

2024 . 08 . 03



**emTAKE**  
**(주)엠테이크**

Jason Cho, CEO

### Technology



Patents (Registration / Application)

- USA : 2 / 1 , Korea : 7 / 3

협약체결 결과 조회

과제번호	과제명	사업명	진행상태
S3344338	유해 생물 입자 검출용 고감도 UV Photo 반도체 센서 어레이 및 머신러닝 기반 검출 계층 개발	구미조각부신제품개발사업 (구미연구팀)	협약 체결완료
S2796548	방음합기술을 이용한 휴대용 상음속스 검출 능동형 IoT 반도체 및 살균시스템 개발	첨업성장 기술개발사업	협약 체결완료

Leading the National R&D Projects

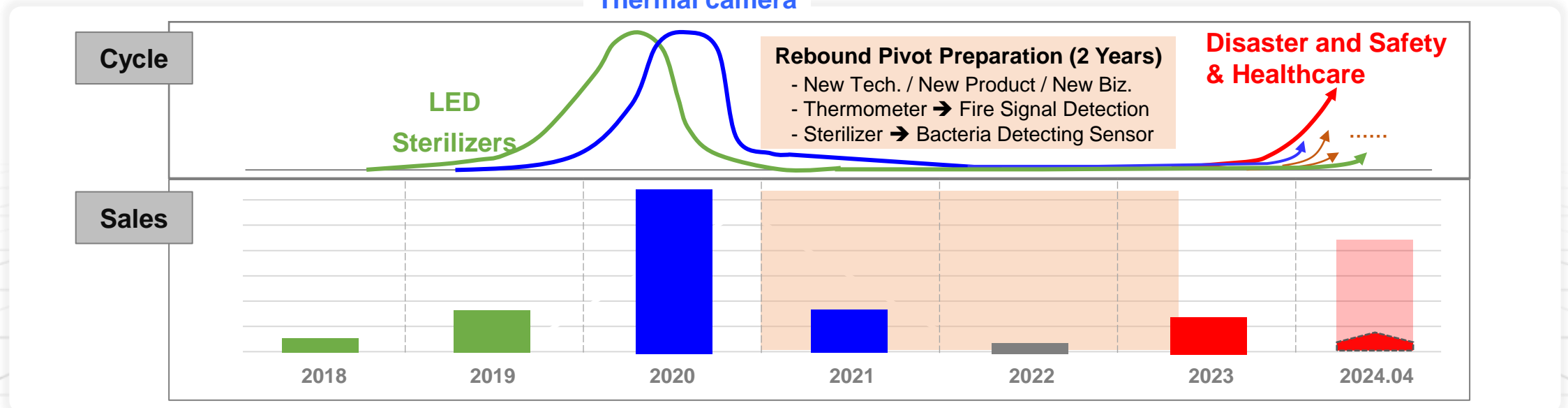
- 1 Completed, 1 Ongoing



Technology Certification by Korean Government

- Co-development with Government R&D Laboratory
- High Venture Technology
- Innovative Business

### Business

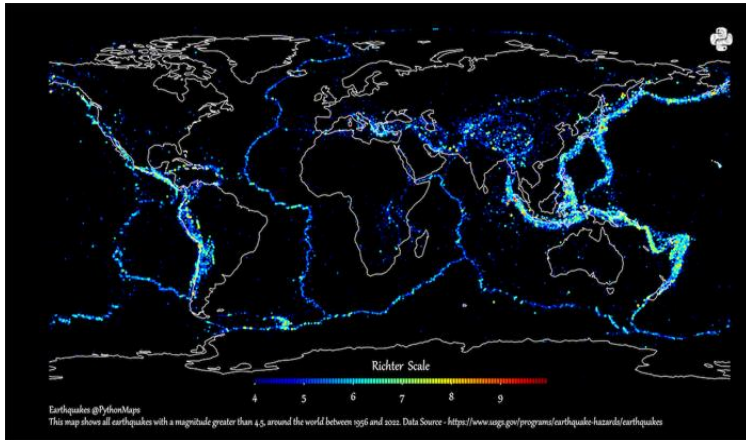




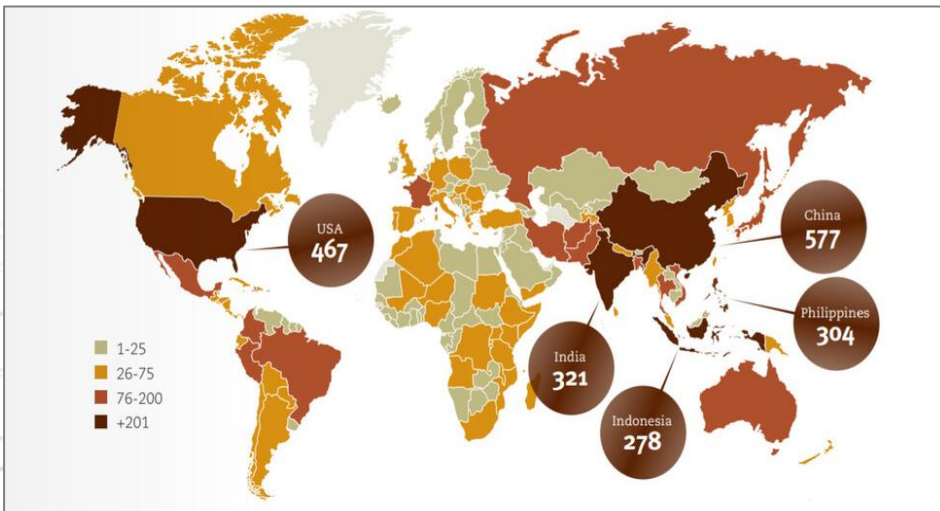
## ◆ Disaster issues

### ▷ Earthquake risky area and frequency (Y2022 → 2023)

Worldwide (M<sub>L</sub> 6 ↑): 112 → 129 times / Korea (M<sub>L</sub> 3 ↑): 8 → 16 times

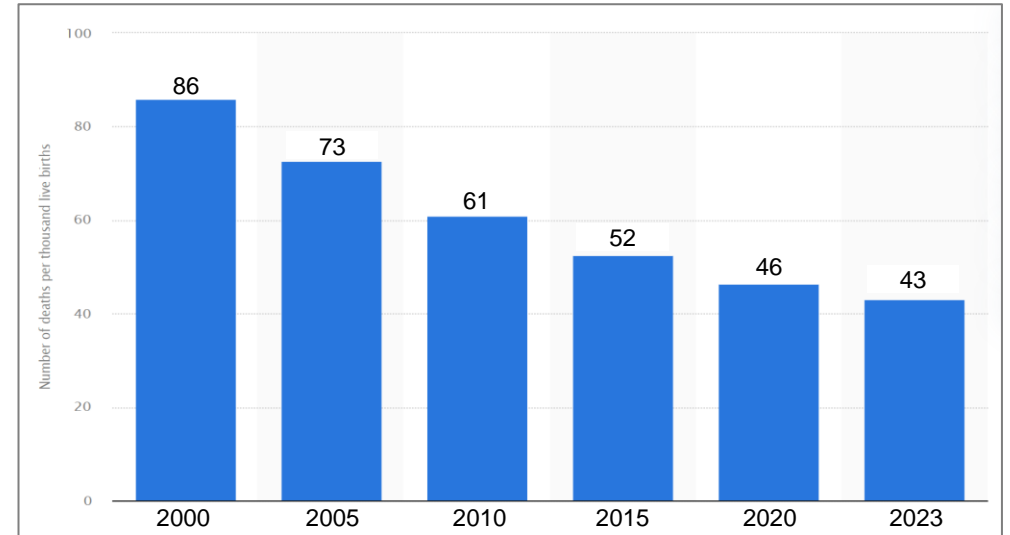


### ▷ number of climate disasters (Y2000 ~ 2019, UNDRR)



## ◆ Social Issues

### ▷ 43 Deaths per 1,000 Live Birth under 1 year (@2022)



### ▷ Worldwide 190M Children are suffering from water shortage

- Sickness : 600M
- Death : 420K (130K : under 5 years old)



## ◇ Provide value to customers

**Safety from ongoing major disasters and accidents caused by global abnormal climate changes.**

**Human health-care for infants and the elderly due to low birth rate and aging population**

## ◇ Business Directions



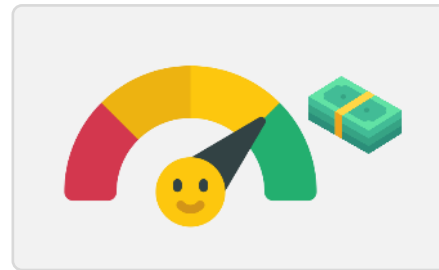
**Real-time detecting the signal of unpredictable disaster and accident risks.**



**Real-time awareness of health and safety status in living environment.**



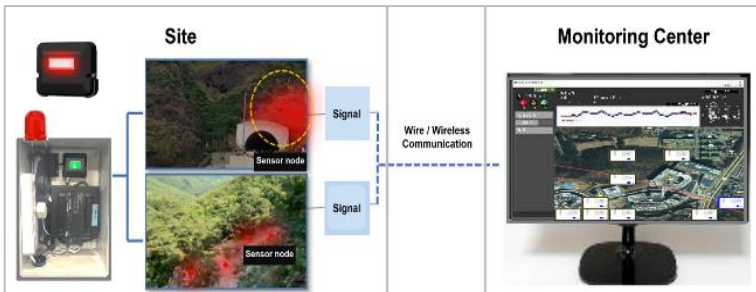
**Providing customized information and contents for user satisfaction.**



**Minimizing total costs in purchase, installation and operation.**

## ◆ Disaster / Safety systems

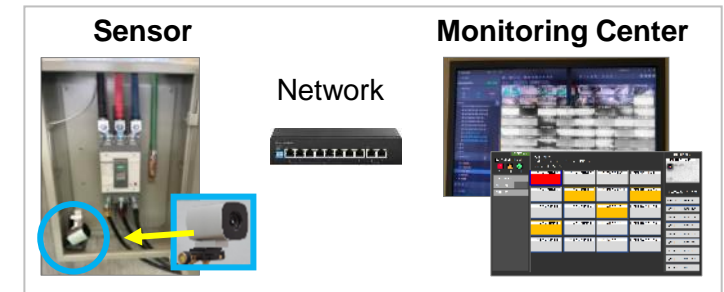
[On Sale]



① Ground/structure collapse sign detecting Sensor & System



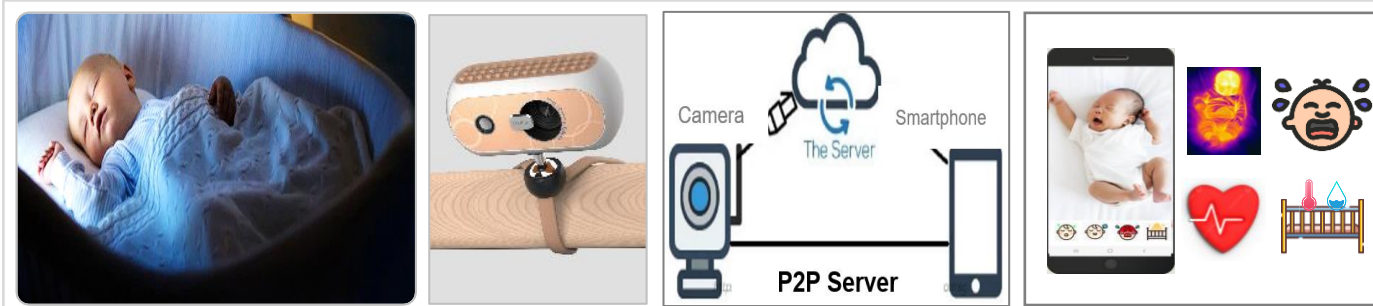
② Toxic chemical leak detecting system  
③ Flood sign detecting Sensor & system



④ Fire sign detecting thermal Camera System

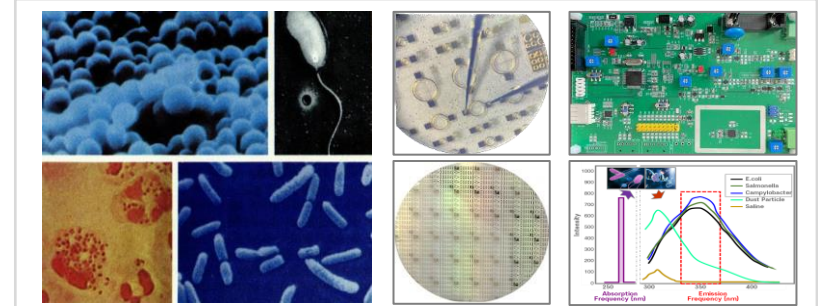
## ◆ Human Healthcare System

[Launching : July / `24]



⑤ Multi Biosignal sensing healthcare camera for a sleeping infant

[Prototype → Improving Performance]



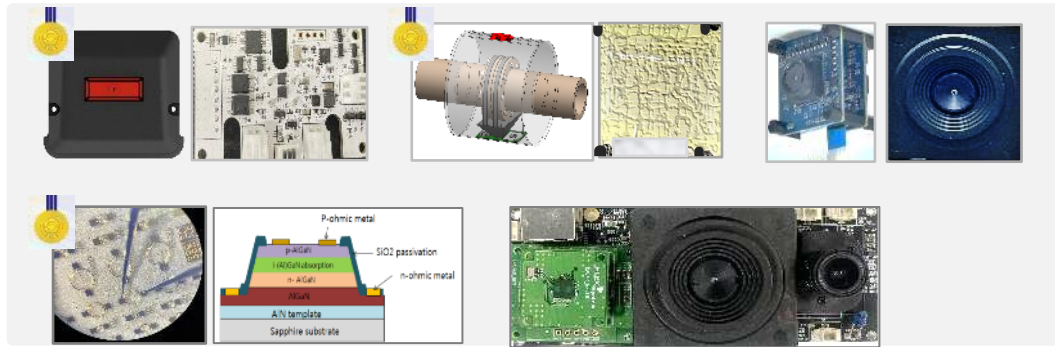
⑥ Bacteria detecting Photo semiconductor sensor & module



## Hardware parts

### Sensors & Modules

- Single Sensor : Displacement / leak detecting sensor module, UV Photo semiconductor sensor
- Multi Sensors : Biosignal sensing sensor module  
- IR, Radar, Image, Mic., Humidity, Temperature



### Communications & Signal processing

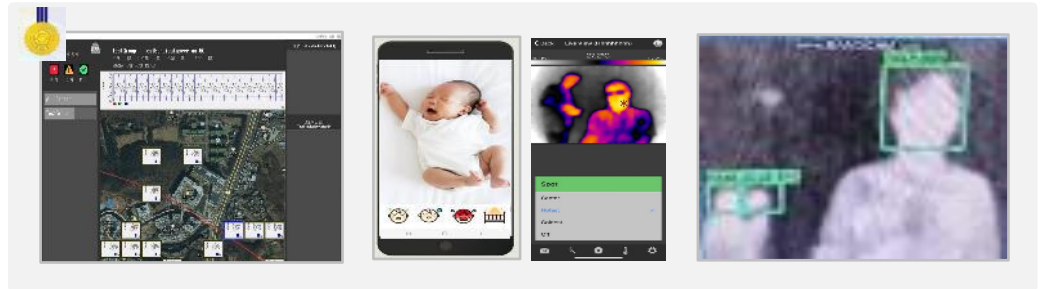
- Communication Modules : 900MHz wireless, Giga Bit Ethernet
- DSP: Low power Data Logger, Embedded black body



## Software / Platform

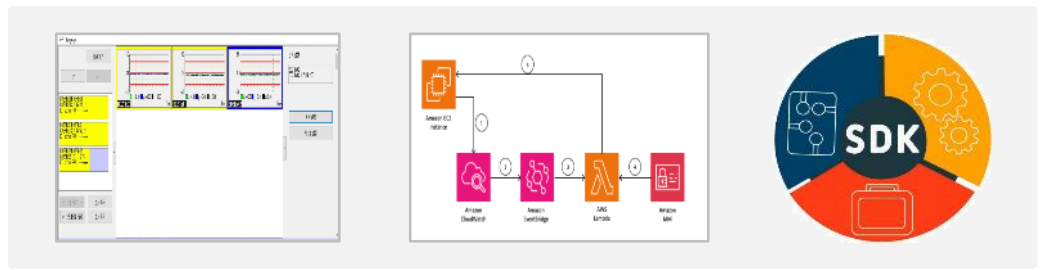
### Monitoring system & Data processing

- Monitoring program, Preventing malfunctions, AI Application



### Service Platform

- Servers : Local Server, P2P / DB server
- Services : Alarm Message Service
- [Under Development] Cloud Service Platform  
- AI Data analysis, Info./Contents Service, Shopping Mall  
- Web-based monitoring, SDK for Customization



## BM

**[1. On Sale] System Business**

- Competitiveness : Cost-effectiveness, Accuracy
- Revenue : H/W & S/W Sales

**[2. Under development] Service Business**

- Competitiveness : Customized Contents, AI Application
- Revenue : Service & Maintenance Subscription

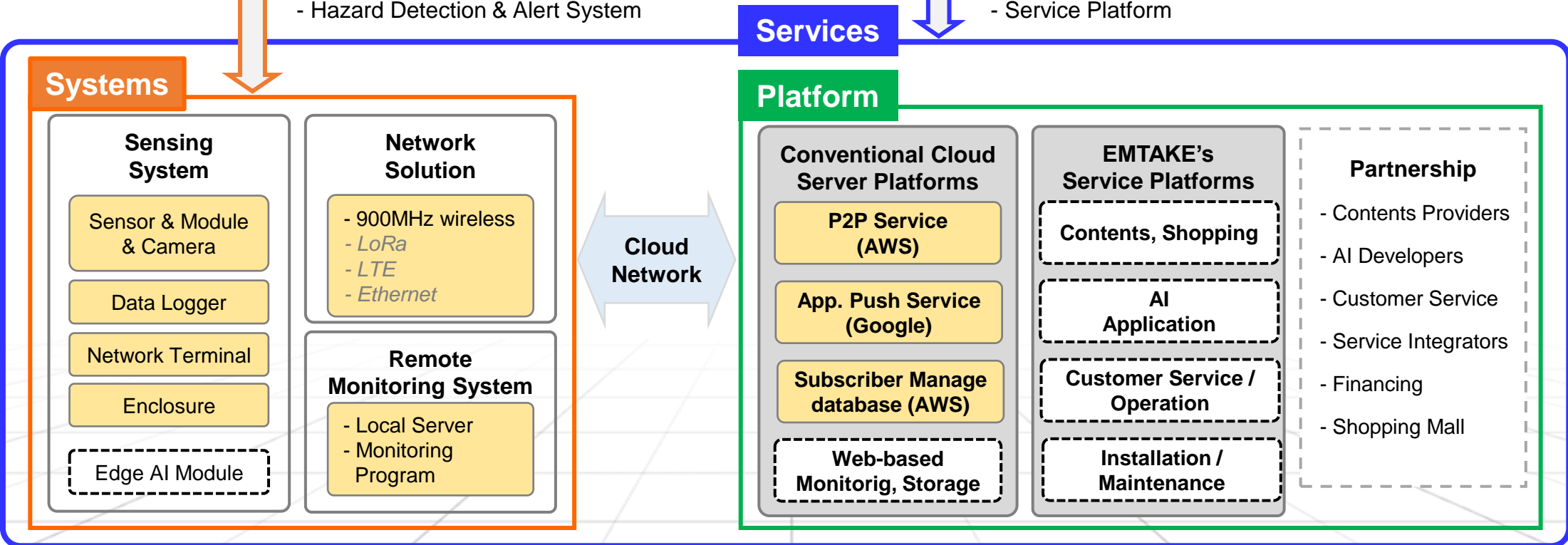
### Customers

**[1. System]**

- Local Solution
- Hazard Detection & Alert System

**[2. Service]**

- Cloud Solution
- Service Platform



Done [ Developing ]

## Internalization



Chemical Leak Detection



Collapse Sign Detection




Edge AI Module

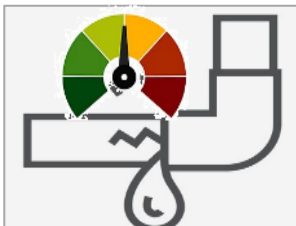


UV photo Semiconductor  
Sensor & Module


## Performance



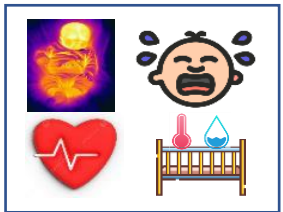
Temperature Accuracy :  
Embedded Black body



Leak Measurement :  
Detection and Alarm Adjustment





Recognition :  
AI / Machine Learning




Multi Biosignal Sensing :  
Temp., Breath/Heart rate

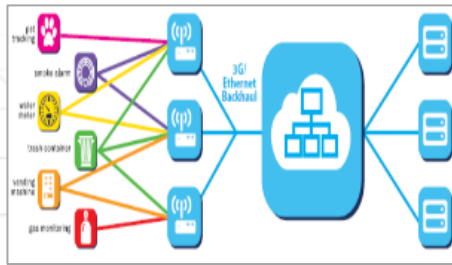
## Satisfaction



Low-power  
Design



Customization /  
Modularization



Long-range wireless Co  
mmunication Solutions



Low Cost  
High Performance



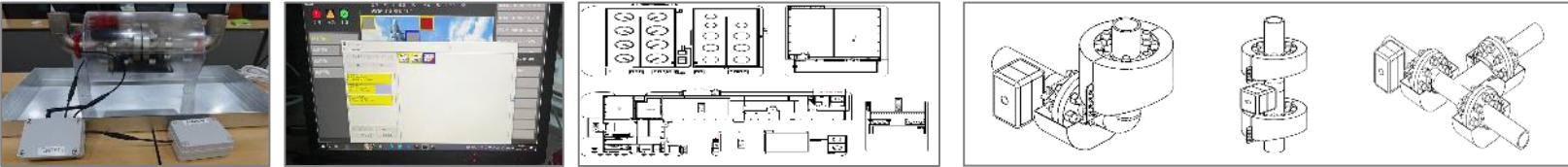
## Collapse Detection System

- Customers : Construction Co.(HD, DL, DW, HJ, KCC), National Land/Park Management Agency, Incheon/Jeju City, LG,
- New customers : Railway Administration (Subway Line / High speed rail), Korea Expressway Corporation (Steep Slope, Tunnel/Bridge)



## Toxic Chemical Leak Detection System

- Customers : LG Chemistry Factory (Ochang Area in Korea)
- New customers : LG Chemistry (expansion to all global factories), SK-Hynix (pilot test installation)



## Fire Detection System

- Customers : Shinsegae Department Store (8 Sites), Starfield (2 Sites), S1, LG Ensol, LG Chem, Hanwha System
- New customers : Shinsegae Department Stores / Starfield (Nation-wide expansion), SK Hynix (High Voltage Switchboard)





## Collapse Sign Detection System

- Measurement : (X/Z , Y/Z) Tilt / Vibration
- Install : Building Construction Site



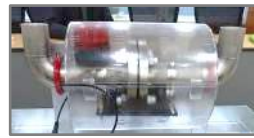
## Performance improvements (~ Y2025)

- ➔ Subsidence, Move and Rotation
- ➔ Steep Slope, Railroad, Bridge, Earthquake



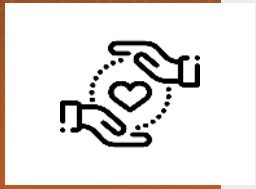
## Toxic Chemical Leak Detection System

- Measurement : 12 types of Chemicals,  
(Sulfuric / Nitric / Hydrofluoric Acid etc.



## Expanding detection (~ Y2024)

- ➔ Flooding & Water level detecting system
- ➔ Gas/Oil leak detecting sensor/system



## Healthcare System

- Customers : Healthcare for sleeping Infants
- Notification : High fever, Apnea, crying and Cradle Environment Status



## Smart Healthcare solution (~ Y2025)

- ➔ Healthcare for the Elderly and Pets
- ➔ AI Application, Info./Contents Service



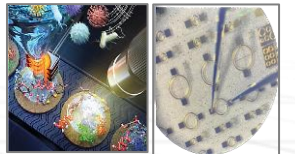
## Human Vital signs sensing module

- Vital signs detecting sensor module
- Sensing : Breathing, Body temp., Crying



## Bio Sensor (~ Y2025)

- ➔ Bacteria detecting Photo semiconductor
- ➔ Real-time, non-contact measurement

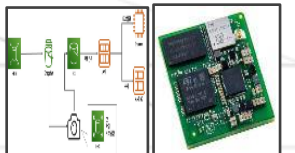


## Wireless network

- Networks : Local Server, 900MHz free wireless Comm.
- Algorithm : Low-power, Malfunction Prevention

## Service Platform (~ Y2025)

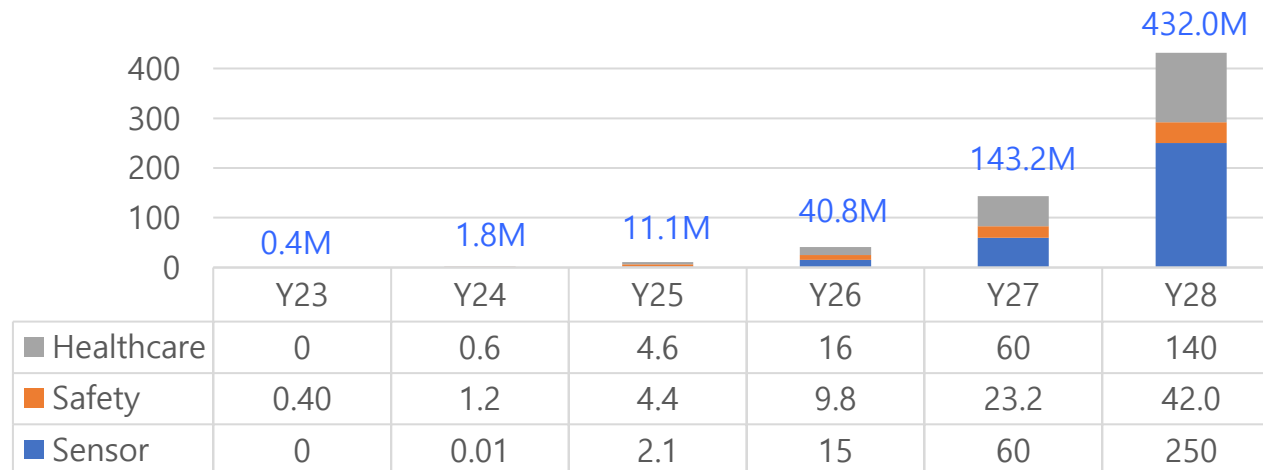
- ➔ Cloud Server, Service Platform (Contents)
- ➔ AI Module & Algorithm for Edge Devices



## ◆ Global Market Size Forecast ( @ 2023)

Category		Quantity (M)	Amounts (US\$ B)	Grounds
Healthcare	Human care	60	\$ 12.0 B	Number of Households in the top 5% among 400 million infant households and 800 million elderly households
	Pet care	50	\$ 10.0 B	Number of households in the top 5% among 1 billion pet-owning households
Disaster & Safety	Fire Detecting System	10	\$ 4.0 B	Number of Security / Crime prevention thermal Cameras
	Collapse detection	10	\$ 5.0 B	Geotechnical Instrumentation Markets
	Leak detection	5	\$ 5.0 B	Number of Pipe Flanges in Chemical / Semiconductor Plants
Sensor parts (Multi Image Sensor, UV Photo Sensor)		220	\$ 13.2 B	Number of premium Kitchen / Living Appliances in developed Countries Developed Countries : Korea, US, Japan, Europe Premium Appliances : US \$500 or more
<b>Domestic Market Size</b>		<b>\$ 51 B (KRW 66 Trillion)</b>		

## ◆ Revenue goals (US\$ M)



## □ Sales in detail

			23		24		25		26		27		
	수량(M)	단가(US\$)	수량	금액	수량	금액	수량	금액	수량	금액	수량	금액	
유연 헬스케어	60	200	12,000	-	-	3,000	600,000	20,000	4,000,000	50,000	10,000,000	200,000	40,000,000
반려동물	50	200	10,000	-	-	-	3,000	600,000	30,000	6,000,000	100,000	20,000,000	
화재	10	400	4,000	500	200,000	500	200,000	1,000	400,000	2,000	800,000	3,000	1,200,000
붕괴	10	1,000	10,000	100,000	500	500,000	2,000	2,000,000	4,000	4,000,000	7,000	7,000,000	
누출	5	1,000	5,000	100,000	500	500,000	2,000	2,000,000	5,000	5,000,000	15,000	15,000,000	
멀티센서	110	100	11,000	400,000	100	100,000	20,000	2,000,000	50,000	5,000,000	200,000	20,000,000	
센서	200	20	4,000	-	-	10,000	200,000	500,000	10,000,000	2,000,000	40,000,000	40,000,000	
계합	445	56,000	56,000	400,000	-	1,810,000	-	11,100,000	-	40,800,000	-	143,200,000	
계합	445	445,000,000	500	4,600,000	53,000	5,300,000	641,000	64,100,000	2,525,000	252,500,000	10,000,000	1,000,000,000	
비율				0.000%	0.001%	0.012%	0.144%	0.567%					
비율				0.001%	0.004%	0.022%	0.080%	0.281%					



◇ Q4 / 2026 ~ Q2 / 2027. : IPO

◇ or ~ Q4 / 2026. : M&A

Series-A Fund Raise US \$3 M ~ 4 M till Q2 / 2025

2018 ~ 2020

Seed : US \$200 K

Jason Cho

2021 ~ 2022

Pre-A : US \$1.4 M

SI Investment

Q3 / 2024 ~ Q2 / 2025

Series A : US \$3 M ~ 4 M

Post Value US \$x0 M

Sales : US \$4 M

Technologies/Business  
Expansion

Q4 / 2026 ~ Q2 / 2027

IPO Funding : US \$x0 M

Post Value : US \$x00 M

Sales : US \$10 M

Exit preparation

◆ **Competitiveness** in core Technologies, Preparation of **initial Sales Network** for big markets, Improved Business **Operation Stability**

**CEO's** rich Experiences, Human Networking, Competency and proven Morals

01

**Competitiveness in core Technologies**



Possesses core Technology in Sensors and strategic Patents

**[Challenge Project]**  
Developing Photo Semiconductor Sensor (with National R&D Lab.)

02

**Big potential Customers & Global Sales Network**



References with major domestic Companies

Over 300 potential global B2B / B2C Customer List




**B2B buyer Roadshows**  
- UAE, Turkey, Malaysia, Japan

03

**Improved Business Operation Stability**



Increased Sales of new Business Strategic Business Cooperation

Proven CEO Competencies

### ◆ Strategic management of R&D resources



**CEO + 3 engineers**

**Jason Cho**

Expert in Semiconductor,  
New Business  
(32 years of experience)

- **LG Electronics (ASIC Engineer, New Business)**
  - Head of IT Product Planning and New Business
  - CEO of R&D Center, Beijing (LG Electronic China)
  - Designing DSP ASICs for Digital TV
- M.S in MBA, University of Helsinki

### Co-engineers

**xx Kim** **Software Expert (28 years of experience)**

- **LG Electronics (HomeNet Engineer)**
- Power DVD Ltd. (@ USA, Software Development)
- M.S./Ph.D., Electrical Engineering, USC

**xx Jeon** **Photo Sensor Expert (over 30 years)**

- **LG Electronics (Semiconductor Sensor Engineer)**
  - Semiconductor Materials, LED and Photo Sensors
- Ph.D. in Science, JB National University

### Co-business



### ◆ Innovative Products created by CEO

#### Successful Experiences

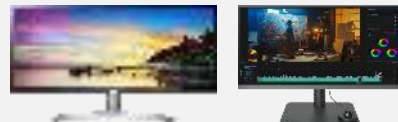
Digital TV ASIC



Digital TV in China



UltraWide Monitor,  
[Apple] 4K Monitor

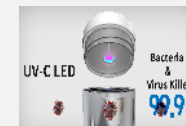


Gram Notebook,  
[Google] Chrome AIO PC



#### Risk Management

UV LED Sterilizers  
→ Bacteria detecting



Thermal camera  
→ Fire sign detecting





Invest in us!  
It's an opportunity for significant profit.

2024 . 07 . 03



**emTAKE**  
**(주)엠테이크**

CONTACT : Jason Cho, CEO

Contact +82-10-2295-6505

E-mail jason@emtake.com

Website www.emtake.com