MEDI✕BOT

A Deeptech Startup in Biotech & Healthcare

MONO`x

"Wearable Smart Armband"

A Five-Dimensional Personal Smart Medical Device and Healthcare Platform

The Problems

1 ❙ **Fragmented** Healthcare Devices.

2 ❙ Lack of **Personalization**

3 ❙ **High Costs** and Inefficiencies

4 ❙ **Environmental** Concerns: One-Time Use, Excessive Waste

5 ❙ Limited **Accessibility** in the US and Globally

6 ❙ Absence of a Personal Medical Device with a **Platform/Ecosystem** for Healthcare Apps

7 ❙ Lack of **Integration** Across Health Monitoring and Management Devices

8 ❙ **Complexity** in Managing Various Health Tracking Tools

9 ❙ **Limited** Data and Experiences **Sharing** and **Collaboration** in Healthcare Sector

10 ❙ Data **Privacy** and **Security** Concerns

The Solution - MONO`x Smart Wearable Armband

"A full-stack Integrated Wearable Closed-loop System (IWCS) for In-Situ Health Monitoring and Treatment"
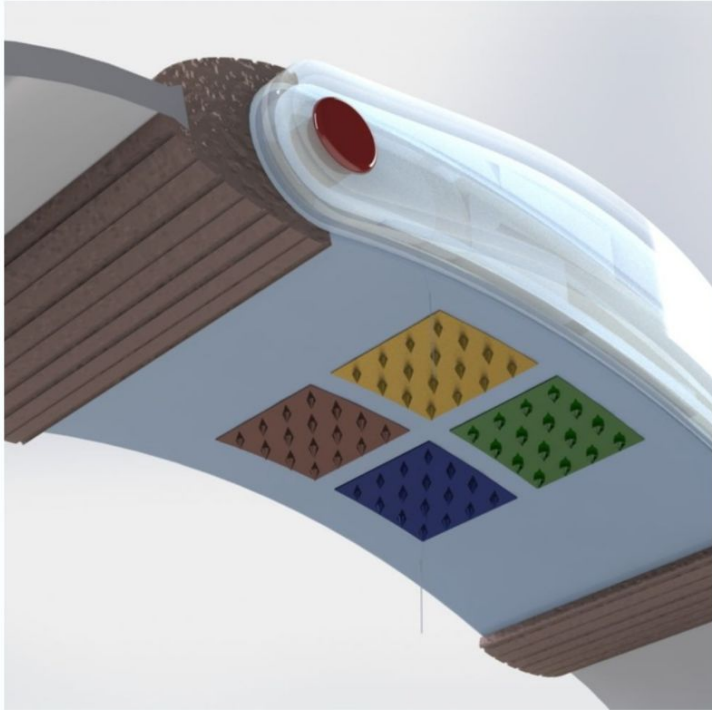
Revolutionizing Healthcare with Medixbot Mono'x:

> Cutting-edge wearable: redefines healthcare tech, outpacing smartwatches and devices.

>Innovative Microneedle Arrays: MN arrays, precision drug delivery to data collection; Enzyme Coated Solid MNs, Swelling MNs, Porous MNs, Hollow MNs, Dissolving MN Patches.

> Hygienic Cannula System: Swift rotation, optimal performance, minimal contamination.

> Pemini AI Network: Cloud and Edge(On-device) AI, personalized insights, limitless possibilities.

> Intuitive User Interface: Touchscreen control for seamless interaction.

> No-Code Development: Customize on-device algorithms, mobile apps, accelerate innovation.

> Endless Applications: Medical research to biosensors, unlocking innovation.

MONO`x

5D Continuous Monitoring

1 ❙ **Healthcare Vitals**
- **External Health Vitals:** Heart Rate, Blood Pressure, Blood Oxygen, Body Temperature.
- **ISF-based Biomarkers:** Glucose, Lactit Acid, Ions, Nutrients, Oxygen, Proteins, GAGs, etc.

2 ❙ **Nutrition; Food and Carbs**
Calories, Carbs, Proteins, Fats, Sugars, Cholesterol, Vitamins, Minerals, etc.

3 ❙ **Physical health and fitness**
Pedometer, Walk, Run, and Climbing, Cycling, Fitness Workout, Sports.

4 ❙ **Sleep and Napping**
Total and Deep for both; Sleep and Napping.

5 ❙ **Mental Health & Stress**
Body Balancing, Working Hours, Mood, Sound Monitoring(Own and Environment).

5D Continuous Management

1 ❙ **Smart Drug Delivery System**
- Auto-instant delivery
- Continuous delivery
- Manual-instant delivery

2 ❙ **Personalized Diet Program**

3 ❙ **Personalized Workout Program**

4 ❙ **Personalized Sleep and Napping Program**

5 ❙ **Personalized Mental-Enhancement Program**

Empowering Healthcare with AI

❏ **Conversational AI agents**: At the forefront of integrating cutting-edge technology with healthcare, Medixbot is revolutionizing the field with conversational AI agents and pioneering personal medical devices.

❏ **AI-Driven Insights**: Our conversational AI agents, powered by healthcare knowledge graphs and Natural Language Processing (NLP), provide cohesive understanding and real-time, data-driven insights for informed decision-making in medical domains;

    ❏ **Continuous biomarkers and healthcare monitoring,**

    ❏ **Symptom analysis,**

    ❏ **Disease diagnosis, and**

    ❏ **Treatment recommendation.**

❏ **Custom virtual assistants:** leveraging AI multi-agents to create custom virtual assistants capable of understanding medical language, gathering patient details, and reasoning over encoded knowledge graphs for enhanced health care.

❏ **Challenges and Insights**: Addressing the construction of healthcare knowledge graphs involves collecting and processing diverse data with NLP techniques, ensuring data accuracy, and maintaining patient privacy and security.

The MONO`x Platform

A full-stack Integrated Wearable Closed-loop System (IWCS) for In-Situ Health Monitoring and Treatment

The Medixbot "MONO Platform"
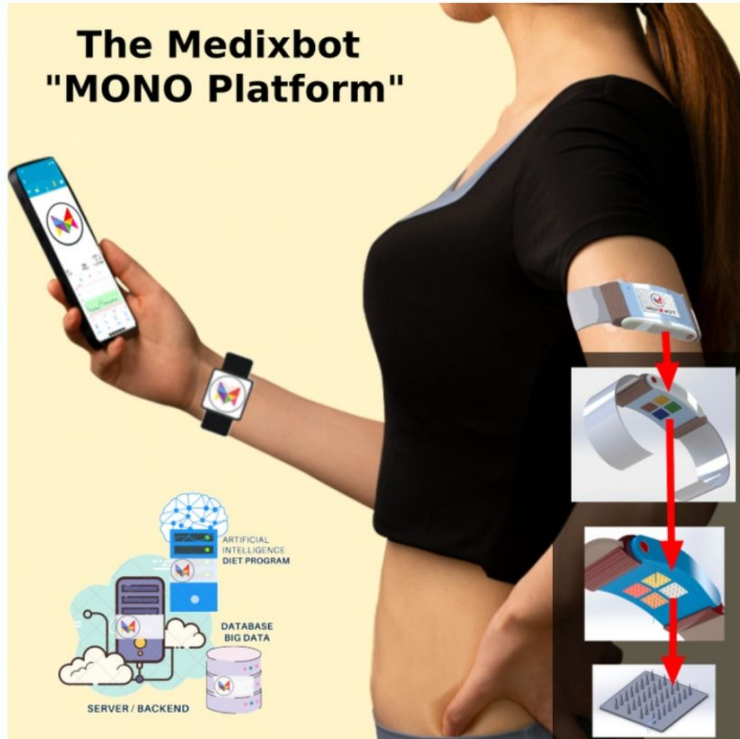
MONO'x Components:

1) Smart Armband

> **Biosensors**: Arrays of MNs Cards

> **Drug Delivery**: Arrays of MNs Cards, Cassettes

> **Hygienic Cannula System**: develop 2 cannulas

> **External Sensors**: heart rate, blood pressure, Blood oxygen, body temperature

> **Device Sensors**: barometer, three-axis gyro, accelerometer, proximity sensor

> **Smart GPU:** Customizable On-device Edge AI

> **CPU(Main Controller), Memory, Storage/Disk, Bluetooth(BLE)**

> **Embeeded Operating System - Customizable On-Device Apps**

> **Touchscreen**: Intuitive User Interface

> **Other H/W, Mechanical and Mechatronic parts**

2) NoType.AI Hybrid Cloud/On-Device AI/ML System

3) Cloud Healthcare Backend System

4) Connected Mobile/Watch Apps

5) Development Kits and No-Code Development

The MONO`1 CGM(Continuous Glucose Monitoring)

"Affordable, Accessible, Replaceable, and Green: The CGM Game Changer!"

MONO'1 will be developed by building upon the MONO'x Platform. This development only includes:

1. **Glucose Continuous Monitoring MNs Card:** Coating with immobilized glucose oxidase (GOx) Enzyme and the Enzyme barrier.

2. **Customized On-Device Embeeded App:** Tailoring the embeeded app/algorithm to accommodate glucose monitoring features.

3. **Customized Cloud and On-Device Edge AI/ML:** Training and testing with our data to optimize smart glucose monitoring accuracy.

4. **Customized Configuration:** Adapting and configuring our pages on the connected mobile/watch apps to seamlessly integrate glucose monitoring.

MONO'2 - Closed-Loop (Artificial Pancreas)

"A full-stack Integrated Wearable Closed-loop System (IWCS) for In-Situ Diabetes Monitoring and Management"

MONO'2 will be developed by building upon the MONO'x Platform and MONO. This development only includes:

1. **Insulin Delivery MNs Card:** Utilizing the Hollow MNs Card from MONO'x for precise insulin delivery.

2. **Hygienic Cannula System**: Adding this system for alternative use, ensuring optimal performance and minimal contamination.

3. **Customized On-Device Embeeded App:** Tailoring the embedded app/algorithm to seamlessly accommodate glucose monitoring and insulin management features.

4. **Customized Cloud and On-Device Edge AI/ML:** Training and testing with our data to enhance smart glucose monitoring accuracy and insulin management precision.

5. **Customized Configuration:** Adapting and configuring our pages on the connected mobile/watch apps for a seamless integration of glucose monitoring and insulin management.

Medixbot Future Roadmap: MONO'1, MONO'2, MONO'X, NoType.AI

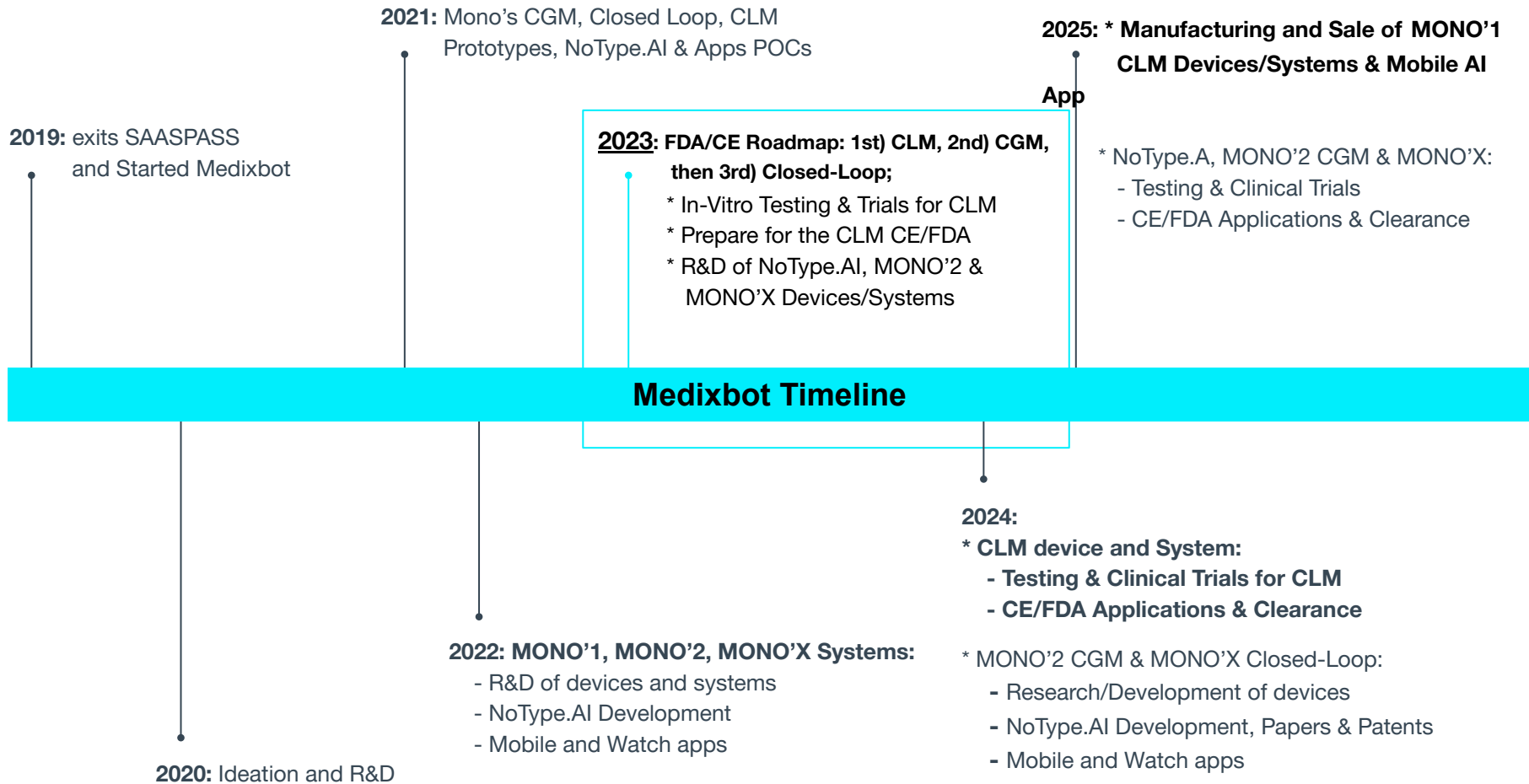**Step 1: MONO'1 - Continuous Lactate Monitoring(CLM) *2023-2025**

- Wearable Armband: A minimally invasive skin sensor to wirelessly transmit lactate levels, 2023
- AI-based mobile Apps and healthcare system, 2023
- AI algorithm accurately interprets lactate data trends, 2024
- Testing, Regulations and Compliances, 2024
- FDA/CE Class I Clearances, 2024
- Manufacturing and Sales, 2025

Step 2: MONO'2 - Continuous Glucose Monitoring(CGM) *2023-2027

- Wearable Armband: A minimally invasive skin sensor to wirelessly transmit glucose levels, 2023
- AI-based mobile Apps and healthcare system, 2024
- AI algorithm accurately interprets data trends, 2024
- Testing, Clinical Trials, Regulation and Compliances, 2025
- FDA/CE Class II and Breakthrough Program Clearances, 2026
- Manufacturing and Sales, 2027

Step 2: MONO'X - Closed-Loop/Artificial Pancreas Glucose, & No.type.AI Insulin Calculator *2024-2028

- Wearable Armband: A minimally invasive skin sensor for all Interstitial Fluid biomarkers and Auto-Insulin Pump, 2024
- AI-based mobile Apps and healthcare system, 2025
- AI algorithm accurately interprets data trends, 2025
- Testing, Clinical Trials, Regulation and Compliances, 2026
- FDA/CE Class II and Breakthrough Program Clearances, 2027
- Manufacturing and Sales, 2028

Medixbot Timeline

2019: exits SAASPASS and Started Medixbot

2020: Ideation and R&D

2021: Mono's CGM, Closed Loop, CLM Prototypes, NoType.AI & Apps POCs

2022: MONO'1, MONO'2, MONO'X Systems:
- R&D of devices and systems
- NoType.AI Development
- Mobile and Watch apps

2023: **FDA/CE Roadmap: 1st) CLM, 2nd) CGM, then 3rd) Closed-Loop;**
* In-Vitro Testing & Trials for CLM
* Prepare for the CLM CE/FDA
* R&D of NoType.AI, MONO'2 & MONO'X Devices/Systems

2024:
* CLM device and System:
   - Testing & Clinical Trials for CLM
   - CE/FDA Applications & Clearance

* MONO'2 CGM & MONO'X Closed-Loop:
   - Research/Development of devices
   - NoType.AI Development, Papers & Patents
   - Mobile and Watch apps

2025: * Manufacturing and Sale of MONO'1 CLM Devices/Systems & Mobile AI App

* NoType.A, MONO'2 CGM & MONO'X:
   - Testing & Clinical Trials
   - CE/FDA Applications & Clearance

Market Size for CGM:

# $13.2 Billion

Market In Numbers:

- [Abbott Laboratories](#) & [Dexcom](#) are the leaders in the CGM market, which hit $5.1 billion in revenue in 2021. Projected $13.2 billion by 2028. ([Ref](#))

- The Global Insulin Pump Market is valued at USD 4.20 billion in 2021. Projected USD 10.18 billion by 2028 at a CAGR of 15.90%. ([Ref](#))

- "Smart health watches global market was USD 59.02 billion in 2021, would rocket up to USD 185.63 billion by 2029 with a CAGR of 15.40%/year.

Market Size for Lactate Meter:
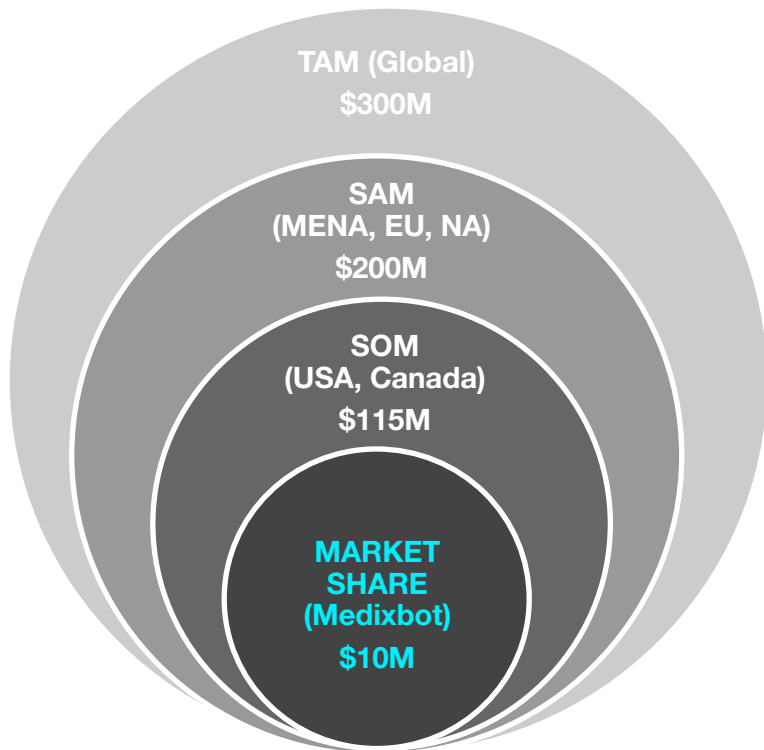
Market In Numbers:
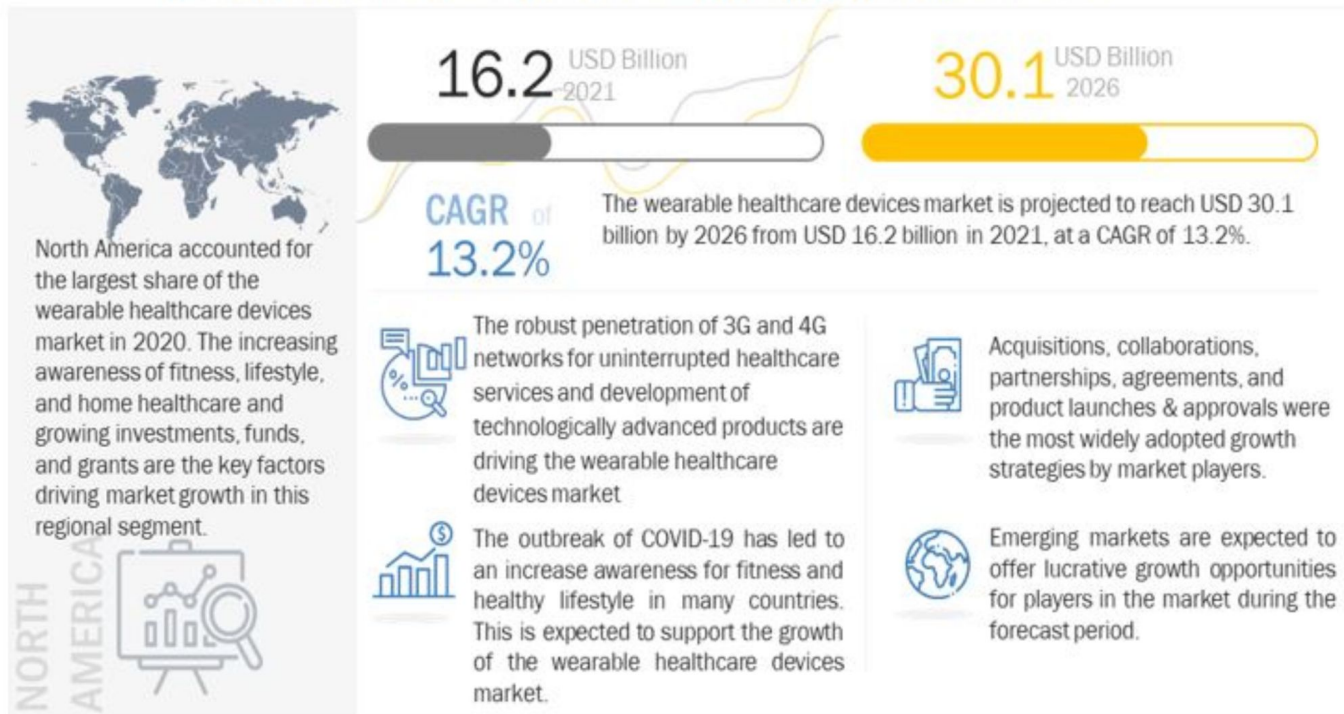
- The Lactate Meter global market was valued at **USD 141.3 M** in 2022, and to reach **USD 299.5 M** by 2031, TMR (https://www.transparencymarketresearch.com/)

- North America Lactate Meters Market to Reach **USD 115.2** M by 2031, Says TMR

TAM (Global)
$300M

SAM
(MENA, EU, NA)
$200M

SOM
(USA, Canada)
$115M

MARKET SHARE
(Medixbot)
$10M
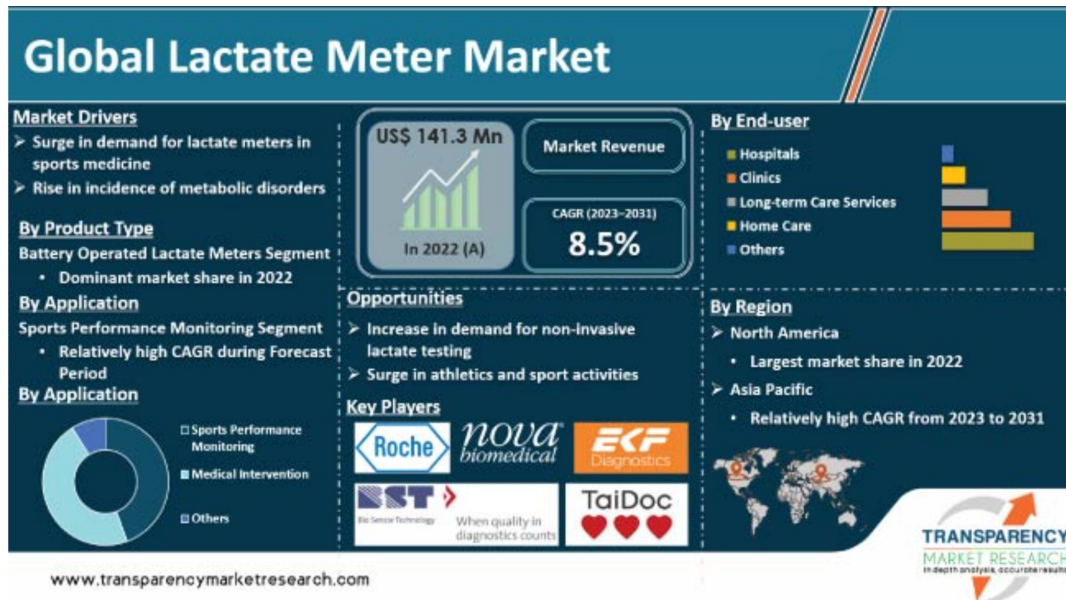
Market Size for MONO'2:

Our Target Market:
$1 Billion

Attractive Opportunities in the Wearable Healthcare Devices Market

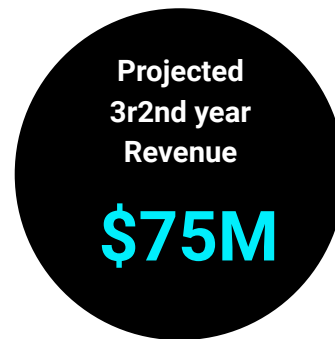**16.2** USD Billion 2021

30.1 USD Billion 2026

North America accounted for the largest share of the wearable healthcare devices market in 2020. The increasing awareness of fitness, lifestyle, and home healthcare and growing investments, funds, and grants are the key factors driving market growth in this regional segment.

NORTH AMERICA

CAGR of **13.2%**

The wearable healthcare devices market is projected to reach USD 30.1 billion by 2026 from USD 16.2 billion in 2021, at a CAGR of 13.2%.

The robust penetration of 3G and 4G networks for uninterrupted healthcare services and development of technologically advanced products are driving the wearable healthcare devices market

The outbreak of COVID-19 has led to an increase awareness for fitness and healthy lifestyle in many countries. This is expected to support the growth of the wearable healthcare devices market.

Acquisitions, collaborations, partnerships, agreements, and product launches & approvals were the most widely adopted growth strategies by market players.

Emerging markets are expected to offer lucrative growth opportunities for players in the market during the forecast period.

Projections

*** Two LOIs from the Ministry of Health in Turkey and Iraq.

**Projected
1st year
Revenue**

$15M

*** 20% tax subsidy
- CE Mark

**Projected
3r2nd year
Revenue**

$75M

Expanding to North American markets:
- FDA Approval

BOOTSTRAP
$200K

F&F&S (Friends, Family, Smarts)
$250K

GRANT
$50K KOSGEB

VIATEC
Accelerator
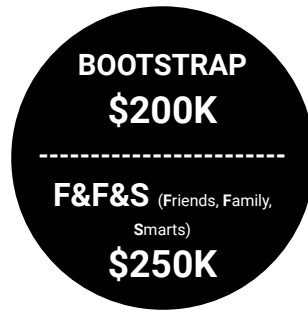
Asking **$2M**

✔ Secured

$250K

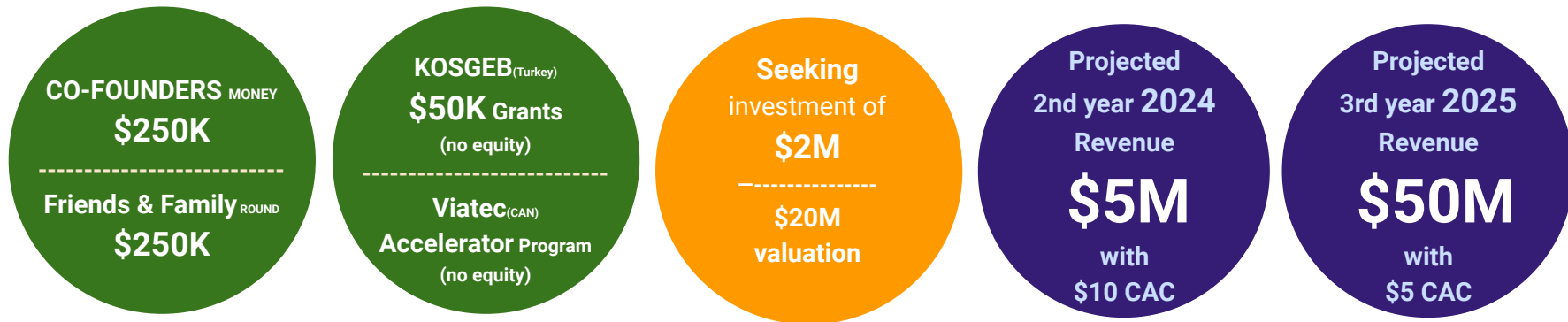
Gov.match grant

Seed Round

VE
Virtual Equity (Syndicate)

for

CE Mark/FDA Approval + Operation + Scaling Manufacturing + Marketing and

Financial Projections

CO-FOUNDERS MONEY
$250K

Friends & Family ROUND
$250K

KOSGEB(Turkey)
$50K Grants
(no equity)

Viatec(CAN)
Accelerator Program
(no equity)

Seeking
investment of
$2M

$20M
valuation

Projected
2nd year 2024
Revenue
$5M
with
$10 CAC

Projected
3rd year 2025
Revenue
$50M
with
$5 CAC

Money will be used:

- **Testing, CE Certification and FDA Approvals**
- **Company & Employees Expenses**
- **Project expenses**

- **Prototyping, Industrial design and Branding**
- **Manufacturing and Scalability**
- **Marketing and Distribution**

Exit Strategy

Further Funding Rounds

Merger or Acquisition

Initial Public Offer

THE TEAM

Ali Lazim, CEO and Founder

- MSc in AI and BSc in CS
- 30+ years of Tech/Biz experiences
- **Plan-Do-Check-Act** cycle of Kaizen (Imai, Masaaki), and
  Lazim's **Agile-Leader**(Multi-Personas))

- Cofounder of 4 Startups
  - **SAASPASS** (exit)
  - **CreaInno** (exit)
  - **Solidpass** (Security keys)
  - **Aradiom** Telekom
- Mentor, Invest & Run Venture Studio in East Europe

Prof.Dr. Gülnur ARABACI
Chemistry/Biotech Eng. SK
Univ., Chemistry/Biotech Advisor

Assoc.Prof.Dr. M. Zahid YILDIZ
Electronics Eng., SUBU.
Electronics/Biomed Advisor

Prof.Dr. Mustafa Can
Biomed and chemical Eng., Univ.,
Sakarya Biomed Advisor

Ethan Woods, Cofounder
Biz/Regulations, Medixbot
M.S., Business, B.S., Biochemistry

Ahmet Turan TALAS,
Specialist Project Scientific
CleanRoom Tech. Coordinator

James Nyamhondoro,
MD Healthcare Advisor, Chronic
Diseases expert

John A. Mauldin,
Business Manager, BSc.
Biz/Marketing Dev Manager, SAASPASS

Furkan Öztürk,
Mechatronic Engineer,
Medixbot

Sami Hamdan Al-Saedi,
MD Medical Devices Advisor,
BSc. Medicine

3 Offices (Sakarya, Skopje, New York)   **3** Labs (TR Office, Boğaziçi University)   **2** Executives   **3** Prof. Researchers   **2** Medical Experts   **19** Engineers

Thanks for your support!

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