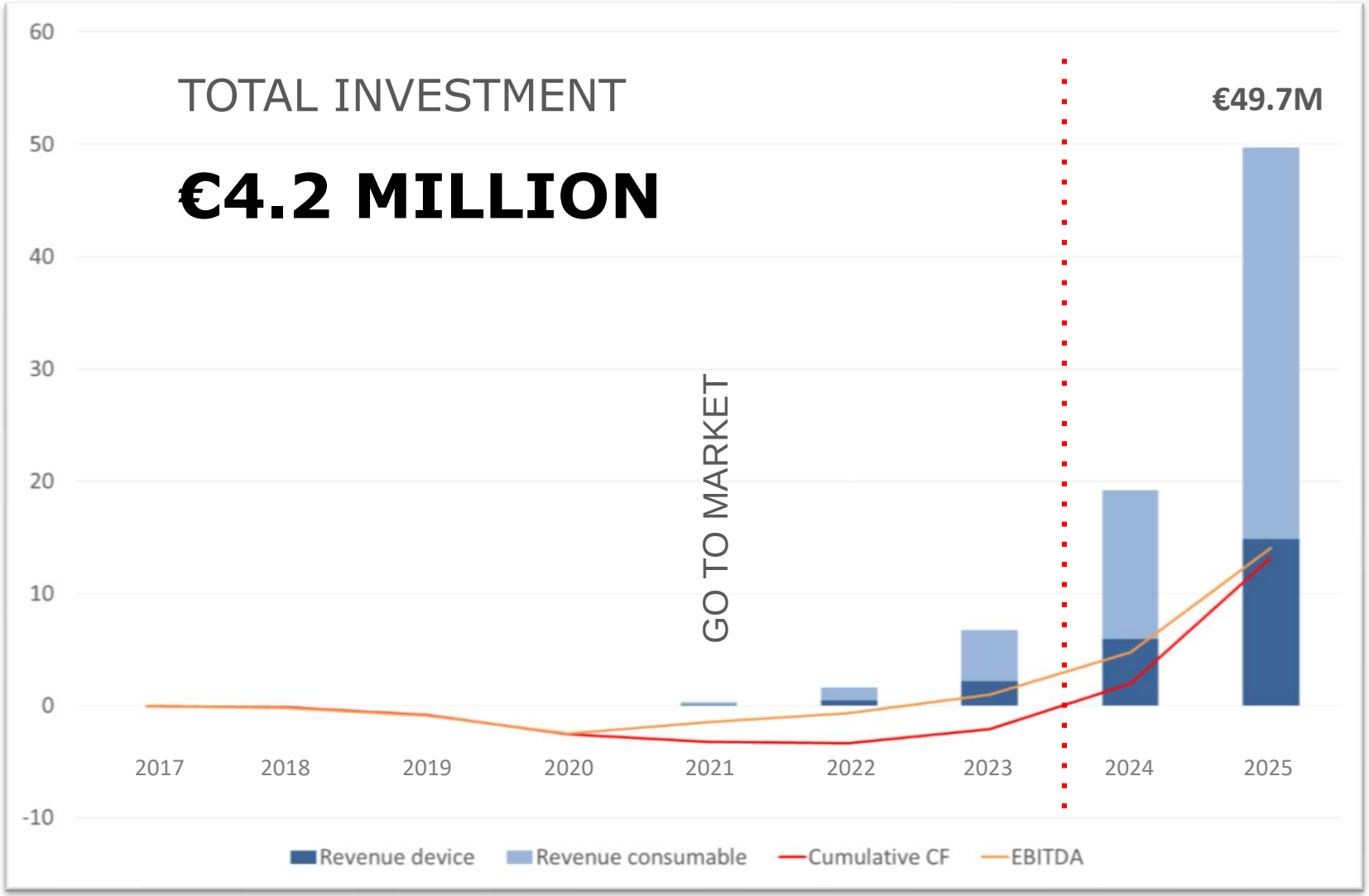
# BUSINESS MODEL



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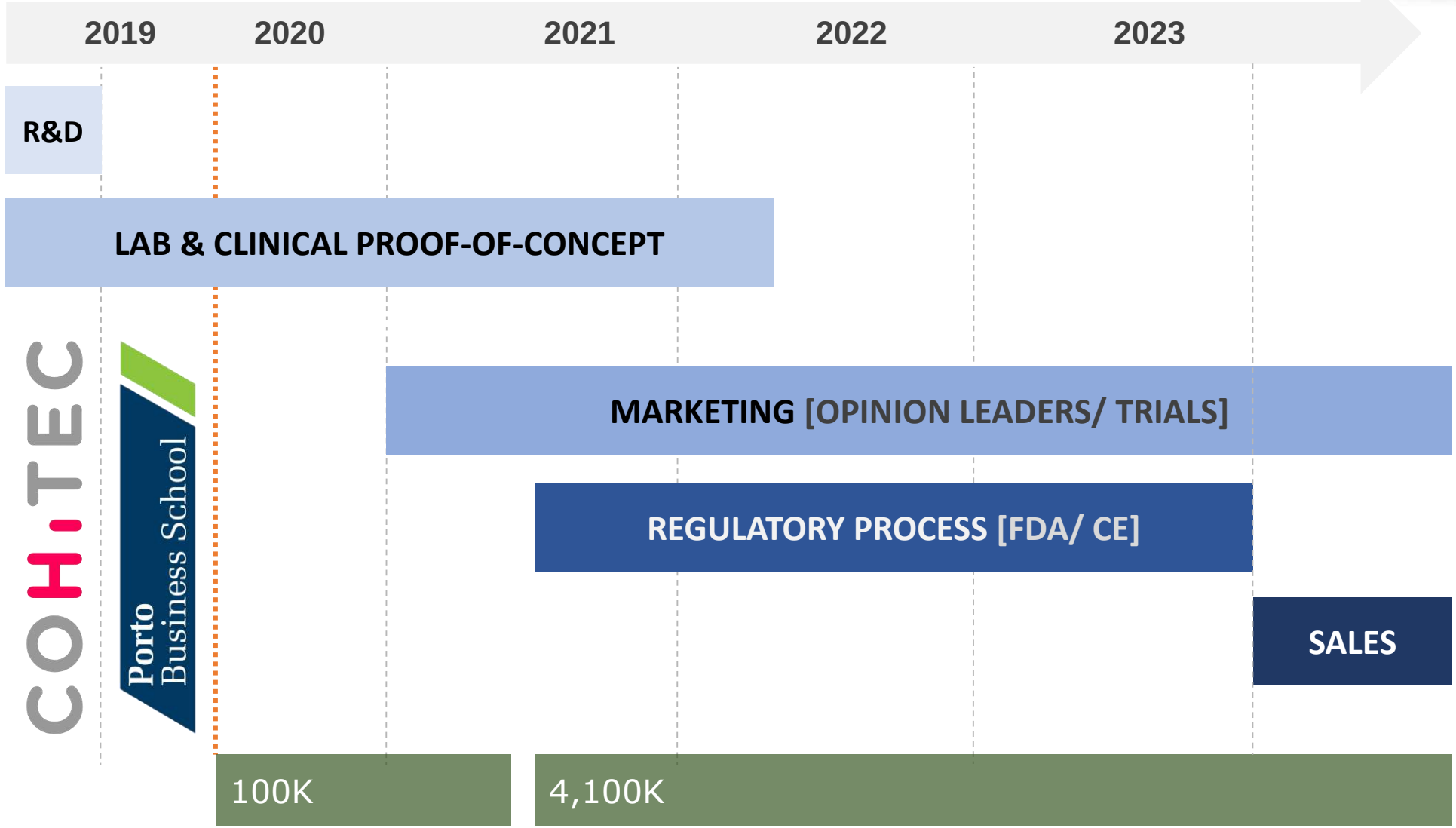
# ROADMAP




COHiTEC

Porto Business School

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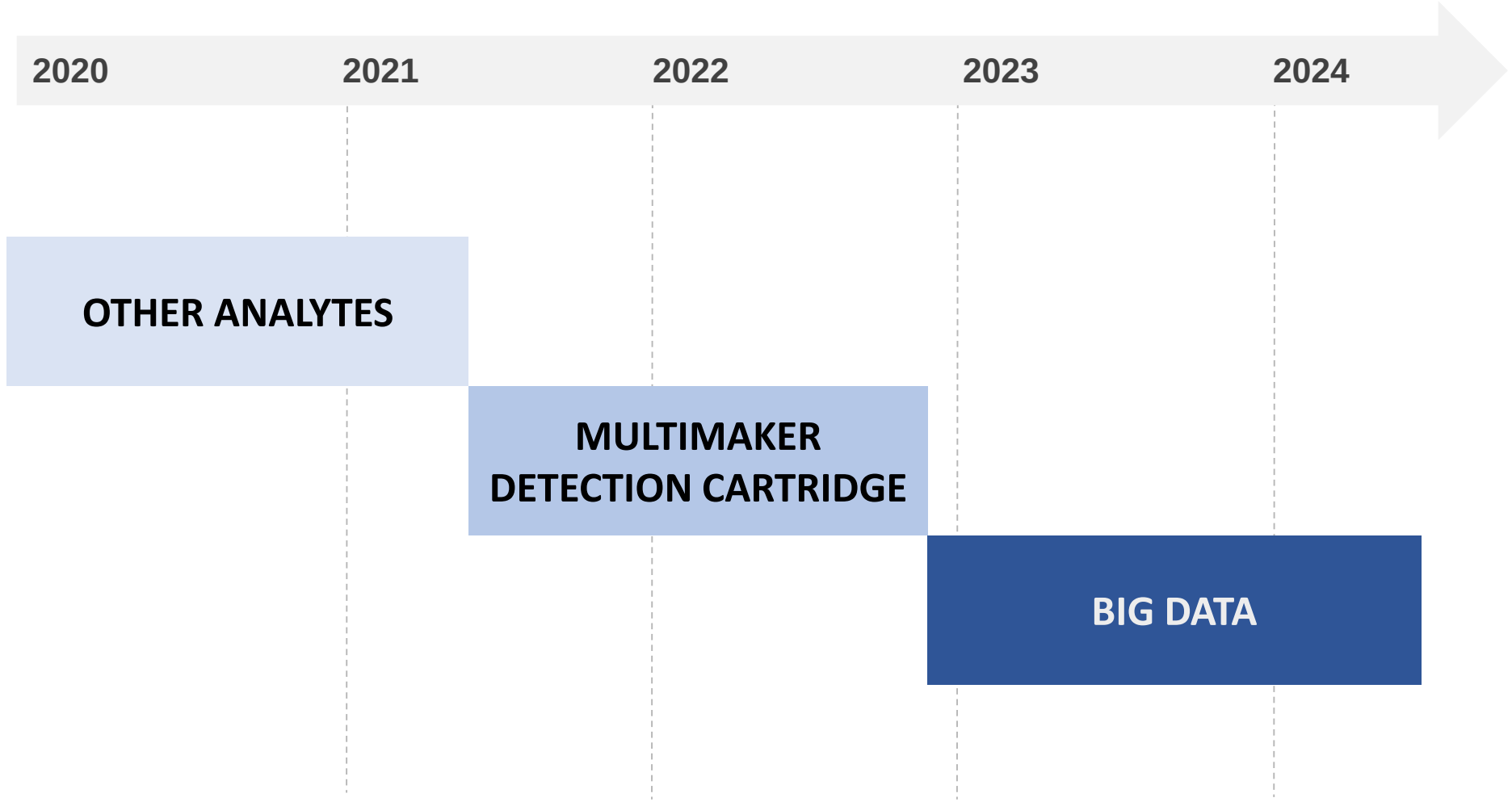
# PIPELINE



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# TEAM


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MAMARTINS@UA.PT

**TIAGO ADREGA** — CARDIOLOGIST, GDBA
TIAGOADREGA@HOTMAIL.COM


## CONTESTS

NORTEXCEL
CENTRE OF EXCELLENCE IN MEDICAL TECHNOLOGIES

CARDIO ARENA
FOCUS ON INNOVATION

## PARTNERS

universidade de aveiro

ciceco
Centro de Investigação em Materiais Cerâmicos e Compósitos