

CHINO INT  
SENSE CONNECT

SENSE CONNECT

AIOT



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# Who is ChinolNT?



# Customers & Solutions

## IOT Smart Facility Management



## Smart Site Safety System



Nga Ying Decoration Ltd

Por Mee Factory Building

## AI + Predictive Maintenance



# ChinoINT Know-How & Strengths

## Hong Kong R&D

- local R&D team
- local expert support
- Chartered Engineer



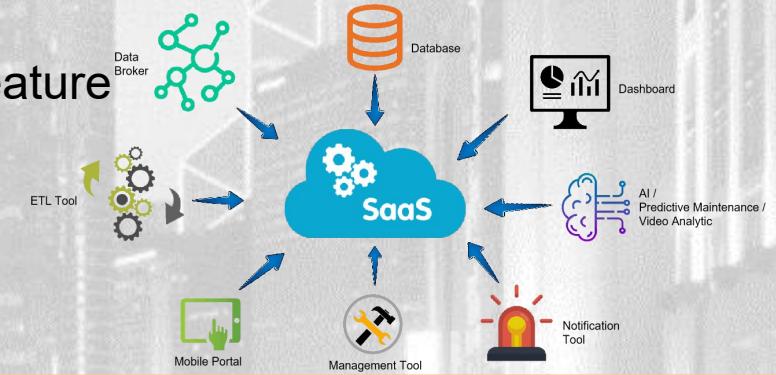
## Hardware Design Capability

- IOT sensor design
- Gateway design
- NRE cabability



## Software Capability - AIOT Platform

- Complete Feature
- Deployed
- AI-integrated



## AI & Algorithms Development

- 11 innovation patents owned by executives
- deployed 4S with AI
- deployed AI solutions at local univeristy, and government building



# Smart Site Safety System

## SSSS



## 安全智慧工地系統10個主要類別 10 Main Categories of SSSS Products :

### 1 中央管理平台

Centralised Management Platform

### 2 數碼化追蹤系統 (工地機械, 電動工具及梯架)

Digitised tracking system for site plants, powered tools and ladders

### 3 數碼化工作許可系統 (高風險工作)

Digitalised permit-to-work system for high risk activities

### 4 危險區域進出管制 (電子鎖系統)

Hazardous areas access control by electronic lock and key system

### 5 移動設備操作區域的不安全行為/危險情況警報

Unsafe acts / dangerous situation alert for mobile plant operation danger zone

### 6 天秤吊運區域的不安全行為/危險情況警報

Unsafe acts / dangerous situation alert for tower crane lifting zone

### 7 前線工人智能監控設備

Smart monitoring devices for workers and frontline site personnel

### 8 人工智能安全監察系統

Safety Monitoring System using Artificial Intelligence

### 9 密閉空間監控系統

Confined Space Monitoring System

### 10 虛擬實境安全培訓

Safety Training with Virtual Reality Technology

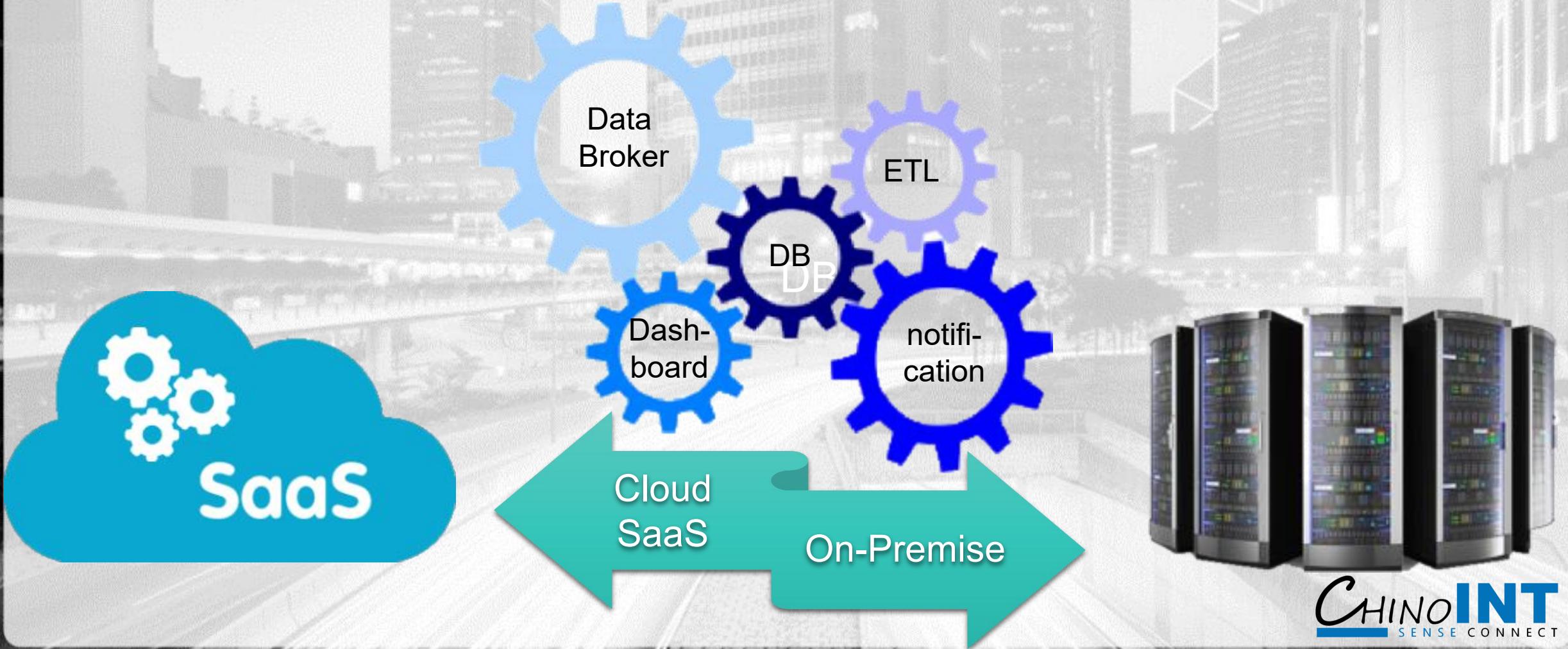
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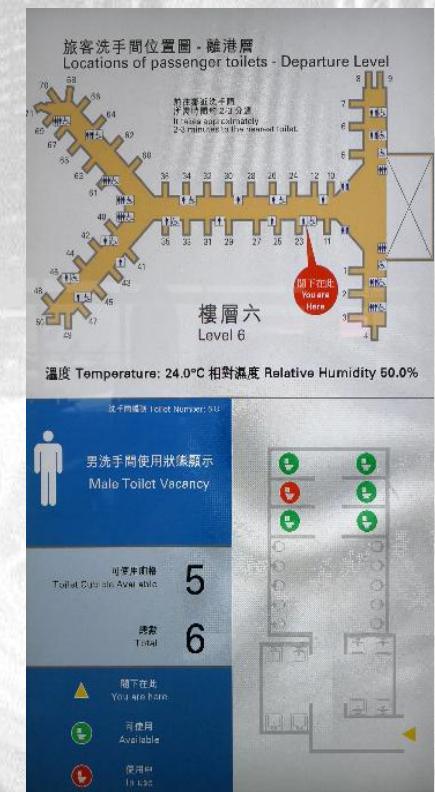
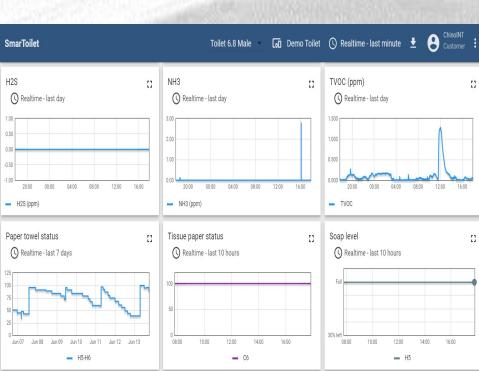
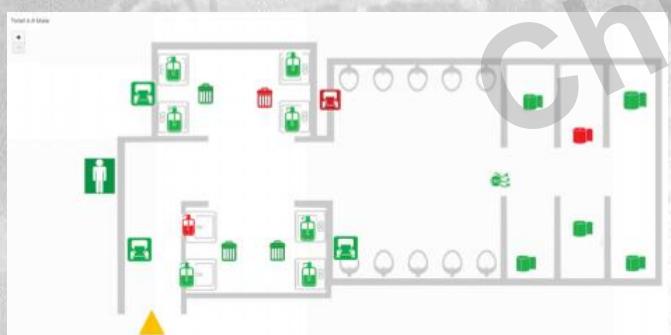
# Centralized Management Platform

The Software Platform consists of Data Broker, ETL tool, Database, Dashboard and notification modules  
For easy deployment, both Cloud SaaS and on-premise version is available.



# Dashboard

Clean and clear dashboarding is one of the key element in an IoT system. The Smart Toilet platform provides easy to use dashboard, with multi-layer user account settings. GUI Maintenance Portal is provided with the platform. Both desktop and mobile version (Android and IOS) are available.



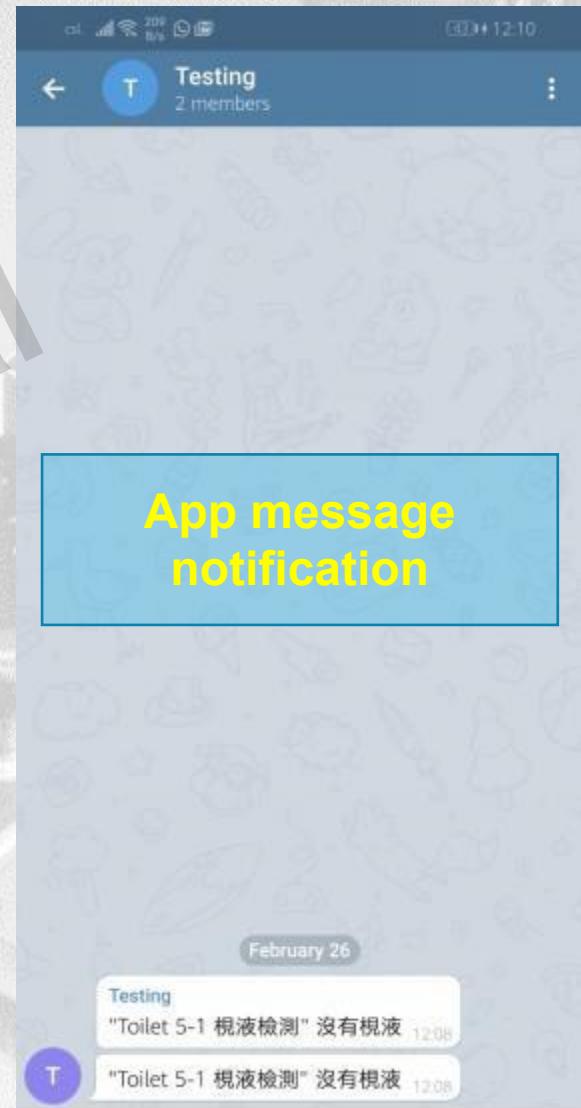
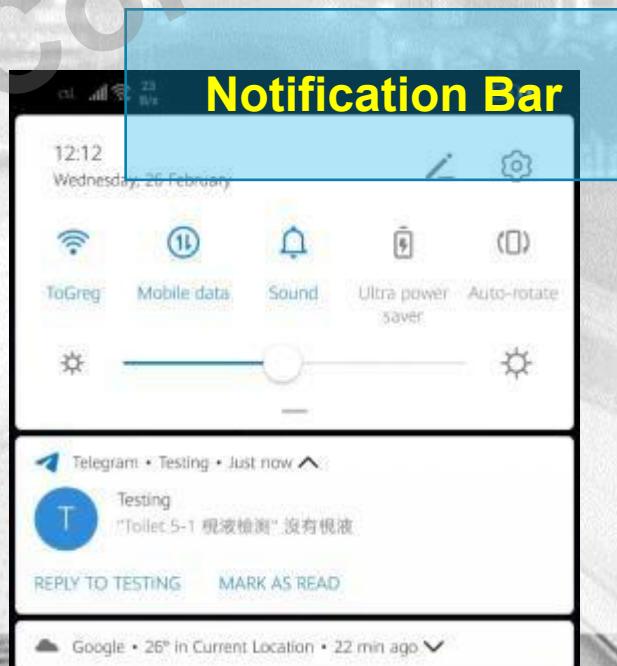
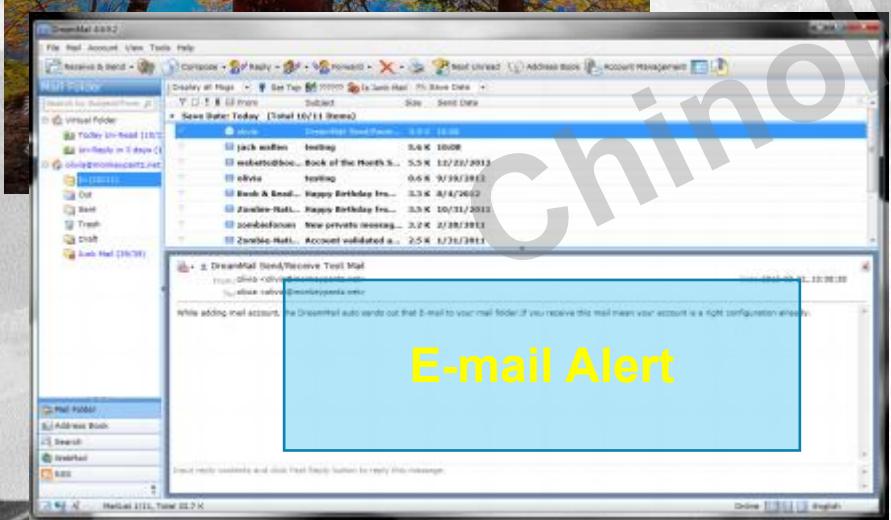
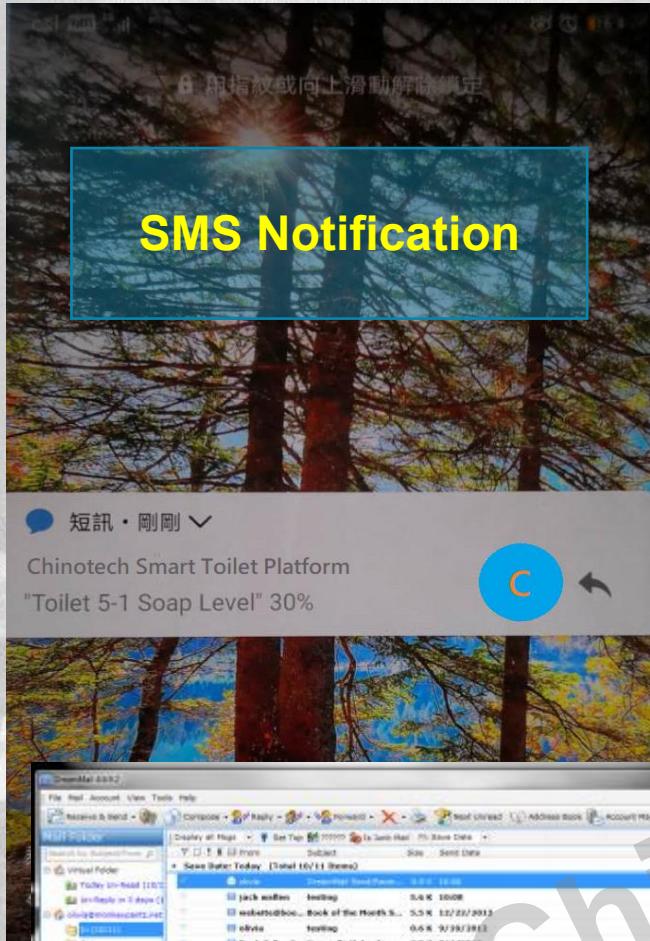
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# Notification

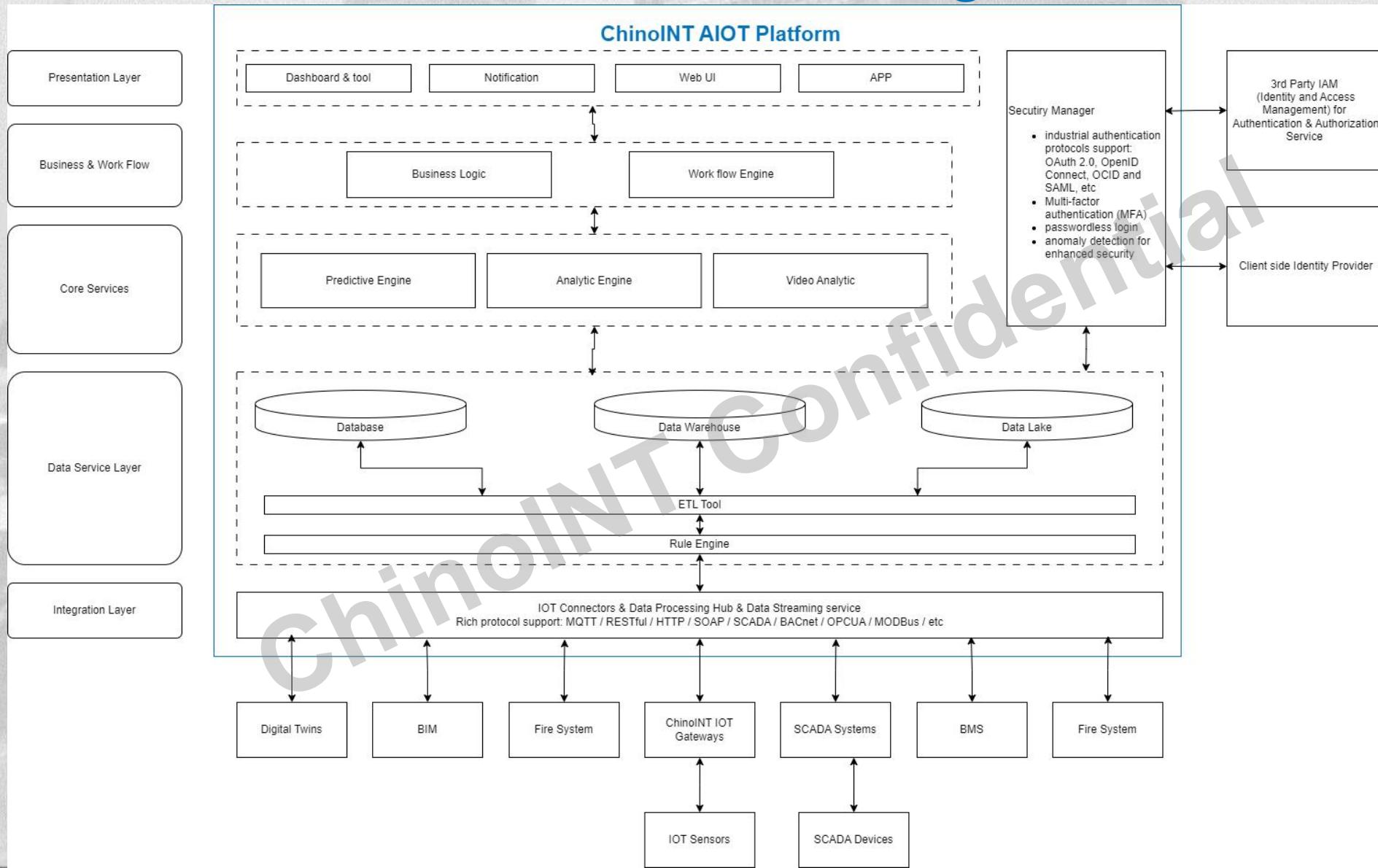
Notification is one of the crucial feature for Smart Toilet, in order to achieve on-demand cleaning and best resource utilization.

Notification can be done through app, notification bar alert, SMS and through e-mail.

App message notification can be configured as group alert, and individual alert.



# Architecture Diagram



# Smart Worksite Control Center



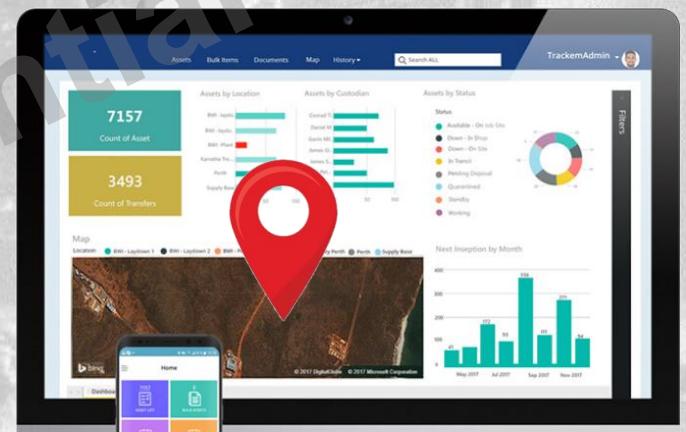


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# Digitized Tracking System



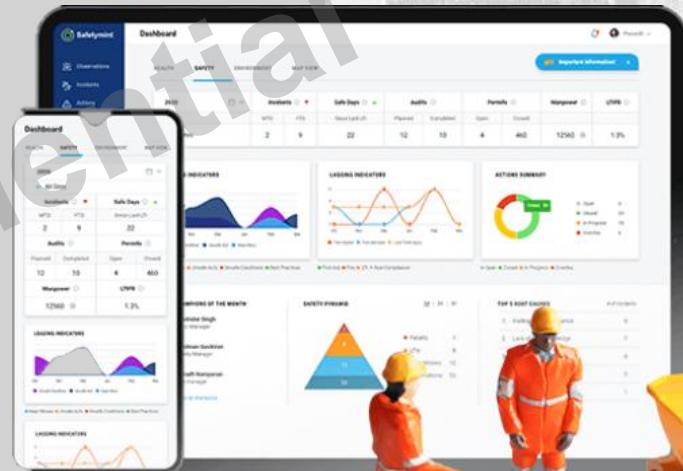
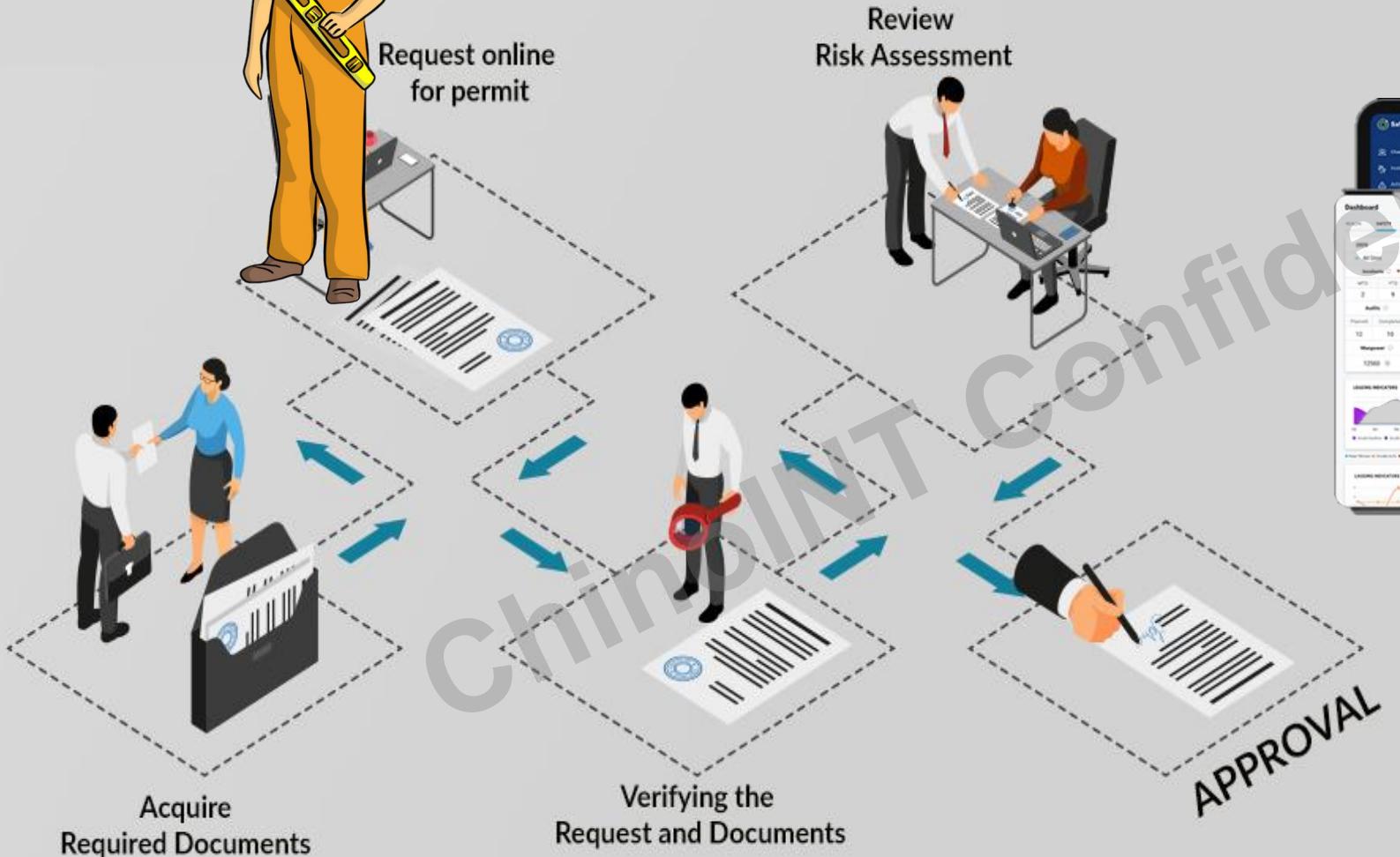
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# Digitized Permit-to-work system

ChinoINT can always custom-made the system to fit into different workflow requirements



# 4 危險區域進出管制 (電子鎖系統) Hazardous areas access control by electronic lock and key system

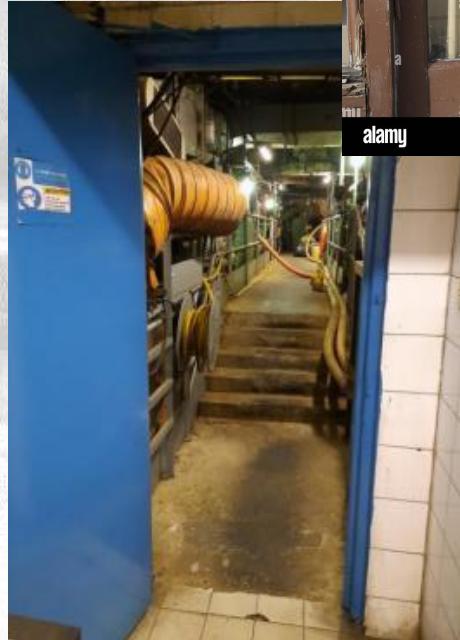
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# Hazardous Area Access Control

System controlled lock

- white list
- black list
- expired key alert
- trespassing attempt alert



# 5 移動設備操作區域的不安全行為/危險情況警報

## Unsafe acts / dangerous situation alert for mobile plant operation danger zone

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## 5-I - Unsafe Acts / Dangerous Situation Alert for Mobile Plant operation danger zone (AI based operation zone alert)



Dangerous Zone monitoring



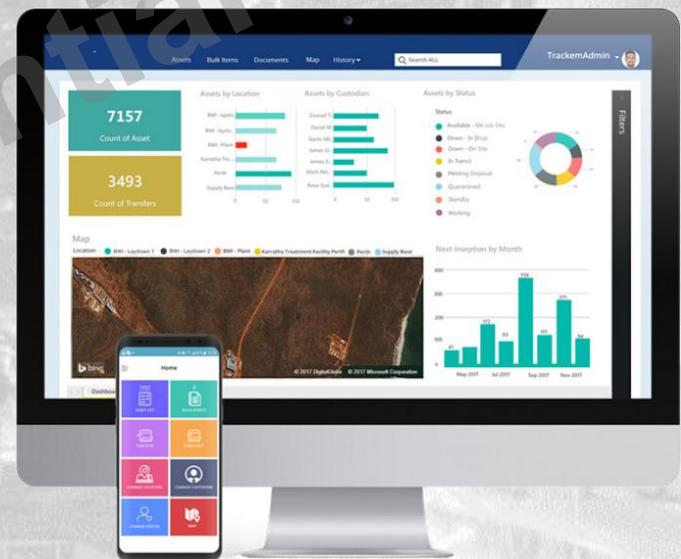
Trespassing Monitoring



Equipment Collision Monitoring



Work-at-height monitoring



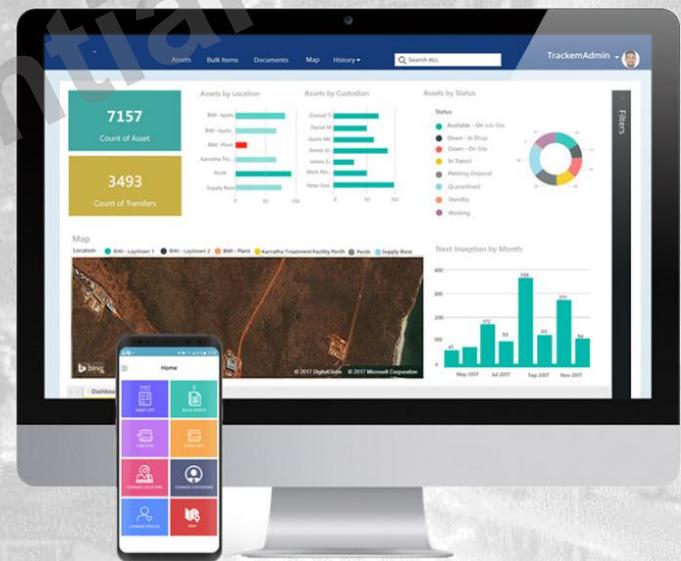
## 5-II - Unsafe Acts / Dangerous Situation Alert for Mobile Plant operation danger zone (sensor based zone intrusion)



Siren to alert operator

Sensor system on equipment

To protect the operation area



# 6 天秤吊運區域的不安全行為/危險情況警報

## Unsafe acts / dangerous situation alert for tower crane lifting zone

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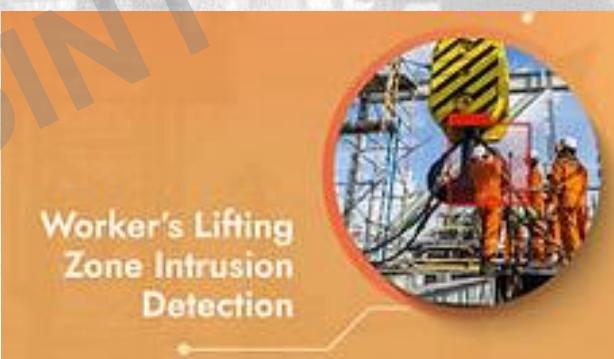
# Unsafe Acts / Dangerous Situation Alert for tower crane lifting zone (AI based height detection)



Dangerous Zone monitoring



Trespassing Monitoring



## 7 前線工人智能監控設備

## Smart monitoring devices for workers and frontline site personnel

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Safety Training with Virtual Reality Technology

# 7-I - Smart Monitoring Devices for personnel, asset, machinery (UWB based personnel and asset tracking)



# 7-I - Smart Monitoring Devices for personnel, asset, machinery (UWB based personnel and asset tracking)

The collage illustrates the integration of various smart monitoring technologies:

- Devices for human:** A black fitness tracker with a blue signal icon above it, and a smartphone displaying a weather app with a blue signal icon above it.
- 2-Dimension Positioning:** A forklift truck with a red and white siren on top, emitting a blue signal icon.
- Siren for real time alert:** A forklift truck with a red siren on top, with a blue signal icon above it and a callout box labeled "Siren for real time alert".
- CHINOINT Confidential:** A large, semi-transparent watermark reading "CHINOINT Confidential" diagonally across the center.
- CHINO SENSE CONNECT:** A logo in the bottom right corner with the text "CHINO SENSE CONNECT" and "CHINOINT" in a stylized font.



## 7-II - Collision Avoiding System (UWB based vehicle proximity alert)



# 8 人工智能安全監察系統 Safety Monitoring System using Artificial Intelligence

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Safety Belt Monitoring



Trespassing Monitoring

## A.I. Monitoring



Equipment Collision Monitoring



Work-at-height monitoring



Safety Helmet Monitoring



Dangerous Zone monitoring

# 9 密閉空間監控系統 Confined Space Monitoring System

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# 9-I - Confined Space Monitoring System (RFID based CSMS)

## Features:

- Count the number of authorized people getting into and out of the confined space
- Count the number of unauthorized people getting into and out of the confined space
- Safety Helmet enforcement
- Real time alert for unauthorized people
- Identify foul behavior, such as getting into the area through undefined path
- Prolonged stay alert in confined space
- IAQ monitoring

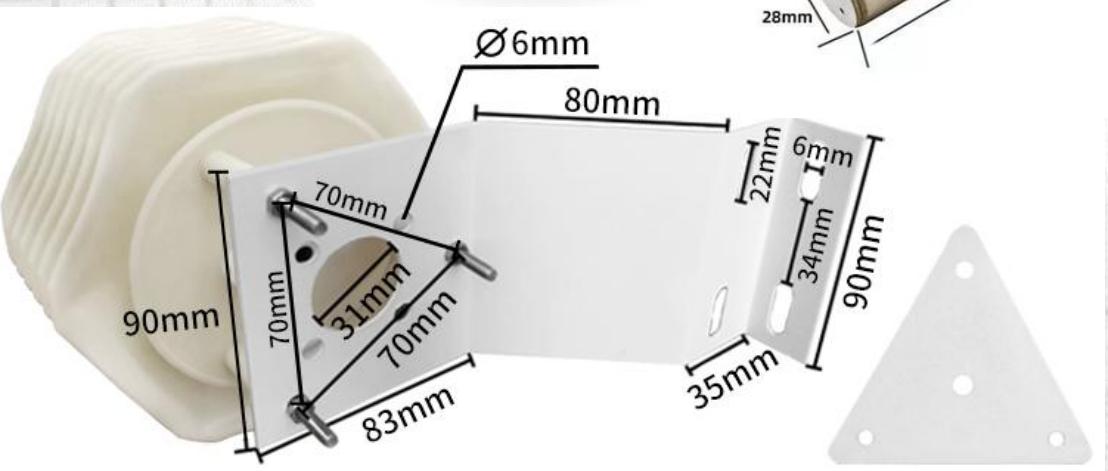
## Benefits:

- Reduced site monitoring staff at each site
- Real Time alert system for Safety monitoring
- Remote monitoring at Control Room
- Dashboard for Management Review
- Attendance Record for different contractors
- Analytic data for work site safety and usage



# Air Quality Sensors

Different housing for different needs



Shock-approval Certification | Ex d IIC T6 Gb

# LoRaWan Manhole Monitoring



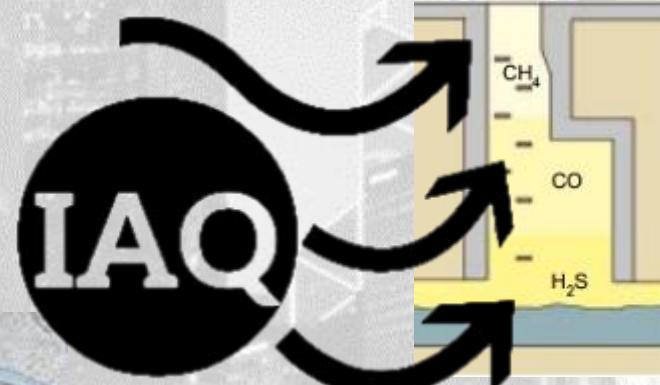
ChinoINT provides both indoor / outdoor edge computing LoRaWan gateway to simplify and ease the installation



Immersible water level monitoring



Simple & effective cover monitoring



Air Quality monitoring

ChinoINT specializes in wireless customization to overcome signal transmission issue due to manhole structure

## 9-II - Health Monitoring for personnel (LoRaWan based personnel health track)



## 9-III - Real Time Monitoring at Entrances (Latest requirement)

First level of monitoring:  
7/24 always on camera monitoring  
with local storage



Second level of monitoring:  
Real time streaming integrated with CMP



# IOT sensors & Monitoring (anti-burst is a must)

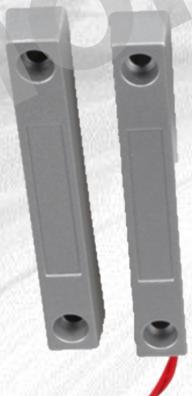
dissolved H2S

- detect illegal dumping of waste



Cover Status Monitoring

- detect lost or stolen
- avoid danger



Air Quality

- confined space gases detection
- H2S
- CO
- Methane



Water Level

- detect abnormal rise of level
- Potential AI application with real time data from HK Observatory

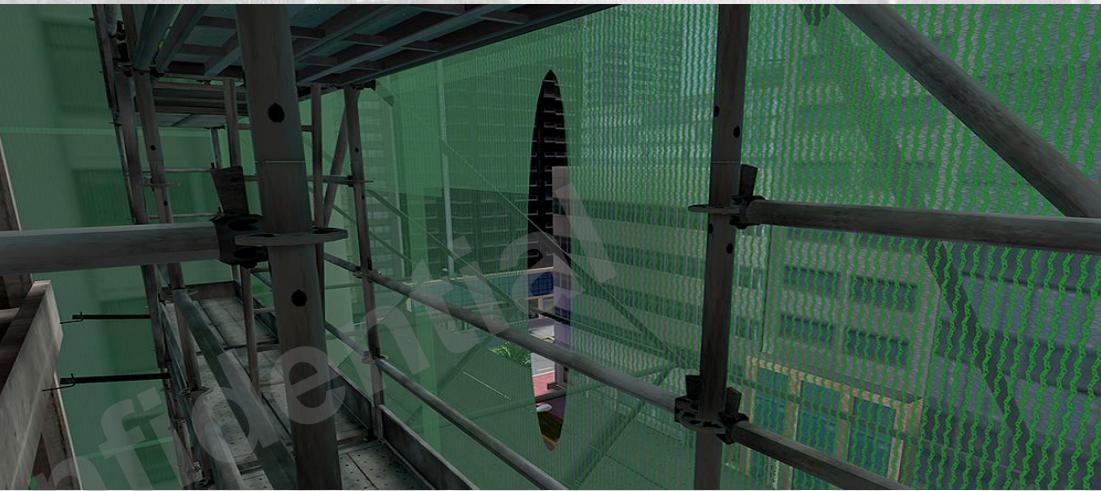
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## Safety Training with Virtual Reality Technology

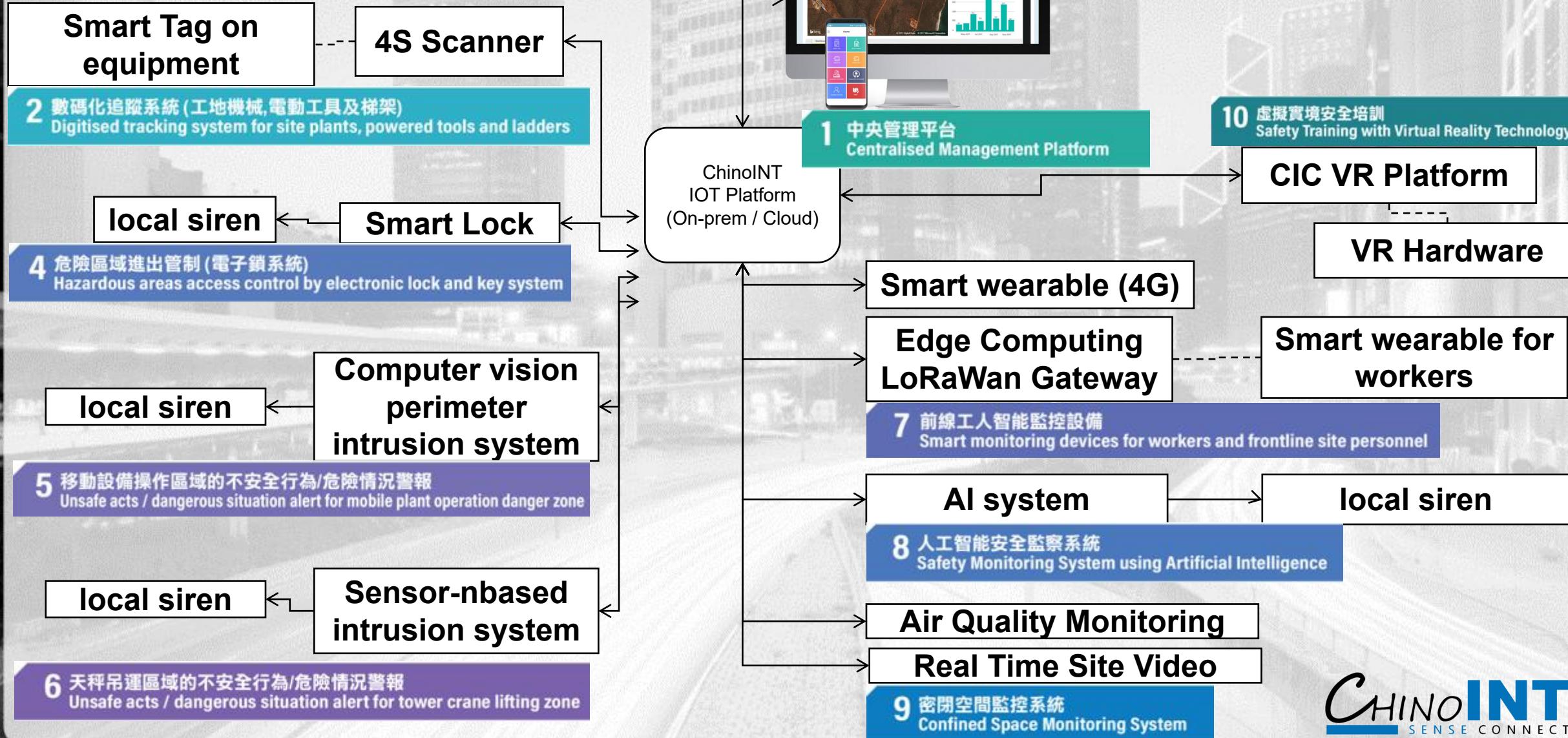
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# VR Training



# System Overview



# CIC Pre-Approved Solutions

PA24-102

AI construction site monitoring Box



- accuracy >95%
- upto 32 computer vision modules
- slim design
- all-in-one
- simple installation



Nga Ying Decoration Ltd  
Por Mee Factory Building

PA25-023

Vehicle Collision Avoidance System



- accuracy  $\leq$  10cm
- detection range 0.1 to 100m
- easy installation
- local + APP notification



PA-698

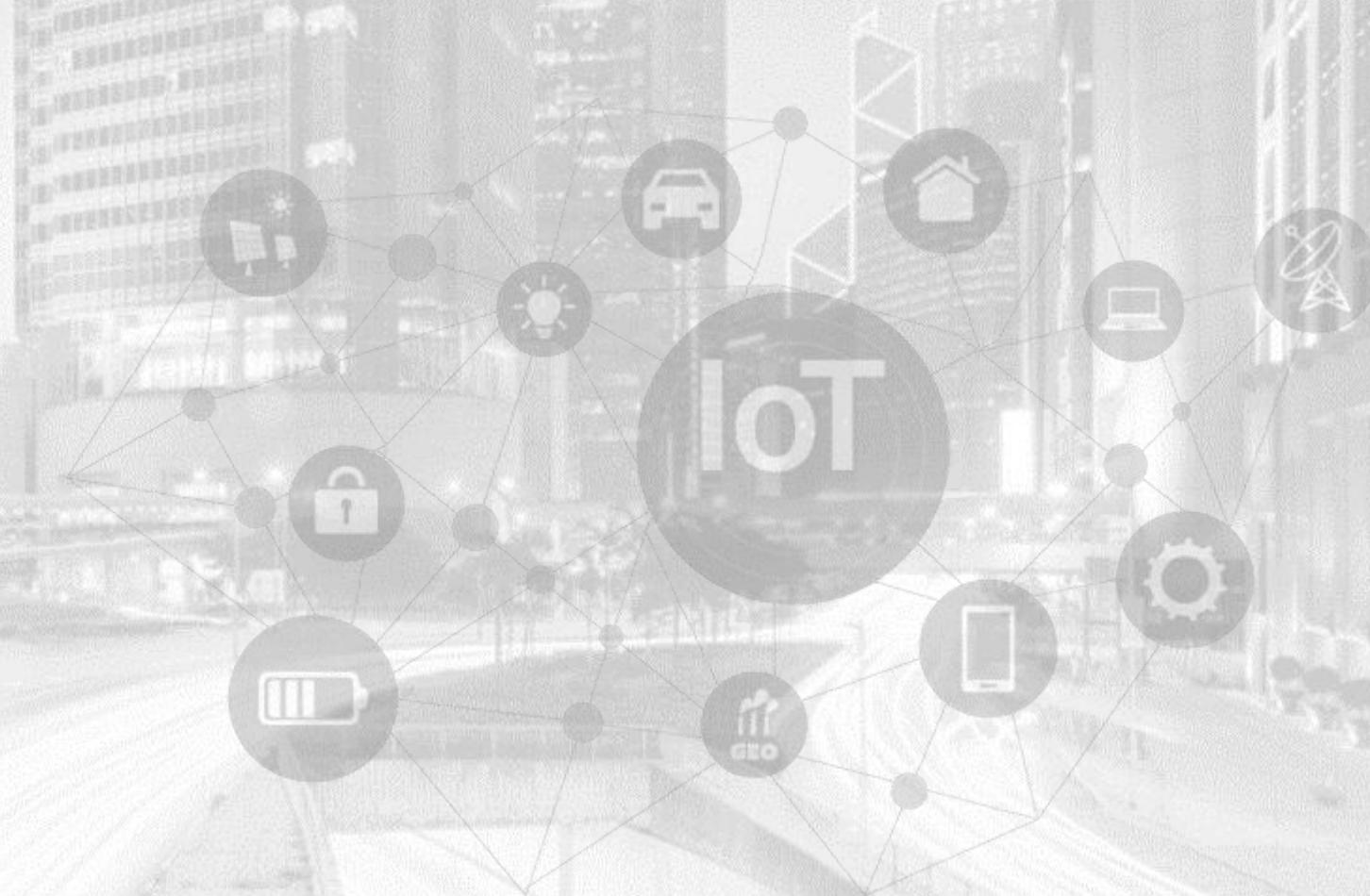
Confined Space Management System



- helmet detection (non-video)
- prolonged stay detection
- real time location
- contractor attendance system



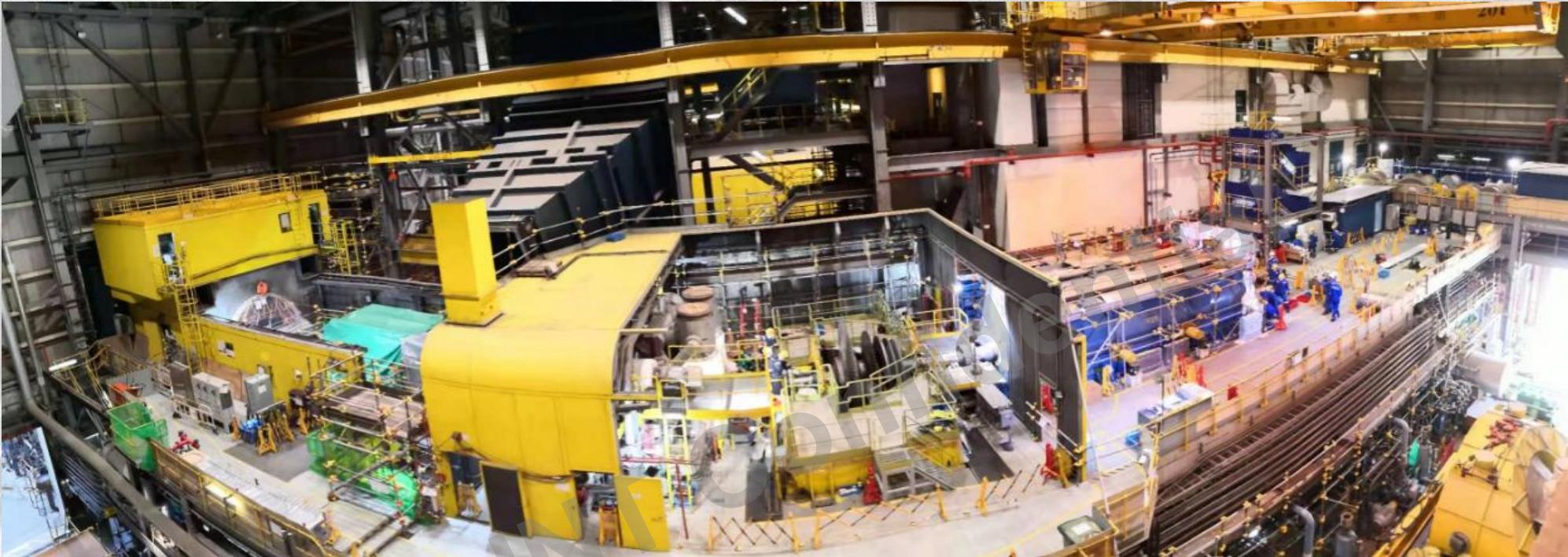
# Solutions & References



# Smart Solutions Done Smartly

Region	Name	End user	Year of Completion
Hong Kong	SSSS - Confined Space management	CLP - Black Point Power Plant	2020
Hong Kong	SSSS - Confined Space management	CLP - Castle Peak Power Plant	2019
Hong Kong	SSSS - Confined Space management	CLP - Black Point Power Plant	2021
Hong Kong	SSSS - Confined Space management	CLP - Castle Peak Power Plant	2021
Hong Kong	SSSS - Confined Space management	CLP - Black Point Power Plant	2022
Hong Kong	SSSS - Confined Space management	CLP - Castle Peak Power Plant	2022
Hong Kong	SSSS - Turbine Work Safety Video Analytic	CLP - Black Point Power Plant	2021
Hong Kong	SSSS - Personnel management for containers during COVID	CLP - Castle Peak Power Plant	2021
Hong Kong	SSSS - 5G enabled Smart Construction Site Monitoring	Nga Ying Decoration Ltd	2024
Hong Kong	SSSS - 5G enabled Smart Construction Site Monitoring	Por Mee Factory Building	2024
Hong Kong	SSSS - UWB-enabled Collision Avoidance System for Vehicle	SUEZ - IWTS	2021
Hong Kong	SSSS - Ming Ying College Maintenance	Chun Wo / EMSD	2025
Hong Kong	Smart Metering - LoRaWan	SUEZ - IWTS	2021
Hong Kong	Smart Toilet - LoRaWan	Hong Kong International Airport	2022
Hong Kong	Smart Toilet - LoRaWan	Poly University	2021
Hong Kong	Smart Facility Management - LoRaWan @ M+	ASD	2021
Hong Kong	Smart Facility Management - LoRaWan	Kadoorie Estates Limited	2020-2023
Macau	IOT Hub	Kai Tak Sports Park	2023
Hong Kong	Smart Elderly Center - Zigbee	Vila Medalena Macau	2019
Hong Kong	Smart Metering	Poly U	2020
Hong Kong	Smart Toilet	Poly U	2022
Hong Kong	Smart Facility Management - Water leakage Detection	Queensway Government Office	2022
Hong Kong	Smart Visitor Management - People Counting	Hong Kong U	2020
Hong Kong	A.I. / ViGiSense - AI Fall Prevention System	Pine Care Point	2025
Hong Kong	AI Pipe Blockage Detection	Legislation Council / ASD	2025
Hong Kong	Smart Chiller Plant Monitoring	EMSD	2023

# Video Analytic of SSSS - CLP

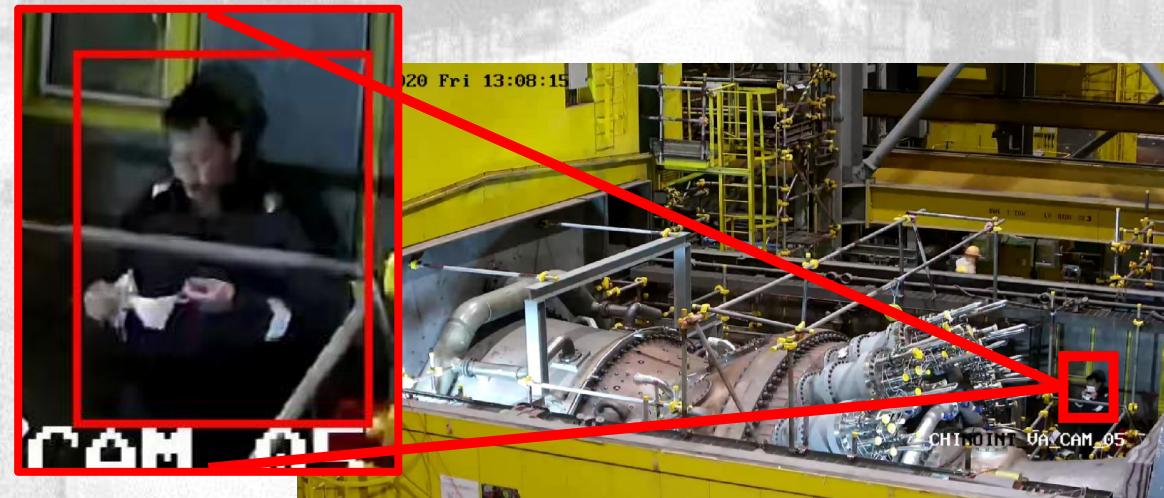
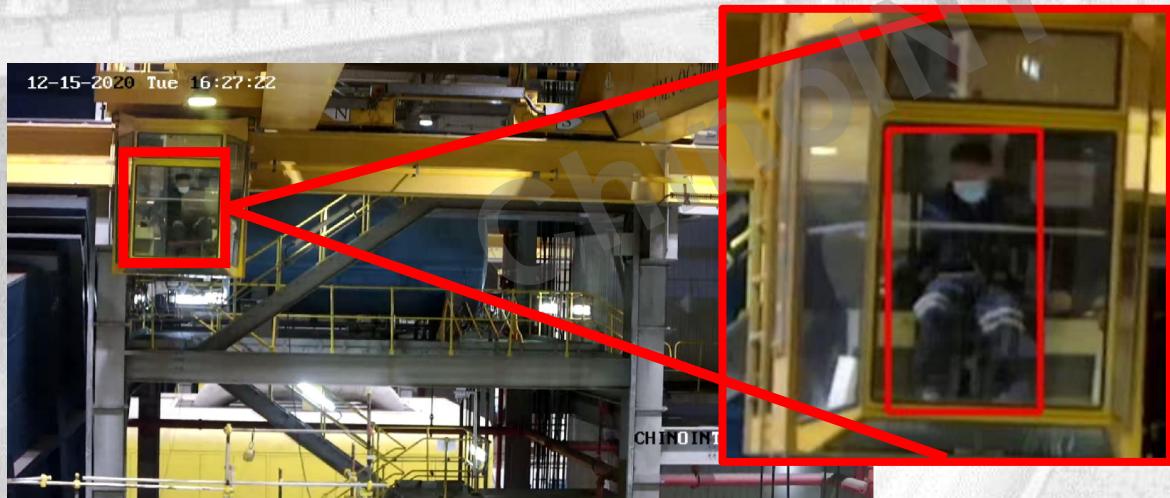
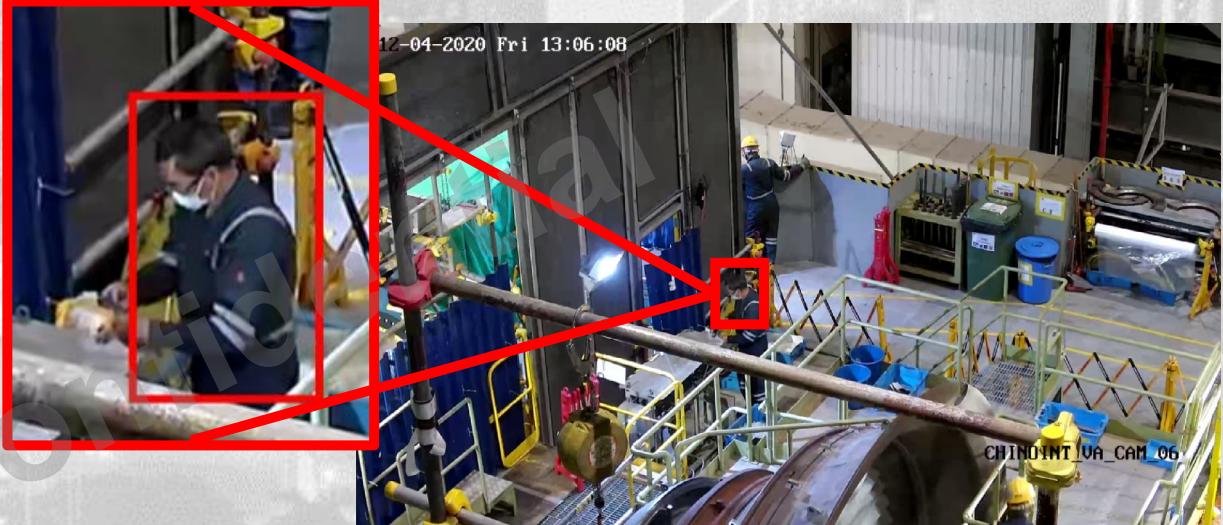
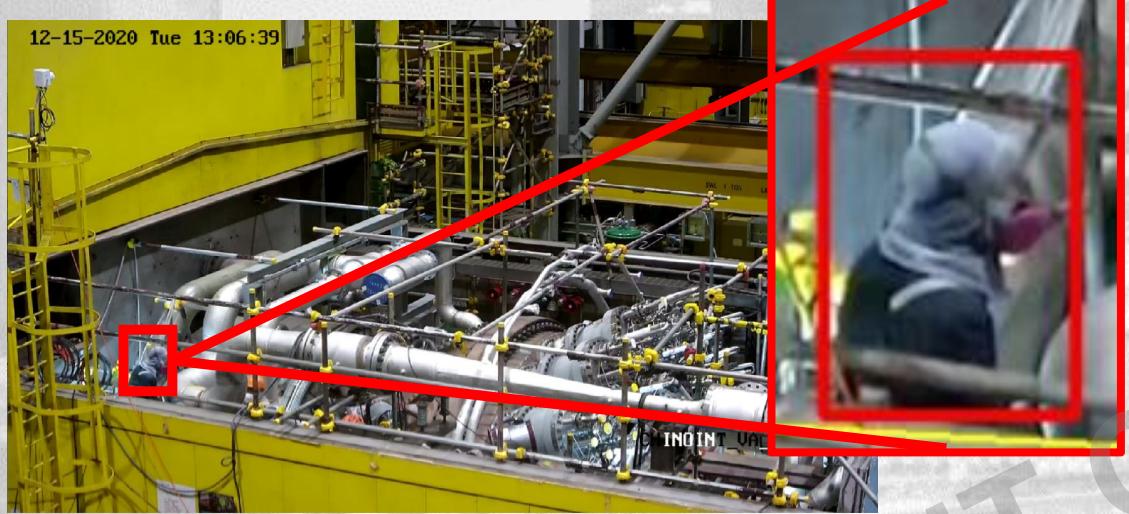


# SSSS - Confined Space Management @ Power Plant & University



# Safety Helmet Recognition

Able to catch workers without safety helmet onsite, safety issues have no way to hide



# Safety Belt Recognition

Able to catch workers without safety belt onsite, no alert for those with safety belt

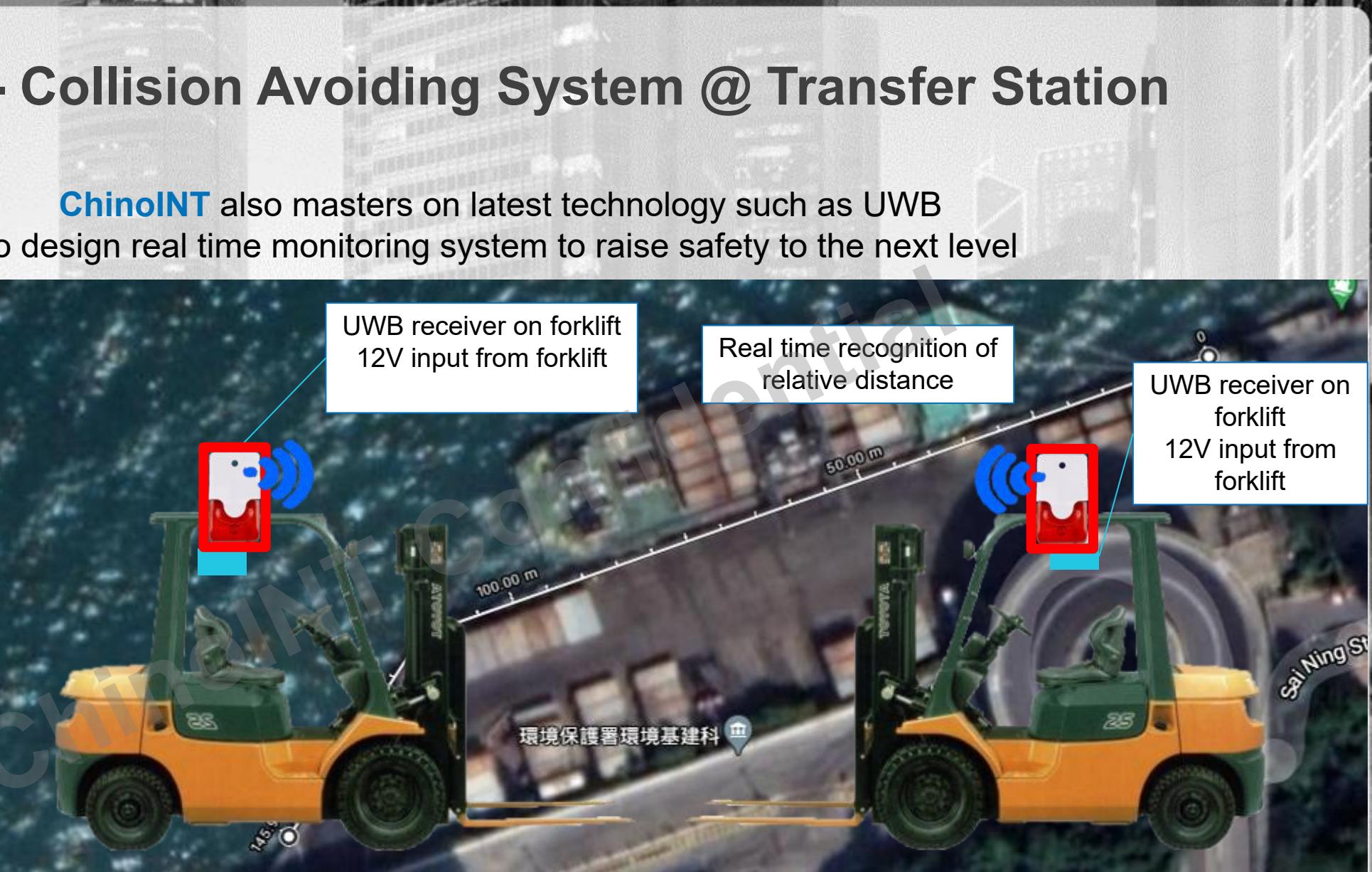


# Simple and Neat installation

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# SSSS - Collision Avoiding System @ Transfer Station

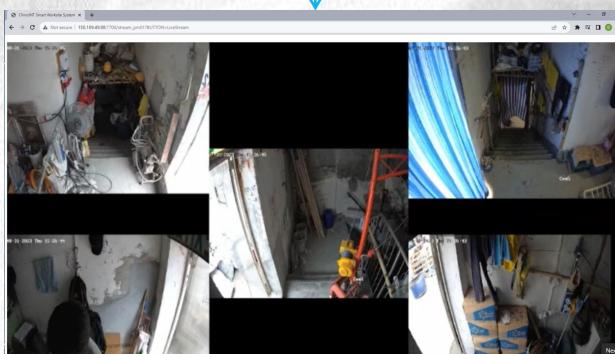


### Rich functionality

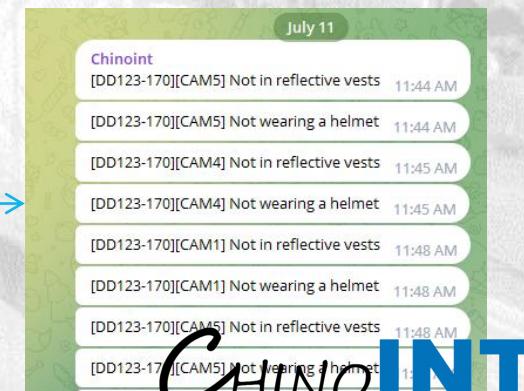
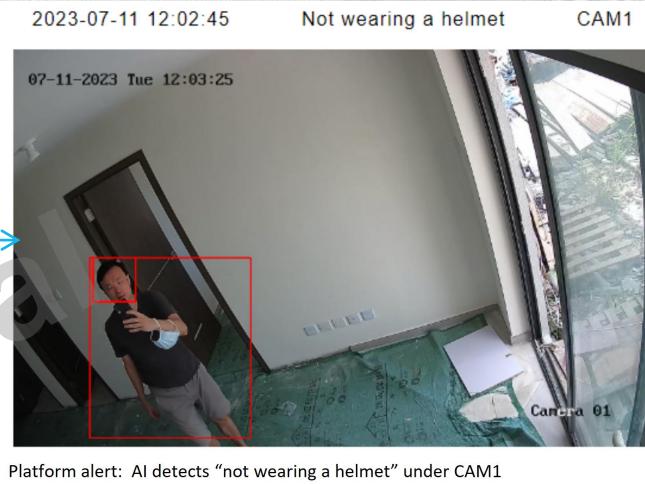
- Human face recognition
- human body recognition
- license plate recognition
- smoke and flame recognition
- helmet recognition
- phone calling recognition
- cigarette smoking
- gathering of people recognition
- work clothes recognition
- leaving work and sleeping recognition
- zone intrusion warning
- human fall recognition
- running recognition
- clothes color
- Fire escape blockage identification
- etc



# SSSS - 5G AI Safety Monitoring



- Real time streaming
- APP Notification
- Evidence with photo

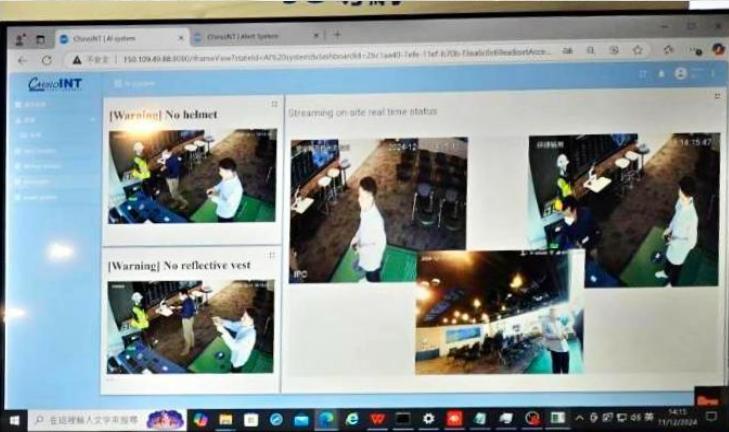
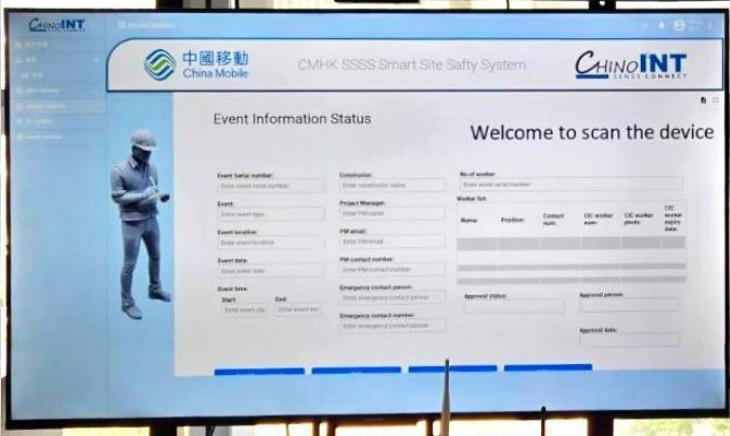
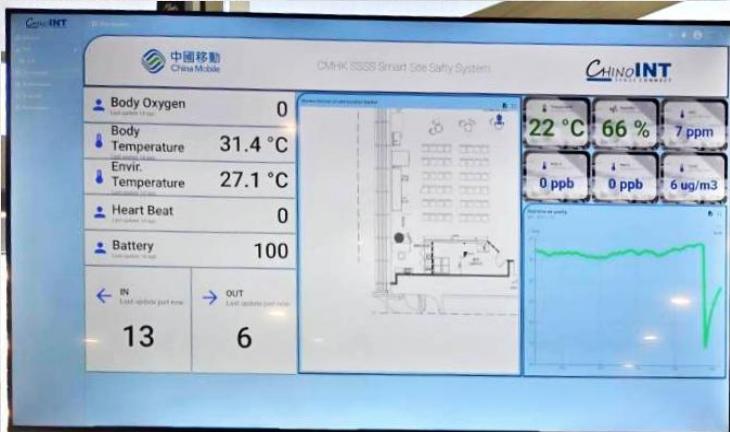


**CHINOINT**  
SENSE CONNECT

# SSSS - ChunWo CMP & Maintenance Project



# ChinoINT X CMHK: SSSS with 5G Open Lab @ HKSTP





# Thank You

A network of various icons connected by lines, set against a background of a city skyline at night. The icons include a car, a house, a laptop, a satellite dish, a gear, a smartphone, a battery, and a factory. The text "IT" is overlaid on the network.

[sales@chinoint.com](mailto:sales@chinoint.com)