SENSING TODAY, SECURING TOMORROW

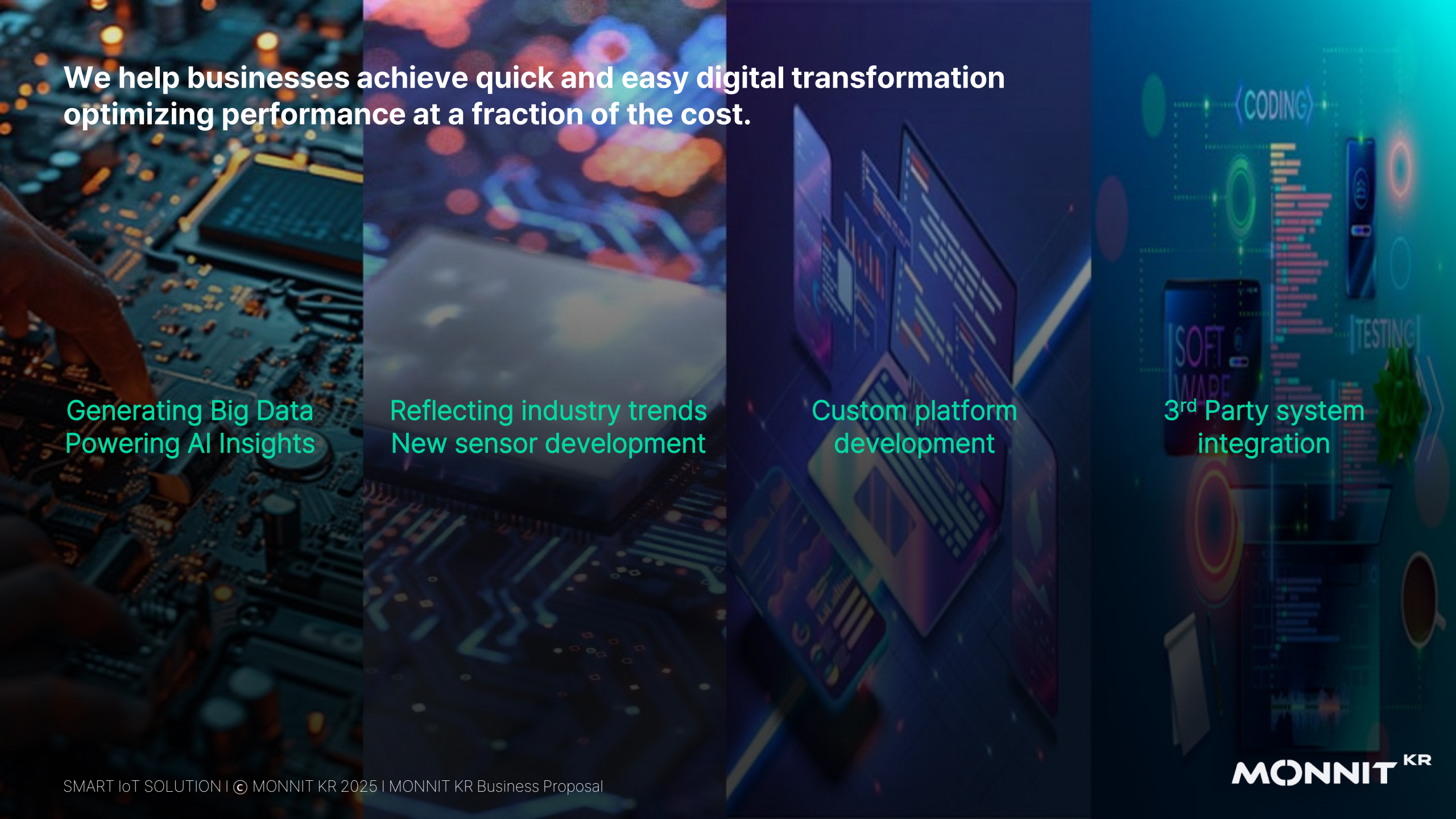
MONNIT KOREA

Company Profile

From every signal, smarter decisions

AI-Powered IoT for Smarter Industries

MONNIT KR



We help businesses achieve quick and easy digital transformation optimizing performance at a fraction of the cost.

Generating Big Data
Powering AI Insights

Reflecting industry trends
New sensor development

Custom platform development

3rd Party system integration

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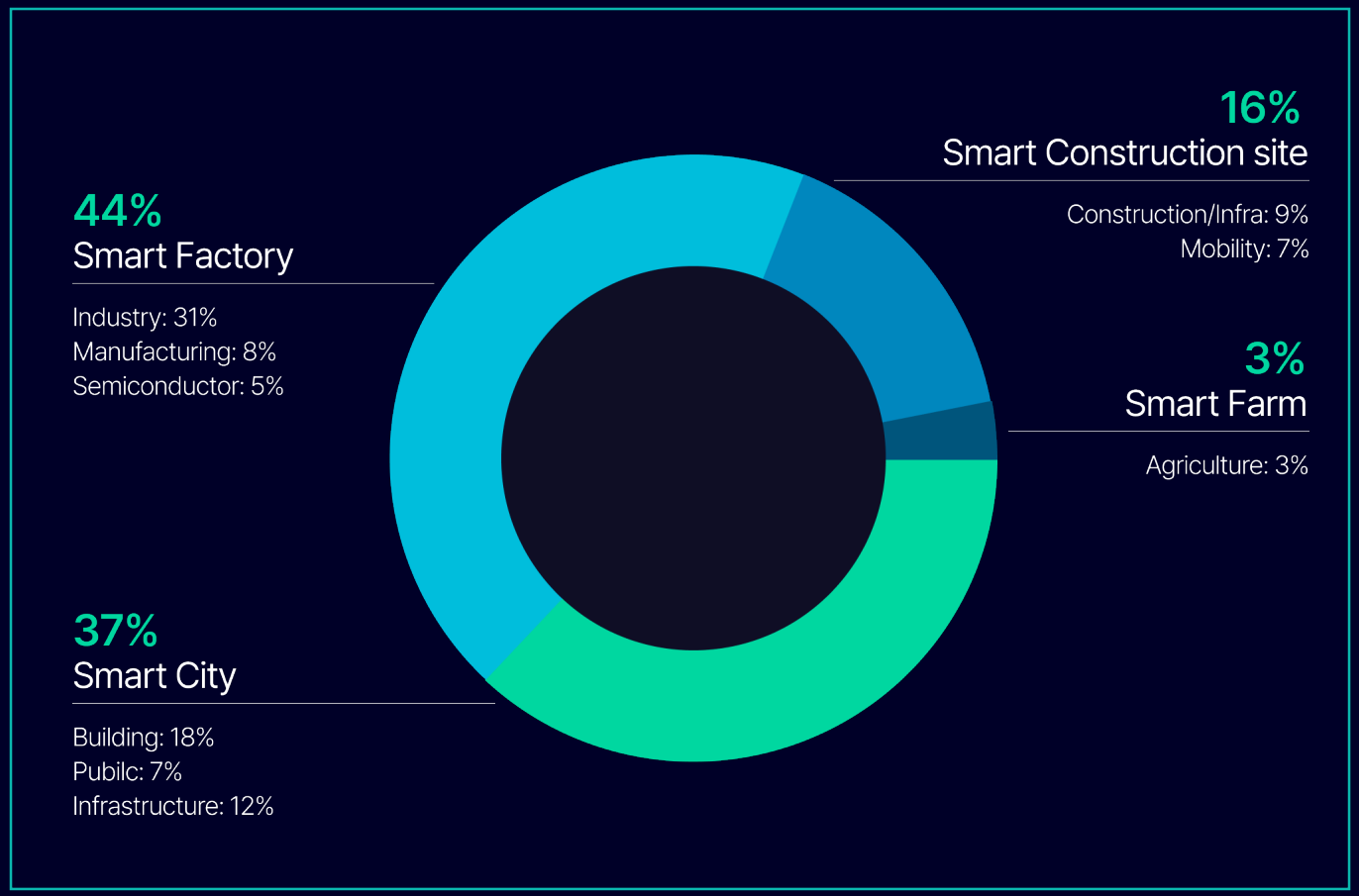
MONNIT KR's AIoT solutions drive energy savings and operational excellence across diverse industrial environments with measurable ROI proven directly on site.



MONNIT KR's Global Presence & Technology

85+ Counries

Supplying solutions to over 85 countries worldwide, trusted across the global market.

35K+ Customers

More than 35,000 customers rely on Monnit Korea's wireless IoT sensor solutions.

500B+ Data/Day

Over 500 billion data points are processed reliably every single day.

18B+ Logs

More than 18 billion site log records are analyzed and applied to predictive models.

30Y History

With 30 years of accumulated expertise from Monnit's U.S. headquarters, we deliver optimized, field-proven solutions.

Empowering industries and operations through data-driven intelligence.

Driving Energy Efficiency, Asset Reliability, and Human Safety Across All Industries	Energy savings &Operational efficiency	Asset protection &Predictive maintenance	People centrictity & Social contribution
SMART BUILDING	Real-time monitoring of HVAC, power, and water systems to cut energy waste and management costs.	AIoT-based detection prevents failures and supports preventive maintenance.	Preventing fire, leakage, blackout, and gas hazards for safer indoor environments
SMART FACTORY	24/7 monitoring optimizes production and reduces energy costs.	Predictive models extend equipment life and minimize downtime.	Data-driven alerts improve worker safety and prevent industrial accidents.
SMART CONSTRUCTION SITE	Energy analysis helps achieve efficient power usage and cost reduction.	Monitoring heavy equipment conditions prevents unexpected failures.	Proactive risk detection enhances site safety and social trust.
SMART FARM	Environmental sensing (Temp, Humidity, CO_2, Soil) improves energy efficiency and crop yield.	Automated control reduces downtime and resource waste.	Supporting sustainable agriculture and local food resilience.

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Monnit Korea sensing what others cannot and creating a safer sustainable world

Implementing digital twins with AioT wireless sensors

Supporting energy savings and operational efficiency in infrastructure

Delivering customized dashboards with intuitive UI/UX

Providing a scalable and secure cloud-based platform

Ensuring data integrity through enterprise-grade security protocols

AloT-driven predictive analytics using 18B+ log data records

Ultra-low-power design enabling battery life over 15 years

Providing sensors for harsh and industrial environments

Seamless integration with existing systems via REST API, MQTT, and Modbus TCP

Offering over 80 types of wireless sensor product lines

Processing over 500 billion data points per day

Customized system design for specific industry needs

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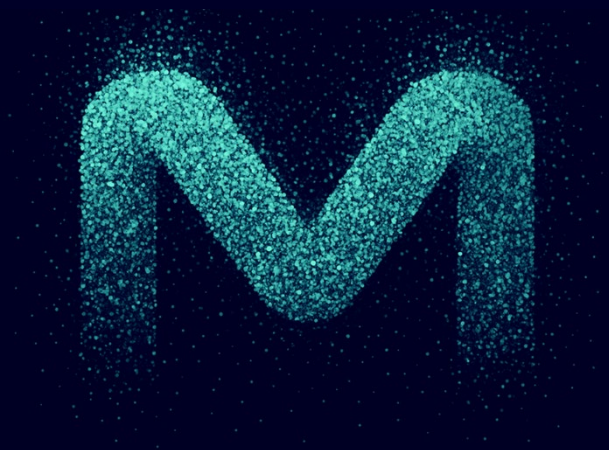
By our own 80+ types of Monnit wireless sensors
You can create IoT solution at every business models

Factory
Gas Facility
Military Base
Bio & Pharmaceutical
Research Center
Automotive Plant
Forklift
Cement
Crane
Construction
Livestock Farm
Fish Farm



Public Transport
Building
Hotel
School
Public Institution
Restaurant
Manufacturing Plant
Data Center
Septic tank
Hospital & Nursing
Fitness Center
Convenience Store

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Better&Smater with IOT

M aintenance

O Ptimiztion of Asset

N O Wasted Time

N ext-level Control

I nnovation in Safety

T Rust& Efficiency

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The Complete IoT Monitoring Ecosystem by Monnit

Wireless Sensors

Monitor & Detect conditions you want to know about.

Gateway

Relay Sensor information to monitoring software

Software

Get Alerts& View dashboards. Access data from anywhere.

Hardware

Sensor

Monnit sensors are the highest performing low power long range sensors among the existing worldwide with 10 years battery life and 300m signal coverage. Integrated on-board data storage allows sensors to store data messages if communication to a gateway is disrupted.

Gateway

You can send and receive data and notifications with the Cloud server. It is an essential device that transmits and receives sensor data values, and can register up to 500 sensors. Even when the power is turned off, it can recover the data without loss by storing on its own.

Software

iMONNIT

iMONNIT is a cloud-based monitoring platform provided exclusively for MONNIT wireless sensors and gateways, allowing sensor and network-related settings and user customization. iMONNIT administrators can set thresholds for each sensor to send notifications via text message or e-mail to administrators or set users when an abnormality occurs, and can be accessed and managed from all Internet-based devices, including smartphones, tablet PCs, laptops, and desktop computers.

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AA Battery Sensor

Type | Star Network*

Memory | 512 messages, Heartbeats 10mins + 3.5days / 2hours + 42days

Update | OTA (Online remote firmware update)

Security | 256-bit key exchange & AES-128 CTR, Bank level security / dual encryption

Wireless Range	Reliability(1-10)	RF	Battery life
In open space 300m	FHSS(9)**	940MHz	10years (2 of AA batteries)***

* Star Network : Top-rated networking method that provides connection to multiple platforms
** Frequency Hopping Spread Spectrum (When a frequency is disturbed by a spread spectrum modulation method, it is retransmitted to other paths)

Industry Canada

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Industrial Sensor

Type	Star Network*
Memory	512 messages, Heartbeats 10mins + 3.5days / 2hours + 42days
Update	OTA (Online remote firmware update)
Security	256-bit key exchange & AES-128 CTR, Bank level security / dual encryption
Safety Standard	UL508-4x specifications

Wireless Range	Reliability(1-10)	RF	Battery life
In open space 300m	FHSS(9)**	940MHz	10years (1 of 3.6V, 1800mAh AA battery)***

* Star Network : Top-rated networking method that provides connection to multiple platforms
** Frequency Hopping Spread Spectrum (When a frequency is disturbed by a spread spectrum modulation method, it is retransmitted to other paths)

Industry Canada

MONNIT KR

MONNIT Gateway

Type	|	LTE, Ethernet, USB(PC) / wireless range: 300m, through 12 walls
Memory	|	Saving 50,000 messages
Protocol	|	DHCP, DNS, NTP, UDP, SNMP, Modbus TCP, MQTT
Security	|	Bank level security / Encrypt-RF™ Security*

Global RF Optimization for Every Region

- **North & South America**
  900 MHz
- **EMEA Region**
  433 MHz
- **APAC**
  920 MHz
- **East Asia**
  920 MHz

* Encrypt-RF™ Security: Diffie-Hellman Key Exchange + ES-128 CBC for sensor data messages

Industry Canada

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MONNIT Monitoring Platform

Operate as a local server while using the same interface as iMonnit,
To be configured as data transfer and interface from hardware to a 3rd platform
We also provide SDK (Software Development Kit) so that you can develop yourself.

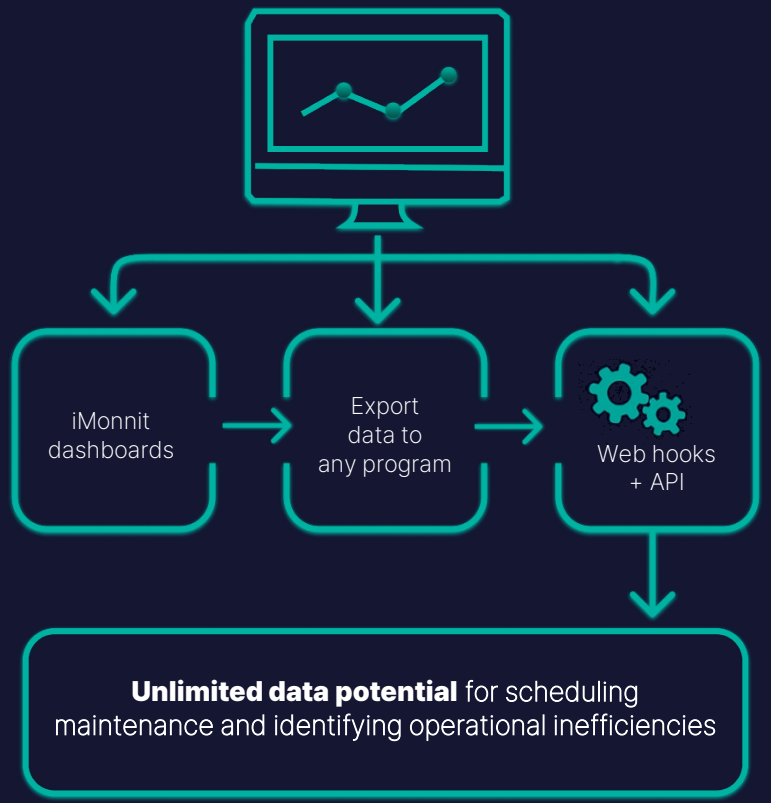
3rd Party System Integration

Data transfer to third-party platforms via webhooks, REST APIs, JAVA, and .NET
It is also possible to reconfigure the user interface by sending it.

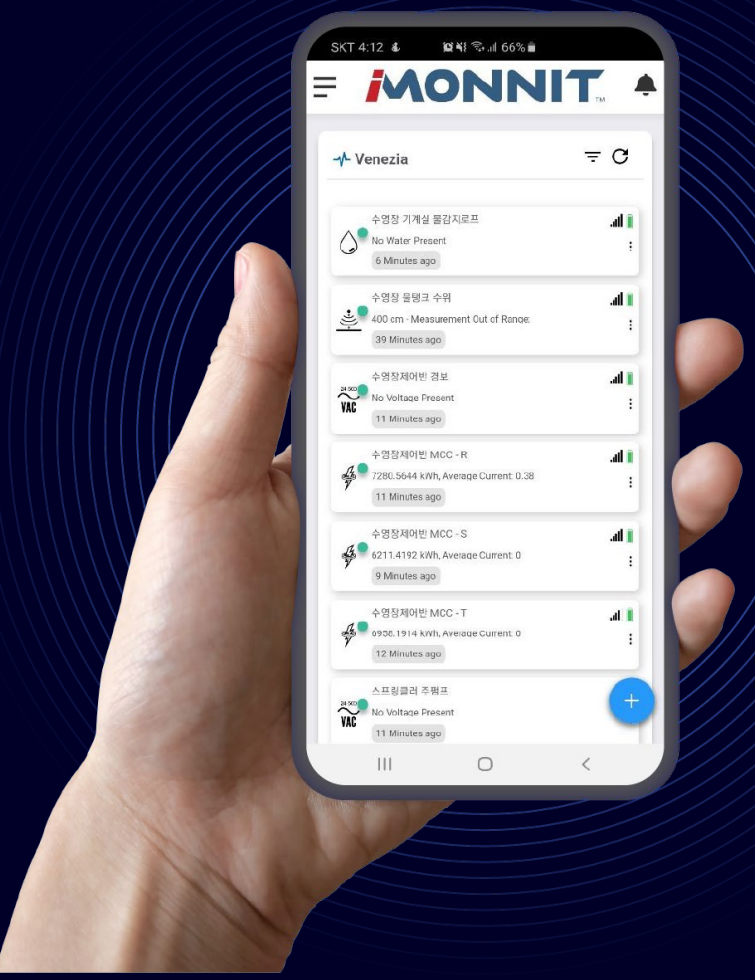
Open API

Install Monnit sensors & own your data.

Use your data wherever you need it



Service Provided On-Demand



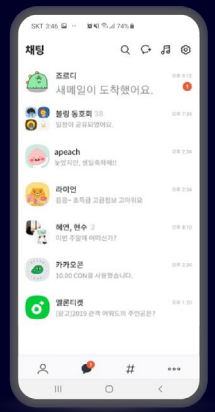
Measure — **Collecting the Data** — **Check and Respond**

Overflowed at 2nd floor laboratory

01/06/20 @ 09.22 PM
Final signal: water detected
Battery: 82%

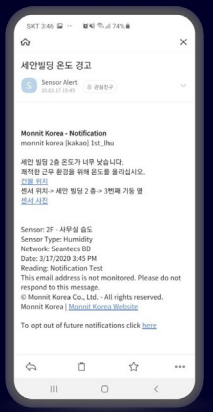
B-2 factory's production line conveyer belt has abnormal vibration signal, please check

01/20/20 @ 12.30 PM
Final signal : Vibration 15mm/s
Battery: 94%



Alarm

Show the subject



Detail

Location

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Real-time Data & Notifications

Section	Main Function
Left Panel	Add and manage each monitoring point (Integrated Management View)
Center Top	Site overview + Alert status
Right Top	Real-time sensor values
Bottom Graph	Time- and sensor-based analysis
Top Menu	Language and page navigation

The above interface is being continuously customized and developed through ongoing communication with our clients.

A Trusted Partner for Sustainable and Secure Digital Twin Implementation

Monnit has deep roots as a global IoT leader with 85+ countries, 64,000+ customers, over 43+ billion data readings, and more than 2,000 product SKUs

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Application Building Sensor

Power and Lighting Management

- Smart factories and buildings focus on reducing energy use and improving efficiency.
- IoT sensors monitor power quality for peak and usage management.
- Monnit wireless sensors are easy to install in any building environment.

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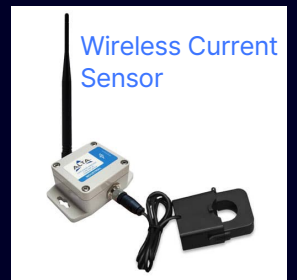
Application Building Sensor

Gas and Boiler Management

- Safe and efficient management of boiler systems is essential in smart factories and public buildings.
- IoT sensors enable monitoring of boiler performance, gas, and fuel usage.
- With Monnit wireless sensors, facilities can achieve optimal safety and energy management in boiler rooms.



Applications

Presidential Office

Fire Monitoring Solution

Existing Problem

The facility relied on conventional wired fire alarms, which failed to detect subtle heat rises or early smoke indicators. Manual inspections led to delayed responses and frequent false alarms, increasing both operational risks and maintenance workload.

- 95% faster detection of early fire indicators through real-time IoT monitoring.
- Zero downtime achieved via instant mobile alerts and predictive notifications.
- 25% lower annual maintenance costs through automated data collection.

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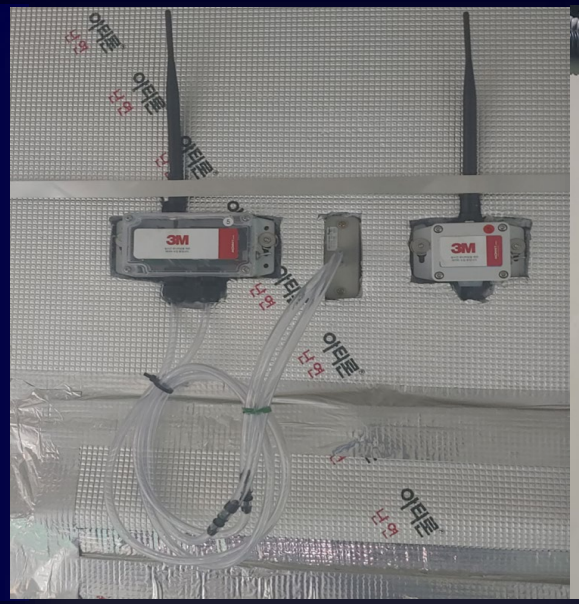
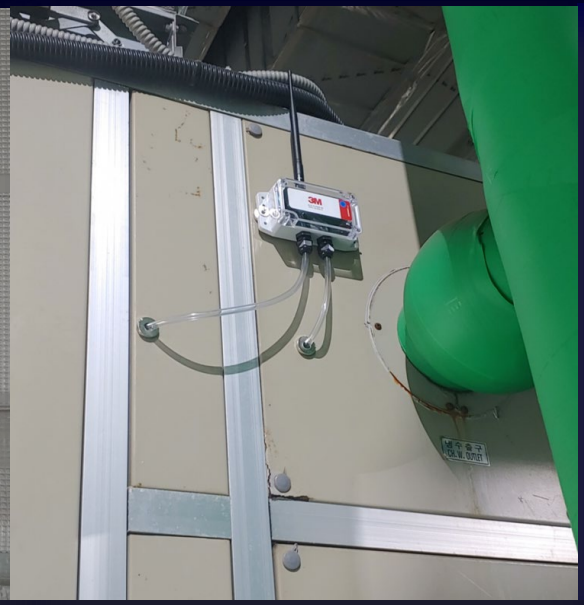
Applications

3M Hwaseong Plant

HVAC Monitoring Solution





Existing Problem

Before deployment, HVAC systems operated continuously at fixed schedules, leading to unnecessary energy consumption and inconsistent air balance.Manual inspection cycles were time-consuming, often missing minor performance degradations that later caused costly downtime or production inefficiency.

- Energy Savings: ~20–25% reduction achieved through optimized HVAC control based on real-time sensor feedback.
- Maintenance Efficiency: ~30% fewer manual inspections and emergency repairs with predictive alerts.
- Process Stability: Maintains temperature and humidity within ±1% variance, ensuring product quality consistency.

Applications

Lotte Mart
Indoor Comfort

Monitoring Solution

Existing Problem

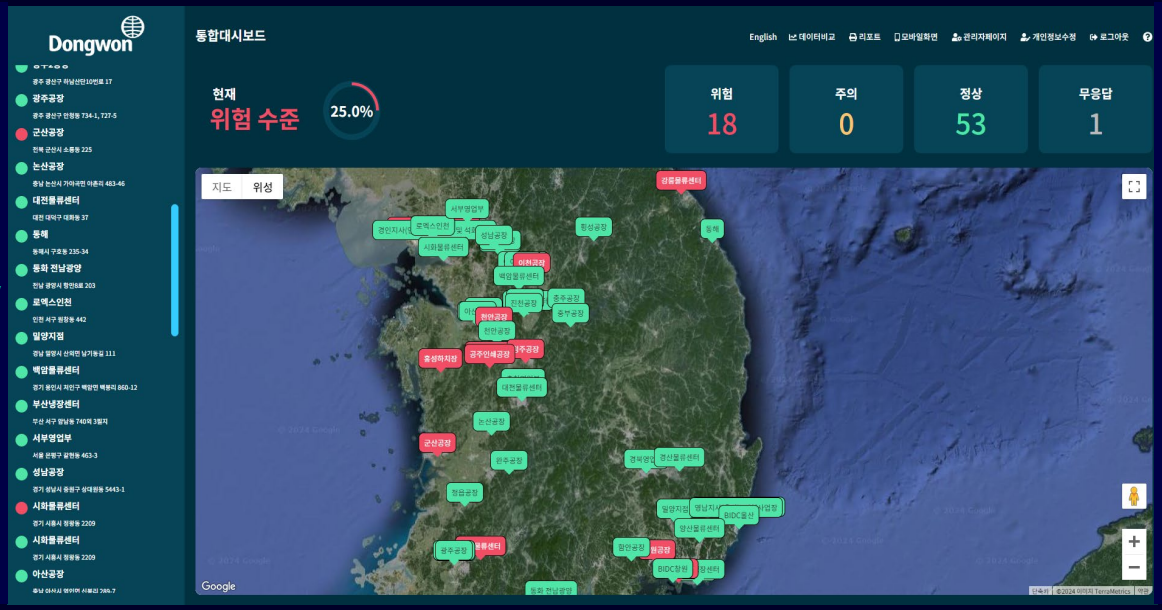
Lotte Mart stores operate large indoor spaces where fluctuating temperature, humidity, and CO_2 levels often caused discomfort and energy waste.Manual inspection of HVAC conditions led to inconsistent air quality and inefficient power usage during peak hours.

- Energy Efficiency: ~18–22% reduction in HVAC energy use through automated optimization.
- Air Quality Stability: Maintains CO_2 and humidity within ±3% range, enhancing customer comfort.
- Maintenance Efficiency: ~30% fewer manual inspections through real-time sensor alerts.

Applications

Dongwon Construction Industry

Fire Monitoring Solution



Existing Problem

Construction sites faced frequent fire hazards due to temporary power setups and limited 24/7 surveillance. Manual inspections were time-consuming and often failed to detect early warning signs, leading to unexpected damage and costly project delays.

- Fire Risk Reduction: Up to 90% decrease in on-site fire incidents with early detection and real-time alerts.
- Operational Efficiency: ~25% reduction in inspection and maintenance costs through remote IoT monitoring.
- Downtime Prevention: Prevented losses of ~~₩~~30–50 million per incident by avoiding damage and schedule delays.

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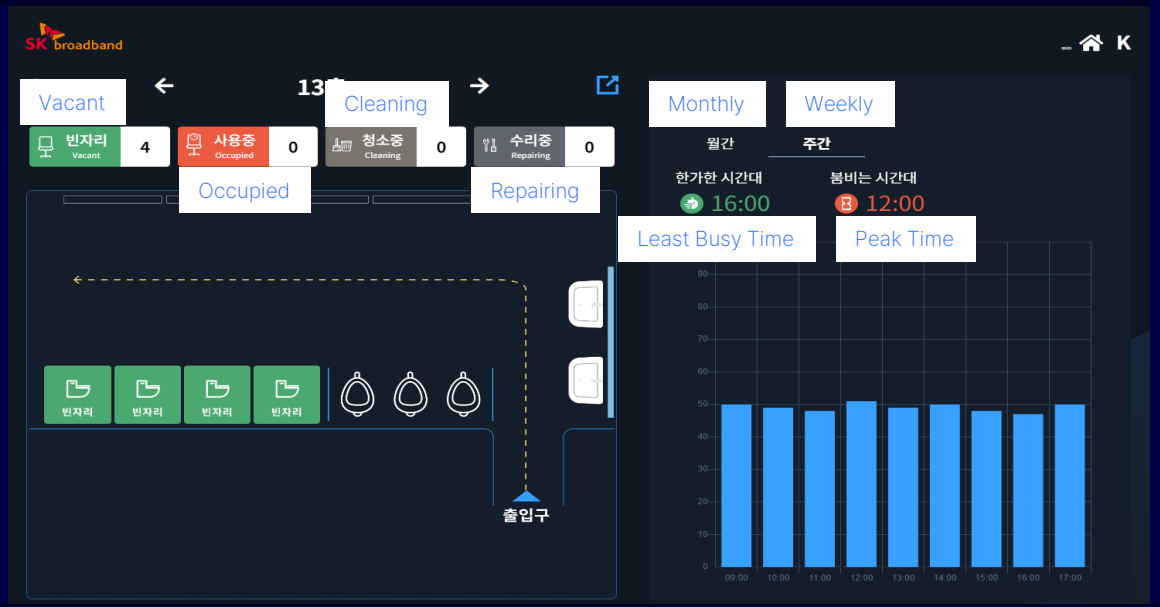
Applications

SK Broadband

Smart Restroom Solution



Existing Problem

Facility maintenance teams relied on fixed cleaning schedules rather than actual restroom usage.This led to unnecessary labor, poor timing of cleaning tasks, and frequent complaints about hygiene and supply shortages especially during high-traffic hours.

- Maintenance Efficiency: ~30% cost savings through on-demand cleaning operations triggered by real-time usage data.
- Consumables Optimization: ~25% reduction in paper and soap waste via usage-based alerts.
- User Satisfaction: +40% improvement in facility feedback scores after deployment.

Applications

Yeosu Gwangyang Port Authority

Environmental Monitoring Solution

Existing Problem

The port area had limited real-time visibility into air quality and emission levels, relying heavily on periodic manual inspections.
This made it difficult to meet environmental compliance standards and respond quickly to pollution spikes caused by industrial activity.

- Compliance Efficiency: 100% automated data reporting for environmental audits, improving transparency and accuracy.
- Operational Savings: ~35% reduction in manual inspection and reporting costs through IoT automation.
- Environmental Risk Mitigation: Up to 90% faster response to pollution incidents, preventing regulatory fines.

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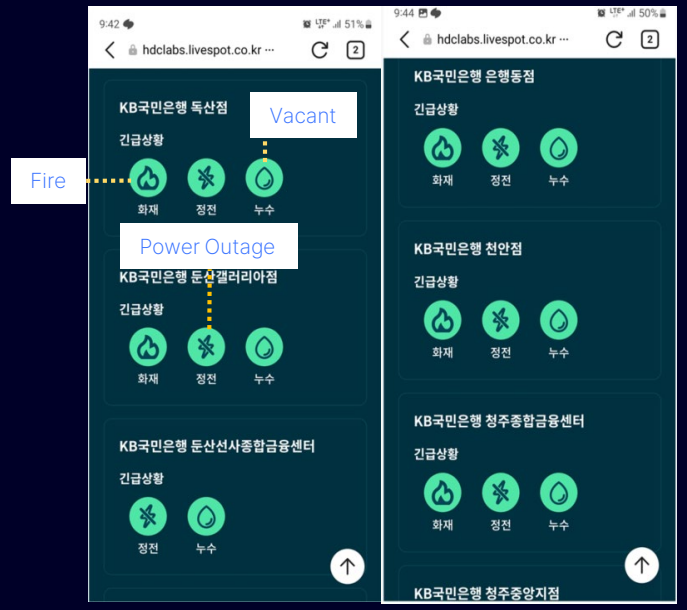
Applications

KB Kookmin Bank

**Power Outage, Fire,
and Water Leakage Solution**



Existing Problem

Bank branches and data centers faced frequent risks from power failures, small leaks, and electrical overheating.Traditional alarm systems required on-site confirmation, resulting in delayed responses, increased maintenance costs, and occasional service interruptions that directly impacted banking operations.

- Operational Continuity: 99.9% uptime maintained through early warning and predictive alert systems.
- Damage Prevention: Prevented annual losses exceeding ₩100 million per branch by detecting fire and leak incidents early.
- Maintenance Cost Savings: ~35% reduction in inspection and emergency response costs through remote IoT monitoring.

Applications

Fire Alarm Signal Sensing from Fire Receiver Panel (Dry Contact / DC Detection)

AC Detection Sensor
ATS Power Line Monitoring

AC/DC Detection Sensor
Generator Panel Grid Status Monitoring

DC Detection Sensor
Fire Receiver Panel Power Signal Monitoring

Existing Problem

In many facilities, power anomalies or system shutdowns are detected only after they cause failures.Conventional wired monitoring requires manual inspection and provides limited insight into short-term voltage fluctuations or DC signal drops, increasing the risk of unnoticed power interruptions.

- Fire Alarm Integration: Detects dry contact signals from fire receiver panels (AC/DC Detection) for instant event linkage.
- System Reliability: Provides real-time voltage and power status data from electrical ATS, UPS, and generator lines.
- Early Failure Detection: Identifies abnormal signal loss before equipment shutdown, preventing system downtime.
- Maintenance Efficiency: Enables remote power status tracking without physical inspection, reducing operational cost and response time.

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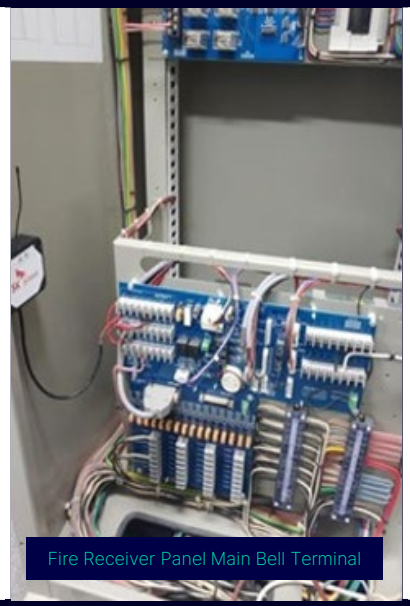
Applications

Fire Receiver Panel –
Fire Alarm Signal Sensing
(Dry Contact / DC Detection)


Fire Receiver Panel Fire Contact Point


Fire Receiver Panel Main Bell Terminal


Fire Receiver Panel Main Bell

Existing Problem

Conventional fire receiver panels rely on wired relay circuits that often fail to provide remote visibility. Without real-time detection of dry contact or DC signals, facility teams had difficulty verifying actual alarm status or diagnosing line disconnections, leading to delayed emergency response.

- Real-Time Signal Capture: Detects dry contact and DC voltage changes from fire receiver panels instantly.
- Safety & Compliance: Ensures compliance with fire safety regulations through automatic event logging.
- Remote Monitoring: Transmits alarm data to central systems for 24/7 remote visibility and faster response.
- Operational Efficiency: Reduces the need for physical inspection, improving response time by over 80%.

Applications

Fire Main Pump Activation Sensing (G-force Accelerometer / AC Detection / DC Detection)

Fire Main Pump (Indoor Hydrant / SP)

Fire MCC Panel

Fire Main Pump Activation Indicator Light

Existing Problem

Fire suppression systems often failed to verify whether the main pump had physically activated during emergencies.Traditional signal-only monitoring could not distinguish between electrical trigger signals and actual pump operation,leading to false confirmations and delayed fire response.

- Accurate Activation Detection: G-force accelerometer verifies physical pump vibration upon activation.
- Electrical Signal Monitoring: Simultaneous AC/DC detection ensures reliable system feedback from MCC panels.
- Safety Assurance: Prevents false pump confirmations, ensuring immediate suppression during fire incidents.
- Operational Efficiency: Enables remote verification of pump status, reducing inspection time and human error by over 70%.

Applications

EV Fire Management

Existing Problem

EV charging zones are vulnerable to fire risks caused by overcurrent, thermal runaway, or faulty chargers.Traditional fire systems cannot detect battery overheating or smoke accumulation early enough in enclosed parking areas, leading to delayed evacuation and high property loss.

- Early Heat Detection: Wireless temperature and gas sensors identify battery thermal rise before ignition.
- Integrated Fire Response: Real-time alerts sent to both facility control room and fire stations.
- Energy Source Isolation: Automated breaker shutdown upon alarm to prevent secondary ignition.
- Safety & ROI: Reduces average response time by over 70%, preventing potential damages exceeding ₩200 million per site.

Applications

Gas Leak Alarm Sensing (Dry Contact)

Dry Contact Output from Gas Leak Alarm Panel

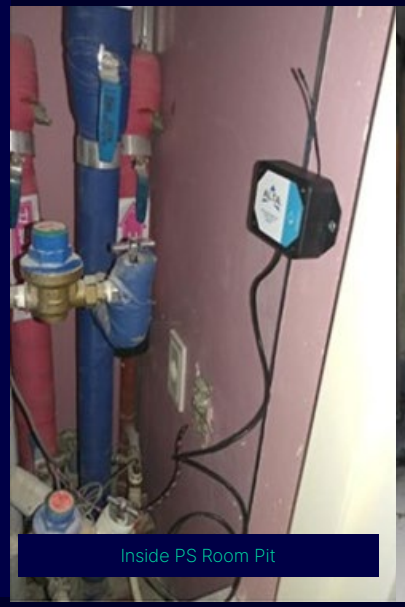
Existing Problem

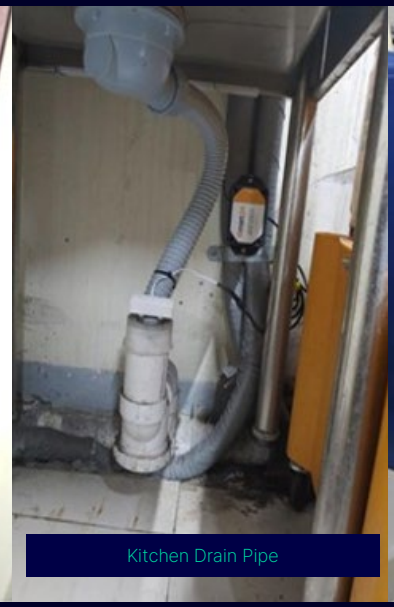
Many gas facilities rely on stand-alone alarm systems that cannot transmit alerts to centralized monitoring.This causes delays in leak response, especially during night shifts or unmanned operation hours, increasing fire and explosion risks.

- Early Leak Detection: Detects gas alarm dry contact signals instantly from detectors or panels.
- Centralized Response: Sends real-time alerts to the control room and mobile devices for immediate action.
- Safety Integration: Automatically triggers ventilation fans or gas valve shut-off systems.

Applications

Leak Detection (Water Detection)


Inside PS Room Pit


Kitchen Drain Pipe


Mechanical Room Floor

Existing Problem

Water leaks from pipe fittings, boiler rooms, or equipment areas often go unnoticed until significant damage occurs.Conventional inspections rely on visual checks, leading to delayed maintenance, mold growth, and costly downtime.

- Early Leak Sensing: Detects water presence immediately via rope or probe-type sensors.
- Damage Prevention: Prevents equipment corrosion and flooring damage through real-time alerts.
- Remote Monitoring: Sends instant notifications to mobile and web dashboards, even during unmanned hours.

Applications

Water Tank (Reservoir)
Level Sensing
(AC/DC Detection / Dry Contact)

Automatic Control Panel (Main Controller)


Water Tank with Vent Line

Existing Problem

Manual water tank inspections often failed to detect abnormal levels in time, leading to pump dry-running, overflow, and frequent maintenance issues.Traditional wired systems lacked real-time monitoring and could not alert operators before system failure.

•Accurate Level Detection: Monitors upper/lower tank water levels through AC/DC or dry contact input.
•Anomaly Alerts: Immediate mobile and control system notifications when abnormal water level fluctuations occur.Automation & Alerts: Real-time data transmitted to control panels and mobile dashboards.

Applications

Sump Pit / Septic Tank Overflow (Dry Contact)

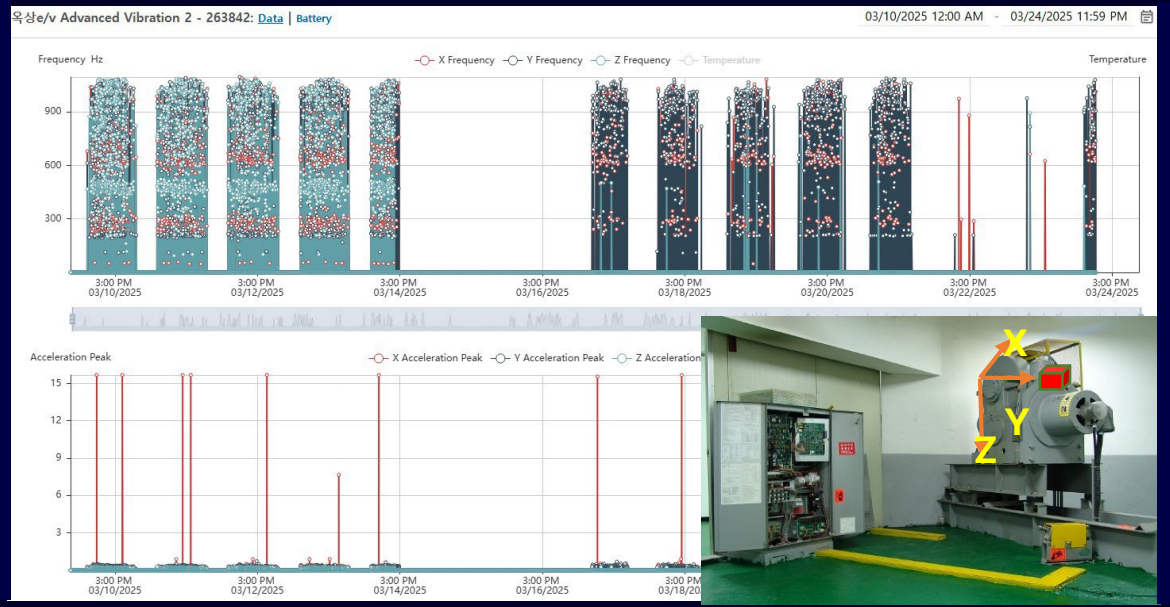
Existing Problem

Sump pits and septic tanks often overflow due to blocked drains, pump failure, or delayed maintenance.Traditional systems rely on manual inspection, causing late detection, odor issues, and costly sanitation operations.

- Early Overflow Detection: Dry Contact sensors detect rising water levels in sump pits or septic tanks in real time.
- Instant Alerts: Control system and mobile notifications enable immediate on-site response.
- Damage Prevention: Early detection minimizes risks of backflow, odor, and environmental contamination.

Applications

Elevator & Hoisting Machine Management (Vibration, Temperature/Humidity, and Motion Sensors)



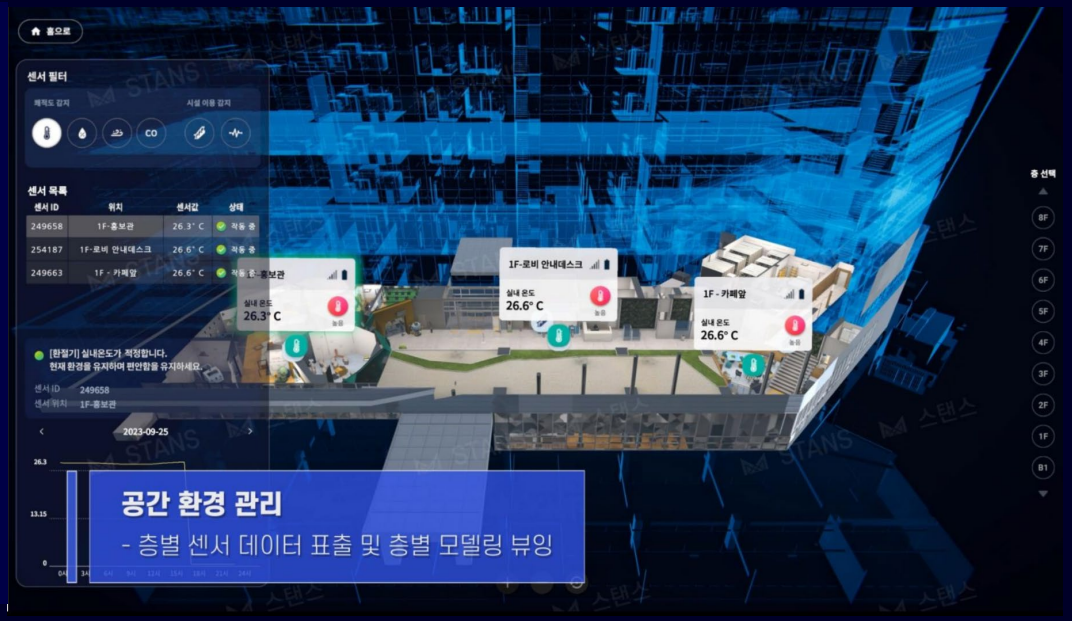
Existing Problem

Elevator and hoisting systems are prone to motor overheating, bearing wear, and vibration imbalance,which can lead to unexpected stoppages or safety risks.Conventional maintenance depends on scheduled inspections, lacking real-time data to prevent failures in advance.

- Vibration Monitoring: Detects abnormal vibration patterns in hoisting motors and gearboxes to predict wear and imbalance in advance.
- Temperature & Humidity Monitoring: Continuously monitors motor temperature and humidity to prevent overheating and insulation degradation.
- 3-Axis Vibration Data Analysis: Quantitatively analyzes XYZ-axis vibration values to diagnose mechanical anomalies with high precision.
- ROI Impact: 80% reduction in unexpected stoppages, 35% maintenance cost savings, and enhanced equipment reliability.

Applications

Spatial Environment Management Floor-by-Floor Sensor Data Visualization and Environmental Modeling



Existing Problem

Facility operators lacked a unified platform to visualize environmental data (temperature, humidity, CO_2, occupancy) by floor or zone.Manual reporting caused delays in identifying air quality issues, thermal imbalance, and over-cooled or over-heated zones.

- Floor-Level Visualization: Integrates wireless sensor data across multiple floors into a 3D digital model.
- Environmental Modeling: Analyzes trends in temperature, humidity, and air quality to optimize HVAC control.
- Real-Time Monitoring: Enables instant detection of anomalies, ensuring comfort and energy efficiency.

MONNIT KR

Tel. +82 02.2088.1 454 Fax. 02.2088.1453 E-mail. korea@monnit.com

8F, Sean B/D, 380, Hyoryeong-ro, Seocho-gu, Seoul, 06727, Republic of Korea