Actionable Geolocation Intelligence and Smart Sensing Solution

PEOPLE AND TECHNOLOGY

Smart technology with IoT and AI

IndoorPlus+

Energy segment

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IndoorPlus+ Workers Safety / Asset Management

Energy industry

Industry Understanding

- **Challenging environment :** Due to the use of hazardous chemical substances, workers are often exposed to significant health risks, necessitating constant monitoring of both their location and health status to promptly address any incidents.
- **Isolated work** : Due to the size of the facility, workers are often operating in isolated conditions.
- **Low Signal areas**: Often multi-leveled structures including underground levels, where wi-fi, GPS communications are weak.
- **Safety-conscious industry :** Increasing regulatory and social push towards improving safety standards, which necessitates more advanced and reliable technological solutions.

Status Quo/ Pain points :

- **Emergency Response Limitations**: The existing emergency response protocols are insufficient for real-time crisis management, potentially leading to delayed rescues or medical attention.
- **Isolated work :** Risk for workers in isolation to be left behind in case of emergency
- **Low signal :** Workers operate in multi-level facilities where GPS signals may fail, creating a high risk of accidents without precise location tracking.
- **Complexity in Monitoring**: Non-technical staff face difficulties in setting up and managing advanced location services, impacting efficiency and effectiveness in monitoring safety protocols.
- **Infrastructure Costs**: The expansive area of such facilities drive up the cost for wired networking solutions, making it financially challenging to implement comprehensive monitoring systems.

Our solution :

- **Web and Mobile Applications**: Enable real-time monitoring of workers on detailed maps, with the ability to manage worker information.
- **Advanced Location Tracking**: Utilizes technology like BLE (Bluetooth Low Energy) and LoRa (Long Range) for indoor and remote area coverage, overcoming GPS limitations.
- **Safety Equipment Tracking** : Real time asset monitoring helps checking that every worker is equipped with necessary environmental sensors and safety equipment such as helmets.
- **Geofencing and Alerts**: Allows setting up and managing geofences easily with alerts for unauthorized access or emergencies.
- **Emergency Response Features**: Includes SOS functionalities and automated emergency calls, ensuring swift action.
- **Data Management and Reporting**: Facilities to view logs, manage data, and extract actionable insights through reports.
- **Cost Efficiency**: BLE technology reduces the need for extensive wired network setups, cutting down infrastructure costs.

Value Proposition :

- **Enhanced Worker Safety**: Through continuous and precise monitoring, emergency response features, and predictive analytics like battery usage indicators.
- **Cost-Effectiveness**: By reducing reliance on extensive wired networks and enabling non-technical staff to manage the system.
- **Regulatory Compliance**: Helps power plants meet stringent safety regulations.
- **Operational Efficiency**: Real-time data and alerts facilitate quicker decision-making and problem resolution.

Energy industry

LG Nikko
Copper Smelting Factory

Asset management and worker safety managem ent system, toxic gas detection system

• Ensuring safety by monitoring the location of assets and employees and detecting harmful gases in the workplace • Immediate
alarm notification and information communication in case of
emergency • Maximizing the efficiency of rescue operations in case of emergency such as fire or hazardous gas

Gori Plant
Nuclear Power plant

By identifying the location of workers in extre mely dangerous spaces in real time, rescue t eams can be immediately sent to workers in danger in the event of an emergency.

Monitoring worker
location • Beware of safety accidents by measuring the number of workers

Yeongheung Power Plant
Thermal power plant

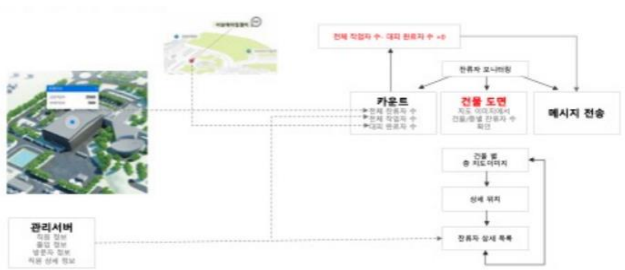
Position monitoring for worker safety in hazardous spaces with few workers. Har d hat-mountable BLE tag with SOS butt on

Monitoring operator location
• Safety through worker headcounting

Energy industry

Wonik Q&C

Wonik Q&C residual and worker safety management
In the event of an evacuation due to a disaster, even in situations where all emergency exits are open, positioning sensing through electronic name tags can be used
to check the number and location of people evacuated to a safe gathering place and those remaining in the building in real time, enabling rescue with golden time. We provide building a system that does this.



Edward Korea (PC ASAN) Clean Room

Provided worker evacuation training and location management system at EDWARD KOREA Asan plant with S1

Jusung Engineering Worker Safety Monitoring System

We provide chemical management through IoT safety status monitoring and worker safety status management in case of emergency.

Energy industry

Safety management of workers at Hwaseong City Clear Water Office

The location/heart rate information/gas information of employees at the clear water business are identified and continuously monitored, and when dangerous work begins, Manage work history by digitizing the office