



S & K

Smart Knowledge Indonesia

PT. Smart Knowledge Indonesia



1

Summary



2

Business

01 Company Summary

CEO

L, Karina Rosilawati

Main Business

AI Analysis, IoT Solutions, Health Monitoring and Smart water meter (AMI), Smart City Solution, AI-CCTV.

Catchphrase

Data Intelligence, All about the data in the world

Establish

01. Nov, 2010

Employee

20

Address

Korea Center #604, Jl Gatot Subroto Kav 58, Jakarta selatan 12950, Indonesia.



21st century asset!! All the value of the world through data

We turn all data into the best asset.
Data, an untapped resource, is turned into a valuable asset through AI, learning and repetition, and discovering future value.

Data Value
Management

through AI
the world to see

... 02 SnK's Mission

- ✓ A company specializing in artificial intelligence, data analysis, and IoT
 - ✓ Information and value, Ask with technology, fine answers with data
-
- ✓ DATA AND INFORMATION ARE IMPORTANT ASSETS FOR EVERYONE
 - ✓ MONEY GOES TO PROPERTY EXPERTS, DATA GOES TO SnK.

Everyone should be do AI



EVERYONE

anyone can use data and everyone can get value from it.

God is in the Simple



SIMPLE

algorithm? formula? analysis method? equipment? When data is entered AI learning results
Easy and simple check right away

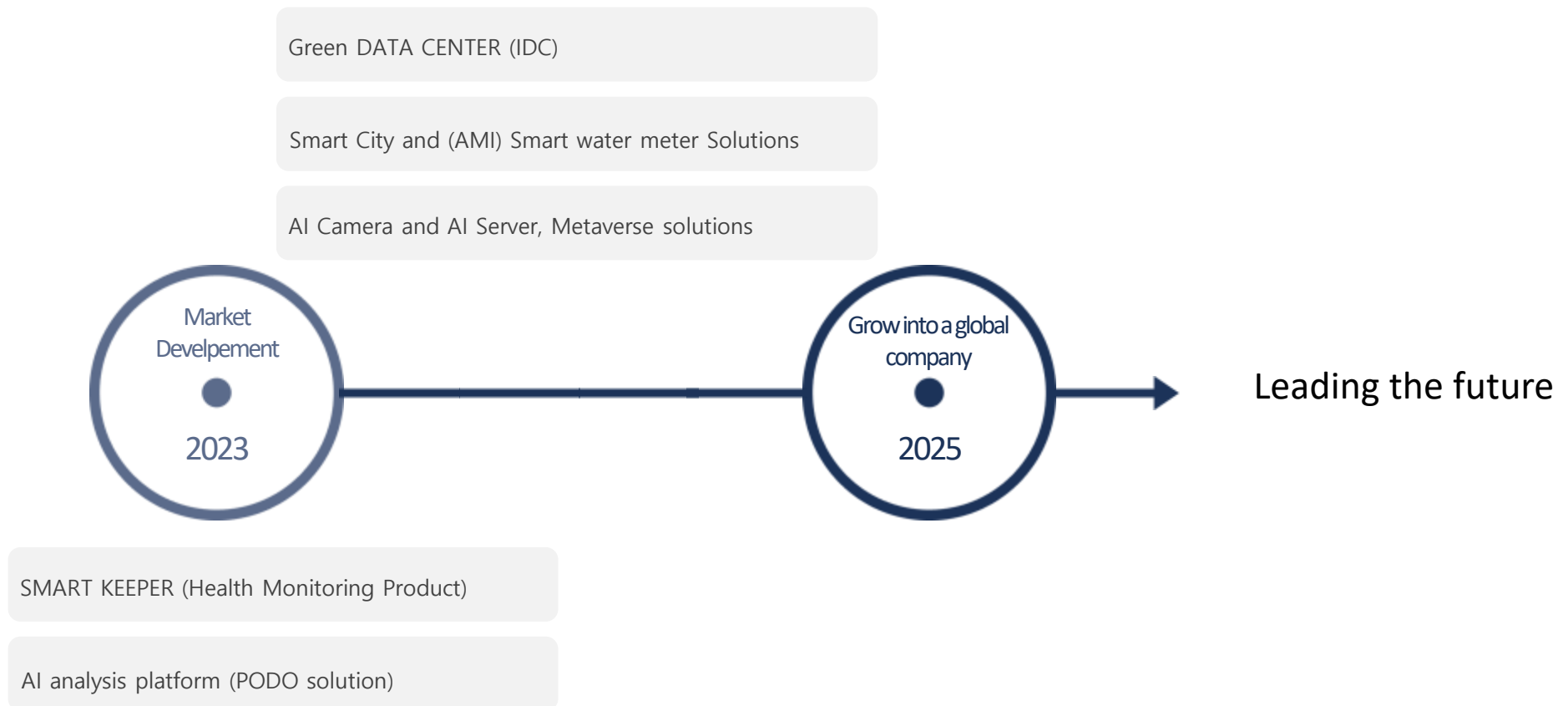
All what is from the data



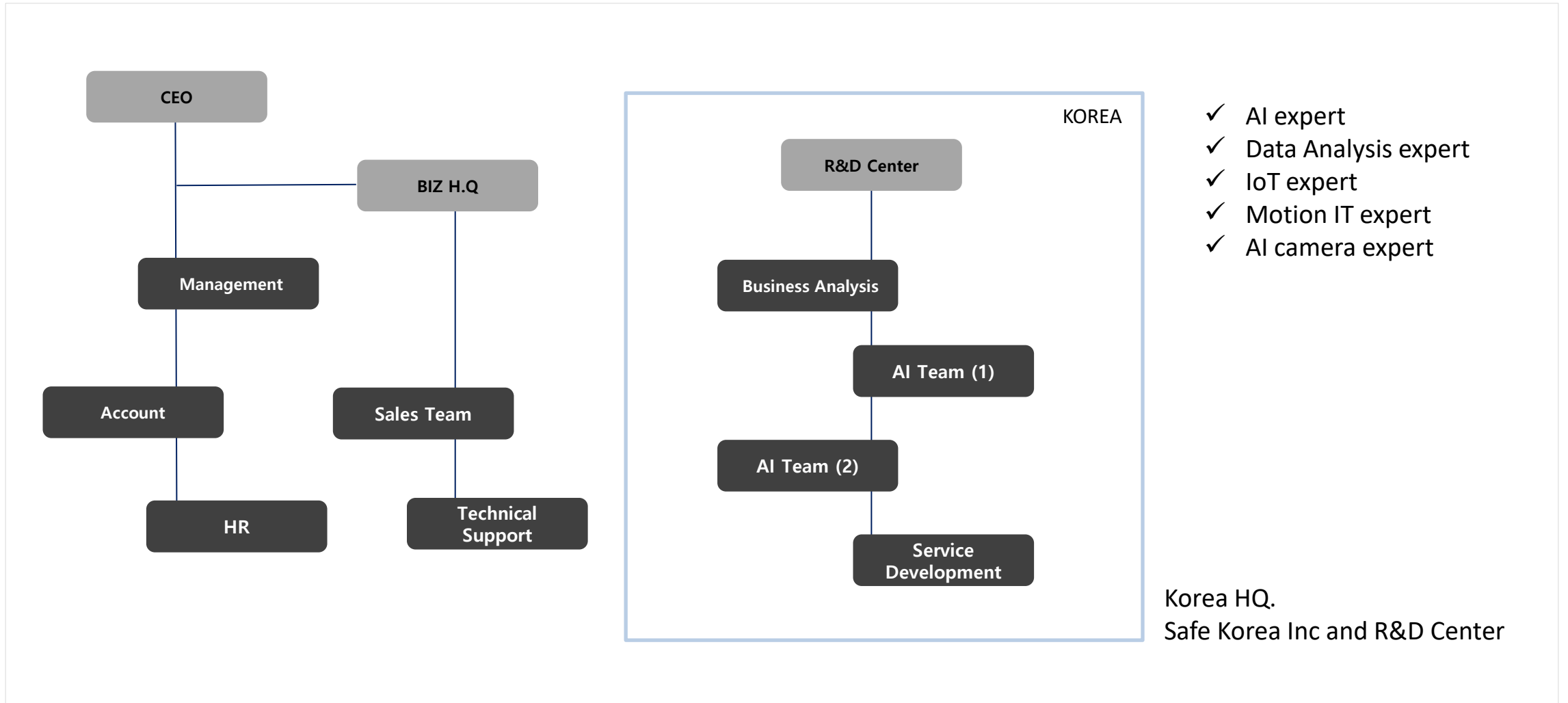
VALUE

Share and deliver countless values generated from data to everyone

03 SnK's New Direction



... 04 Organization chart



1

Summary



2

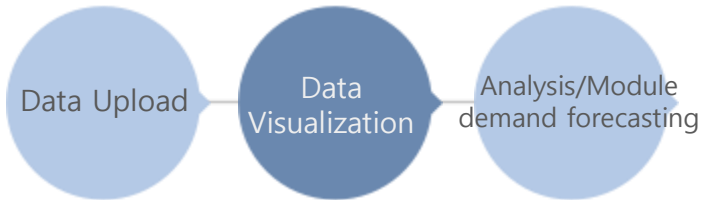
Business

1. AI analysis platform
2. IoT recognition system
3. IoT sensor
4. Smart Keeper
5. Smart water meter
6. ITS (Intelligent transportation system)
7. Server
8. EMS (Enterprise management system)
(Integrated management system)
9. AI – Traffic and Safety solution

01 Solution 1 - AI Solution PODO

Everyone uses it.

No-code AI Visual analysis tool

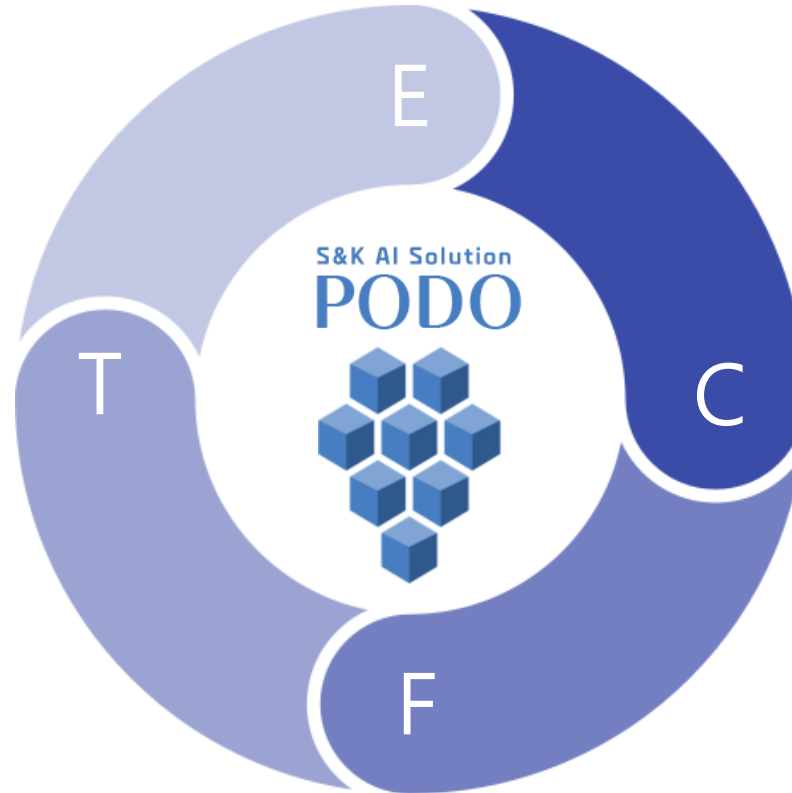


Prediction is minimal preparation for an unknown future
Insights such as direction, target, goal, scale, pattern, strategy establishment, etc.



AI algorithm core technologies

AI model that quickly recognizes and responds to patterns



Data Visualization, Explainable Prediction!



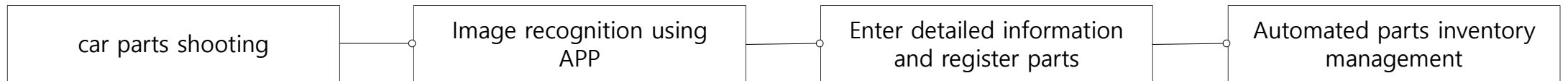
Responsive UI for Mobile Phone, PC, Tablet etc

Create, search, and share dashboards, anytime, anywhere



02 Solution 3 – IoT based image recognition system

- take a picture of a part through a smartphone APP, you can read the manufacturer, model, vehicle name, etc.
- Finds the list of the most similar parts among the registered parts.
- Inventory asset management automation through registration of recognized parts





03 Solution 3 – IoT Sensor





04

Health Product

- ✓ Sleep Total Care
- ✓ Sleep Smart Keeper
- ✓ Patient Monitoring

Smart Keeper in PODO














01 Product Introduction

A smart and contactless monitoring and early warning device. Designed to monitor real-time heart and respiratory rate contactlessly and screen for high-hazardous risks during sleep. Get alerts for potential cardiac arrest, prolonged bed-exit, and more! In the case of an incident, an alert is sent to emergency contacts through phone calls and in app alerts. Generate data-based analytic sleep reports that help in health management.

02 Product Features



Product Functions

-  Heart-rate Monitoring
-  Breathing Monitoring
-  Oversleeping Alert
-  Bed-exit Alert
-  Body Movement Monitoring
-  Abnormal Breathing Alert
-  Abnormal Heart-rate Alert
-  Not-In-Bed Alert
-  Frequent Night Activity
-  Abnormal Sleep Alert
-  Sleep Analysis Report

03 Application Scenarios



04 Product Parameters

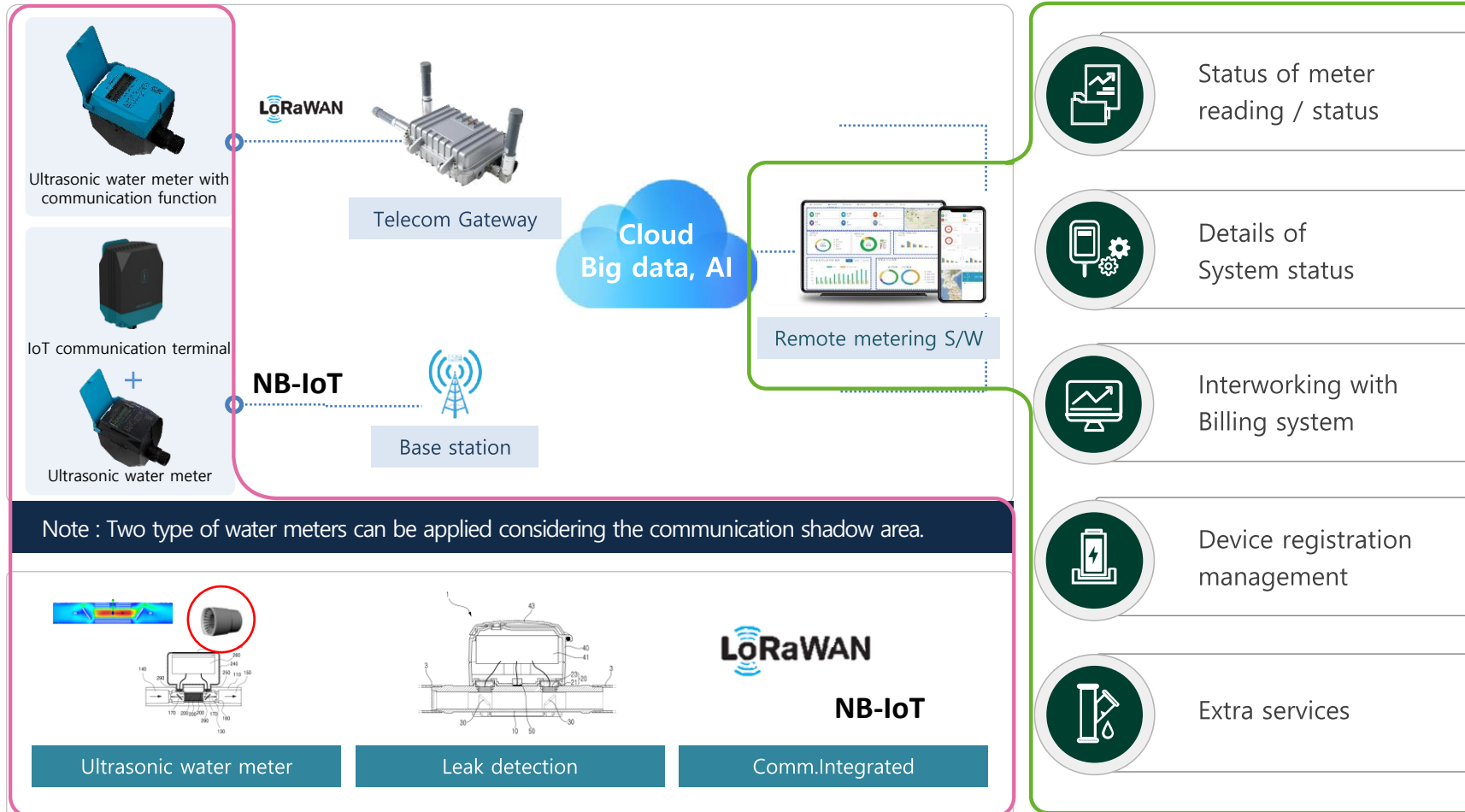
Model	LSRS-3HF
Radar type	Frequency Modulated Continuous Wave (FMCW)
Transmit Frequency	24GHz ISM Band
Detection range	0.5-1.5m
Effective field of view (horizontal)	60°
Effective field of view (vertical)	80°
System power	DC 5V/0.5A Max
Network connection	WiFi
Operating temperature	-10°C-50°C
External dimension of the unit	83mm*83mm*59mm
Weight of the unit (approx.)	80g



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05 Smart water meter system (AMI)

Establishment of remote metering system based on ultrasonic measuring technology with LoRa communication as primary and NB-IoT as alternative plan.



05 Smart water meter system (AMI)

- Compare with measurement method

measurement	Ultrasonic	Mechanical
Water meter		
Min. measure flow	1L/h	5L/h

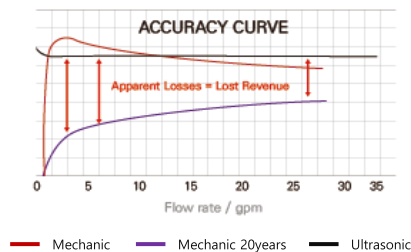
- Features of ultrasonic measurement

1 Fair billing

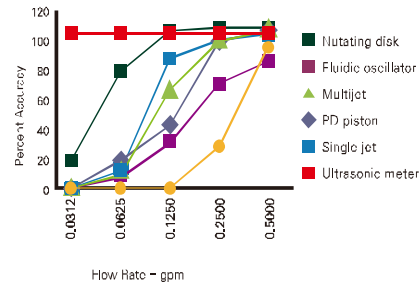
2 Early leak detection

3 Energy saving
For water supplying

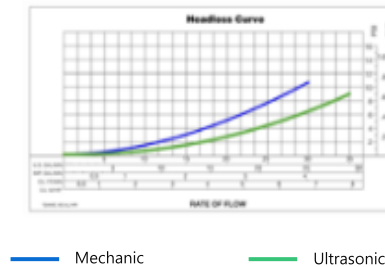
Constant accuracy



Minimum flow measurement



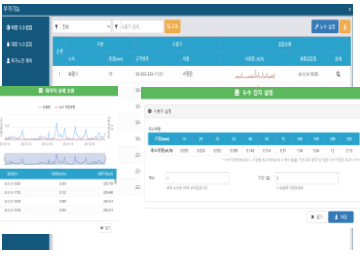
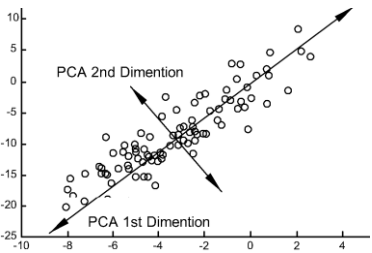
Minimum pressure loss



05 Smart water meter system (AMI)

Leak detection(s/w)



Support leak detection program applying PCA analysis algorithm based on daily/weekly 2-dimensional data

- ✓ Detection small and large leaks
- ✓ Leak alarm texting to consumer
- ✓ Texting to manager of leaked consumer information
- ✓ User-specified set leak alarm level for different situation by various case

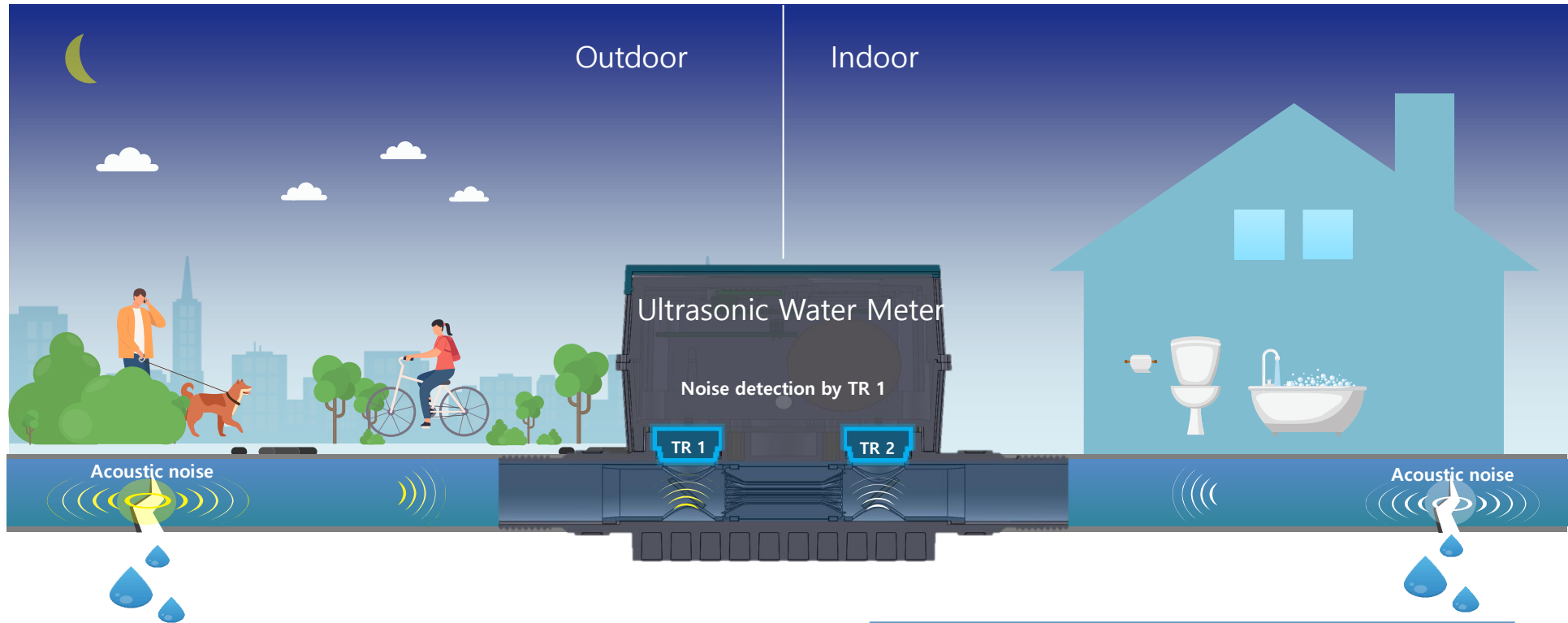
Data management

Device and data management with consumer, water meter, terminal app using on-site smartphone application

- ✓ Consumer info, water meter, communication terminal management function
- ✓ Consumer no., address, device no., manufacture name, installation date, history of install, error & etc
- ✓ Convert data to excel data, import

05 Smart water meter system (AMI)



Case 1. Outdoor leaks= noise detection + no water usage

- 1 or 2 time noise detection(mostly dawn)
- Leak estimation frequency band(100~1,000Hz)

Case 2. Indoor leaks = noise detection + water metering

- Ultrasonic sensor can detect 1L/h

No.	1018881880000
IP	Ultrasonic water meter capable of detecting a water leak, a water leak detection system having the same, and a leak location detection method using the same

05 Smart water meter system (AMI)

Potensi Kerugian Rp 2,5 T

Kebocoran Air PAM Jaya 46,67 Persen

GAMBAR - Persentase kehilangan air atau non-revenue water (NRW) di Jakarta sangat besar. Berdasarkan data PAM Jaya angkanya mencapai 46,67 persen. Secara ekuivalen rupiah, persentase tersebut sekitar Rp 2,5 triliun per tahun. Direktur Utama PAM Jaya Arief Nasrudin menuturkannya penuruan NRW berdampak besar terhadap pendapatan PAM Jaya. "Jadi, 46 persen NRW ini secara ekuivalen rupiah bisa mencapai Rp 2,5 triliun per tahun," katanya.

Secara umum, sambung Arief, ada dua penyebab se hingga hal tersebut terjadi. Yakni, kerusakan pipa (80 persen) dan sambungan ilegal (20 persen). "Sambungan ilegal ini yang terus kami deteksi. Jadi, kalau ada masyarakat yang ketahuan nyambung ilegal, kami berikan sanksi. Saat ini *law enforcement* nya sedang diperkuat," terangnya.

Sementara itu, untuk kerusakan pipa, Arief menjelaskan bahwa ada berbagai penyebab. Terutama karena umur pipa di Jakarta sangat tua, tidak terkecuali pipa utama. Bahkan, pipa itu ada sejak zaman kolonial Belanda.

"Ada pipa kami yang usianya lebih tua dari saya. Saya usianya 50 (tahun). Makanya, ada program yang saat ini kami kaji untuk melakukan revitalisasi pipa di Jakarta secara keseluruhan. Tapi, saya masih berpikir, ketika kami akan melakukan revitalisasi pipa secara keseluruhan, kemungkinan akan membuat kacau rencana pembangunan pipa baru," paparnya. (rya/col/ilo)

BERTAHUN-TAHUN PAM JAYA MERUGI

Persentase Kehilangan Air: **46,67** persen

Penyebab:

- Pipa rusak: **80** persen
- Sambungan ilegal: **20** persen

Potensi Kerugian Per Tahun: **2,5** triliun

PELAYANAN PUBLIK: Alat berat disiapkan untuk memasang pipa air milik PAM Jaya di Jalan Satu Maret, Kalideres, Jakarta Barat, beberapa waktu.

Loss due to leaks			Benefit (estimated)		
Title	Percentage	US\$(mn)	Expected saving effect	US\$(mn)	
Annual Total loss(1million house)	100%	\$ 208	Total		\$ 75
Supply pipe leak(old)	68%	\$ 141			
Indoor leak	12%*	\$ 25	US WRF(2016) report	90%	\$ 22
Stolen	20%	\$ 42	Leak detection	90%	\$ 37
Additional loss					
Annual labor cost for metering(\$0.25x12monthx1,000,000house)		\$ 3	Remote metering	100%	\$ 3
Total billing target=Total loss/(100-46.67%)x3% due to mechanical measurement		\$ 12	Billing water q'ty increase	100%	\$ 12

* In the US, the Water Research Foundation(2016) estimates that 12% of all indoor water use in the US is due to leaks.

Estimated total US\$ 75 million can be saved annually.

★Please note that the quoted percentages and amounts are estimates based on the figures cited in the article, and may differ from actual results.

... 06 (ITS - Intelligent Transportation System / AI Based)



1. AI Traffic Camera

Real-time traffic monitoring with edge AI

Robustness to environmental conditions



2. AI Traffic Signal Control

Signal control optimization with reinforcement learning

Suitable solution for isolated intersections, arterials, and road networks



3. AI Safe Crossing

Real-time incident prediction on edge devices

Selective safety control

06 (ITS - Intelligent Transportation System / AI Based)

By Spot View individual CCTV video stream **By Operator** Difficulty judging the situation



TO-BE

By Area Wide area digital twinning **By AI** Comprehensive situation recognition By AI

Vehicle Recognition by AI

- Analysis of the relative position and number of cars in CCTV video

Integrated Monitoring

Monitoring By Area

Real-time traffic Information

Digital Twinning

- System based on GIS
- **Monitoring** the real-world's traffic in the digital world
- **Traffic monitoring** throughout the entire city

06 (ITS - Intelligent Transportation System / AI Based)

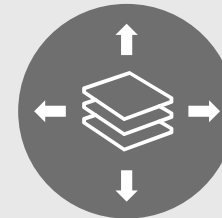
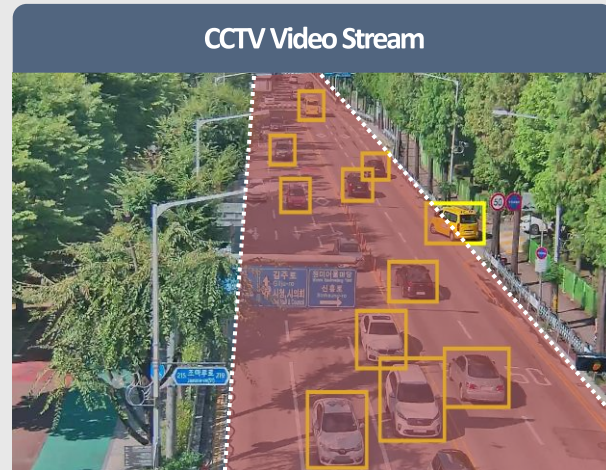
Build a low-cost digital world

- Convenient mapping of CCTV and the digital world
- Provide tool to map the real world to the virtual digital world

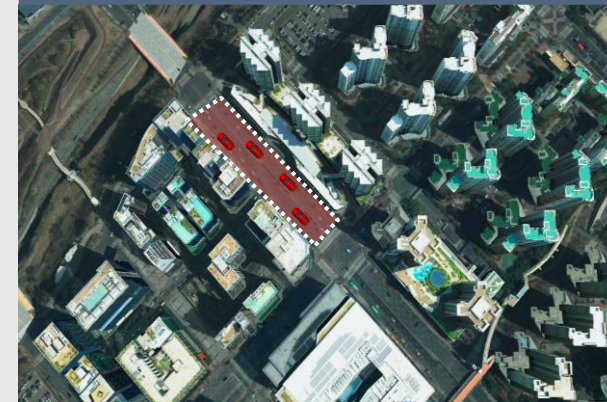
Convenient maintenance support

- Minimize work by using a tool mapping the digital world
- Convenient maintenance by providing user-friendly UI

Intelligent
Mapping
Tool
(SW)



Location Mapping (Digital Twinning)

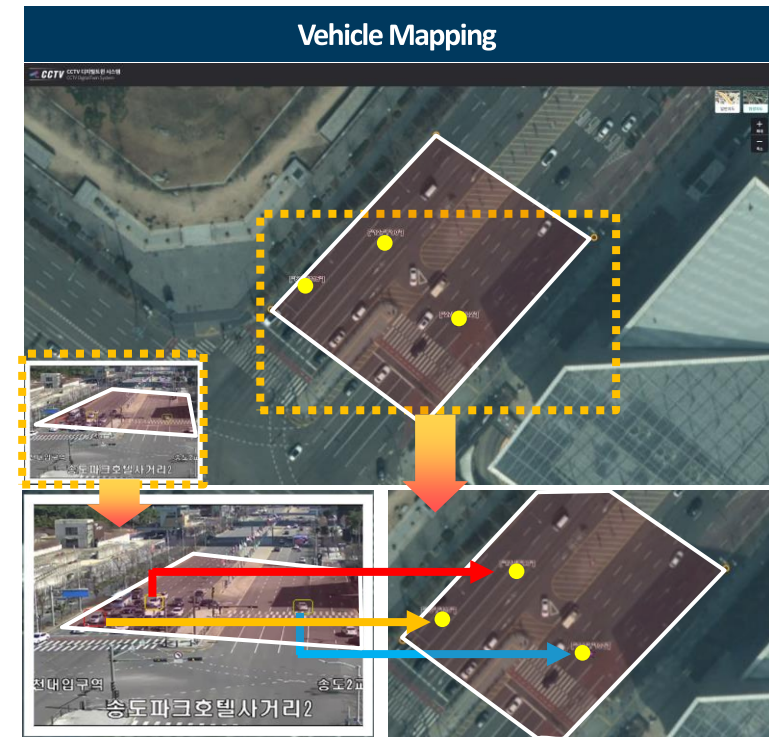


Semi-Automatic mapping
on the map for each CCTV

Considering CCTV installation information
(height, tilt etc.)

06 (ITS - Intelligent Transportation System / AI Based)

Mapping AI analysis results of CCTV to the digital twin world (gis or 3D digital world)



06 (ITS - Intelligent Transportation System / AI Based)

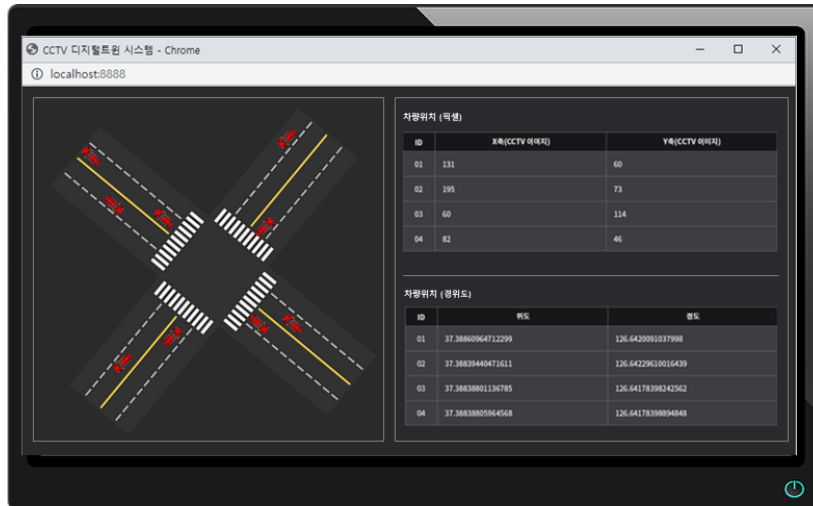
Able to support various digital worlds (Simple Graffic Image, 3D World etc)



Build a Digital twin world suitable for the needs of the customer

Graphical monitoring viewer

possible



3D Digital world

possible



... 07 (SnK Server)

x86 Server for General and Data Center

Domestic server systems with self-designed and built x86 motherboards (3 Types Server)

01 Socket Server



SX0101S
(Rack 1U)

SX0102S
(Rack 2U)

ST0103S
(Tower)

Network Security Server

Network security server systems with high-performance processes (Firewall, IPS, UTM, VPN, Anti-Spam and Security Solution etc.)



High-End



Mid-Range



Low-End



Entry



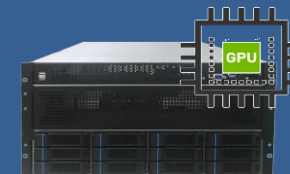
02 Socket Server



SX0104H
(Rack 1U)

SX0105H
(Rack 2U)

03 GPU Server



SG0102H
(8 GPU)

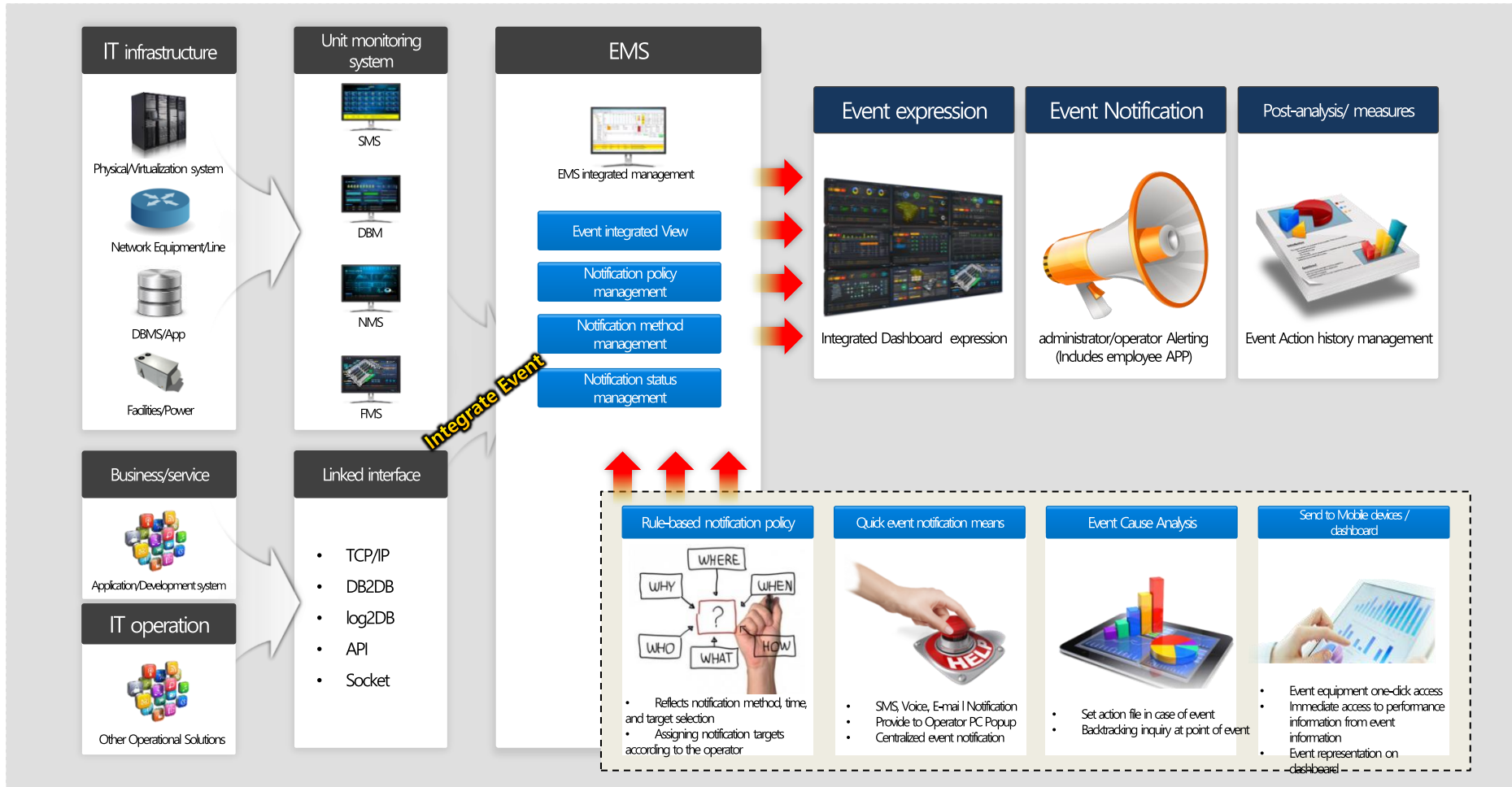


SG0101S
(4 GPU)

08 (EMS – Enterprise management system)

(Integrated management system)

Integrated Management System



09 (AI – Traffic and Safety solution - 1)



AI video summary / Smart high-speed search system

- The only video summary system in Korea
- 10 hours into 20 minutes, create a simple summary video
- Video summary technology patented
- Support for product advancements and customization reflecting the needs of customers
- Installation on multiple government sites

The only video summary analysis program patented in Korea

- Patent No. 10-1991043 | 10-2211858 | 10-2252083
- Registration of procured items with nationally recognized GS(Good Software) certification
- Software Quality Certificate [ZioSummary v1.0] Certification No. 20-0225







- Item identification No. : 23917974
- Designated as an Excellent Quality R&D innovative product
- Registered as an Innovative procurement product in the exclusive mail

09 (AI – Traffic and Safety solution - 2)

Public Institutions	Police	National defense	Education
			
Identification and allocation of incidents, accidents, and traffic flow, as well as missing children searching	National Investigation Headquarters incident identification and response	Check the status of military guardhouse and surveillance areas as well as response to incidents and accidents	Pre-school / school violence prevention, response and dangerous area monitoring

ZIO SUMMARY

Corporation	Private business	Apartments	Household
			
Security area management, workplace safety management, and employee identification	Statistics identification such as the number of visitors as well as preferred movement routes and customization	Intruder monitoring, management, and identification of incidents	Companion animal behavior analysis as well as intruder monitoring

B2B · B2C

... PARTNER



METABUILD





THANK YOU

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<https://www.snkindonesia.com>