

Smart Pole

Delta Smart Pole Solution

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Smart Pole Solution

Attached equipment

WiFi AP

Lighting
Control

Weather
Stations

IPCAM

Emergency
Call Buttons

Digital
Signage

Chargers

V2X

Application



Traffic flow

Analyze the flow of people and vehicles in real time



Traffic conflict parameter analysis

Record traffic trajectories, provide improvement strategies



Intersection Protection

Detect objects, adjust signals and provide alarm



Electronic Fence

Identifying people and various objects within controlled areas



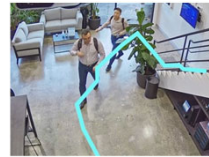
Blaze Detection

Instant detection on the presence of flames or smoke, providing earlier warnings



Deep Search

equipped with Vision Object Analytics



Smart Tracking

Object Analytics instantly flows through the system



Signage Solutions

Promote information



Wi-Fi

Providing public wireless Internet



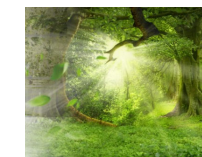
SOS

Enhance safety



Chargers

Electric vehicle charging services



Environmental Monitoring

Urban management information



Management Platform

Equipment and service management



Source : Vivotek 、iii 、
lonetworks 、TMS

Delta Confidential



AI recognition architecture

Architecture selection considerations:

- Ease of identifying tracking objects (SOC)
- Real-Time(Edge)
- Easily change picture source(Server)

SOC

Algorithm @ IPCAM



- RTSP
- **Result data**
- Alarm



- Image storage
- Data storage
- Imaging interface

Edge

Algorithm @ IPC



RTSP



Result data



- Image storage
- Data storage
- Imaging interface

RTSP 、 Alarm

Server

Algorithm @ Server

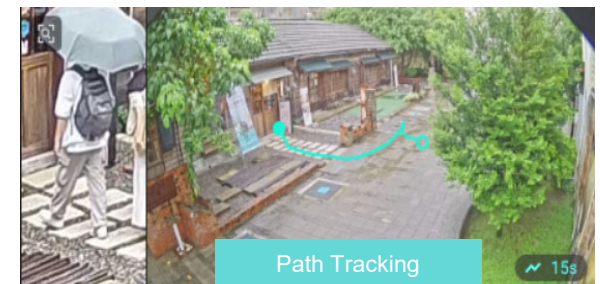
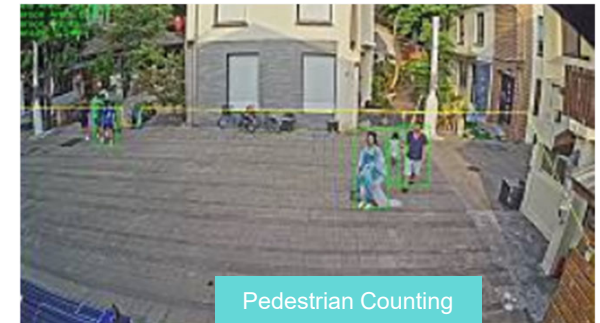
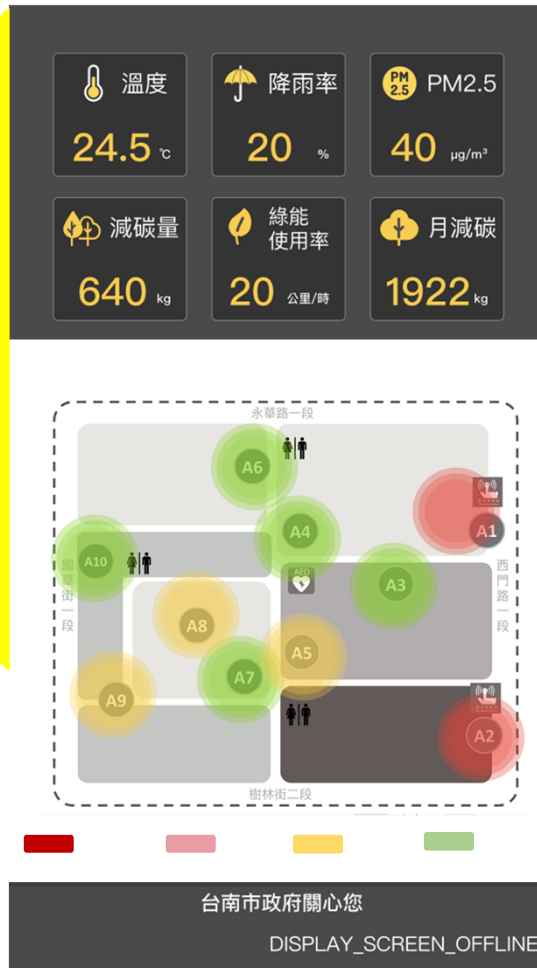


- RTSP
- Alarm



- **Result data**
- Image storage
- Data storage
- Imaging interface

Pedestrian Flow/Security/Tracking



Distribution map: density by color

Important facility :

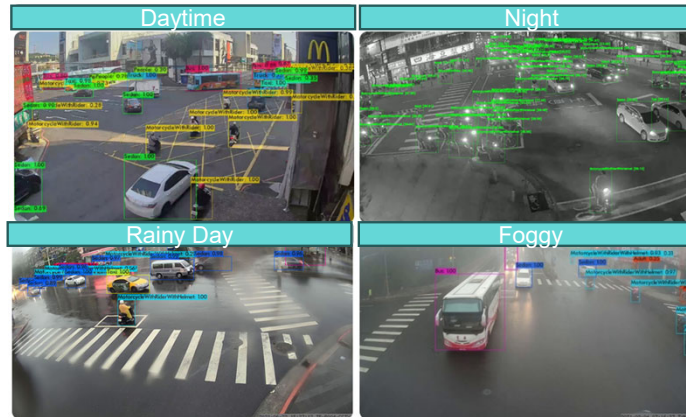
- ✓ Major road signs: Check your location
- ✓ Important equipment: toilets, service centers

Technological Law Enforcement

AI image traffic object recognition technology

supports traffic object recognition under severe weather conditions

- Identify/track objects of various vehicle types
- Pedestrian



Object recognition/tracking applications

- Traffic flow
- Intersection Protection
- signal control



Using AI image recognition to replace vehicle sensors allows cameras to perform multiple tasks, while simultaneously meeting the needs of technological law enforcement, pedestrian and vehicle flow analysis(sign control),and pedestrian protection at intersections.

Smart Applications - Traffic Detection & Tracking



Violated parking detection/persuasion

- After detecting illegal parking Lasts 30 seconds, Issue an alert.
- Every 30 seconds thereafter: Continuously notify the platform and record the start and end time of the illegal stop

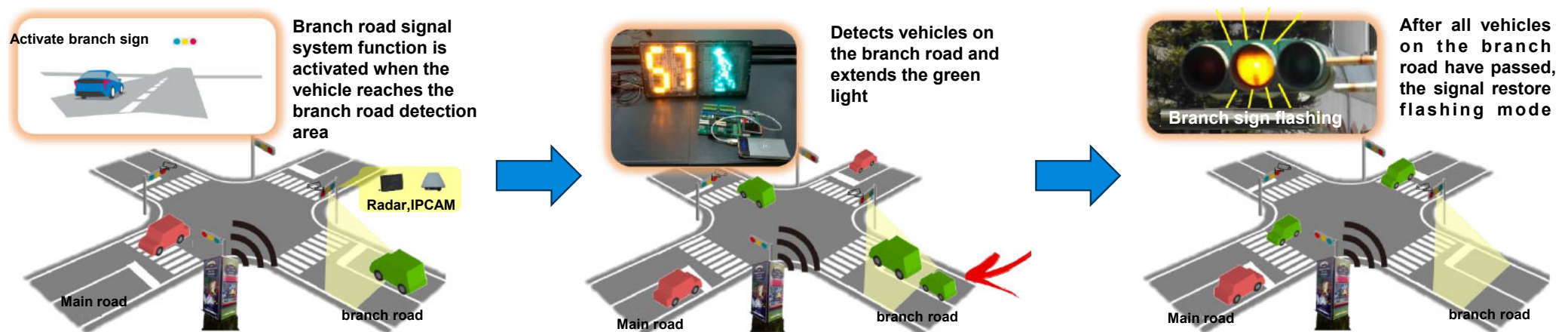


License plate detection

- Receive designated vehicle license plate information, through smart license plate recognition, track and record its paths
- When a vehicle in the detection list appears in the specified range, the backhaul management platform will be immediately discovered.

Adaptive Traffic Sign Design

1. Main road traffic lights always remain green.
2. Vehicle detectors and pedestrian triggers installed on the smart pole of branch roads.
3. The green light is activated only after detecting the arrival of vehicles or pedestrians on the branch roads.
4. After the green light on the branch road is triggered, the signal control light can extend the time according to the corresponding sub-item until the trigger signal is no longer triggered or the maximum green light time has been reached before ending the sub-item. To ensure sufficient time for vehicles or pedestrians on branch roads to pass.
5. After vehicles or pedestrians pass through the branch road, the main road returns to the green light state.



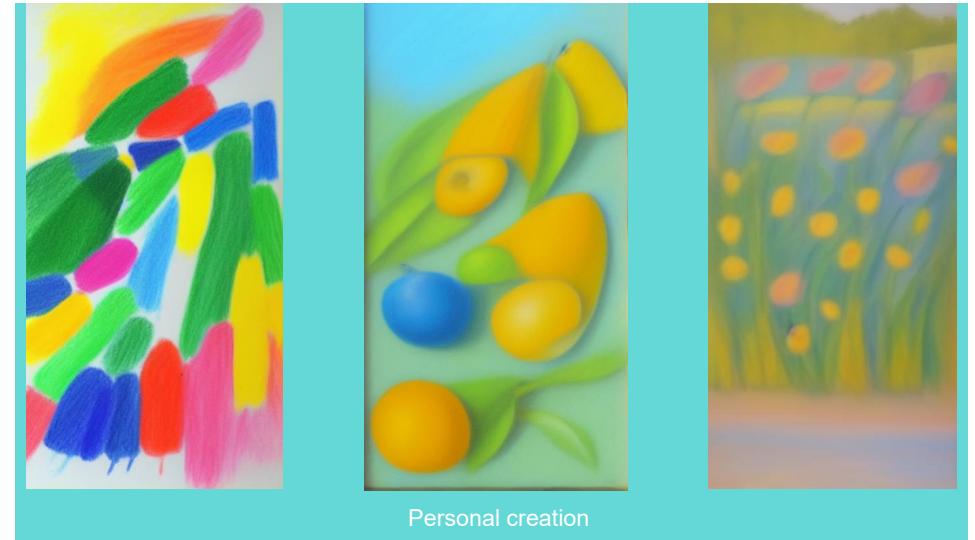
Third-party service integration



Digital signage/public interaction



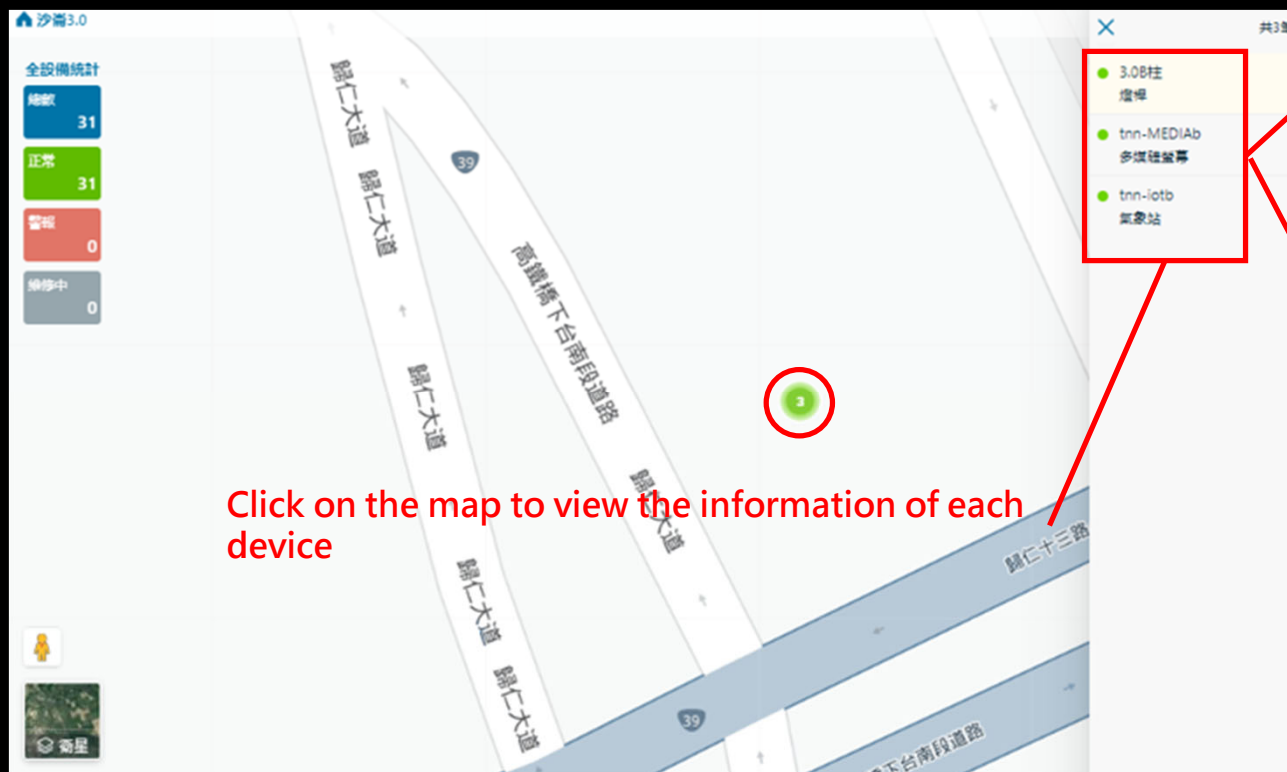
Official APP
Graffiti /
advertise



Management Platform-Dashboard



Management Platform-Device Management



路燈3.0B柱 > 燈具 SLDFAN2M1BT-1C

| | |
|--------|-----------------------|
| 燈具編號 | SLDFAN2M1BT-1C |
| 附掛位置 | 1 |
| 設備狀態 | 正常 |
| 設定流明 | 14700 |
| 實際流明 | 0.7 |
| 電壓 | 216.846 |
| 功率因素 | 0.982 |
| 訊號強度 | -48 |
| 控制器編號 | LNP6_10215c4b79c745b0 |
| 安裝日期 | |
| 最後連線時間 | 2023.12.13 17:42:21 |

Real-time equipment operation information

氣象站 tnn-iotb

| | | | |
|--------|----------|--------|--------------------|
| 控制器編號 | tnn-iotb | 控制器類型 | WS_TNN_SSGESC_Sin1 |
| 最小風向 | -- deg | 平均風向 | - |
| 最大風向 | -- deg | 最小風速 | -- m/s |
| 平均風速 | -- m/s | 最大風速 | -- m/s |
| 大氣溫度 | 27.1 °C | 大氣相對濕度 | 69.7 % |
| 大氣氣壓 | -- hPa | 降雨量 | -- mm |
| 光輻射 | -- W/m2 | PM2.5 | 16.9 ug/m3 |
| PM10 | -- ug/m3 | 一氧化碳濃度 | 0.4 ppm |
| 二氧化碳濃度 | -- ppm | 臭氧濃度 | -- ppm |
| 最大噪音 | -- dB | 最小噪音 | -- dB |

Real-time equipment operation information

Management Platform-Information delivery

- Management platform graphics, images and activity applications

多媒體螢幕 192.168.10.116

基本資料 地圖位置 **媒體內容管理**

設備編號: 192.168.10.116 區域名稱: 以附掛路燈為主
顯示名稱: A1多媒體 設備種類: 多媒體螢幕
設備狀態: 正常 備用
播放排程: - 設備IP
控制器類型: 經度: 以附掛路燈為主 緯度: 以附掛路燈為主
設備地址: 以附掛路燈為主 附掛路燈編號: A1
圖層路徑: 藍晒圖圖區
安裝時間: 保固日期: 2024.03.14
最後連線時間: 2024.08.22 18:18:33
備註
照片

編輯多媒體螢幕 192.168.10.116

媒體內容管理

取消 發佈

多媒體內容: test

氣象站: A2氣象站

靜置網頁

選擇版型 (若版型中無上述資訊版面, 則不會顯示)

樣式版型01: 網頁 1080x384, 媒體內容 1080x1157, 跑馬燈 1080x384
樣式版型02: 氣象 1080x110, 媒體內容 1080x110, 跑馬燈 1080x300
樣式版型03: 媒體內容 1080x110, 網頁 1080x110, 跑馬燈 1080x300

2024.08.23 09.01
island kaisideascope
藍晒圖圖區歡迎你
DISPLAY_SCREEN_OFFLINE

Playlist storage

Layout Selection

Management Platform-Real time monitoring

Management Platform-Real time monitoring interface showing a 9-camera grid view.

Header: 影像管理 / 即時影像 | 2024/12/06 10:33:18 | MARK.TH.CHEN

Left Sidebar:

- 首頁
- 圖台管理
- 事件中心
- 能源管理
- 路燈管理
- 影像管理**

Device List (設備列表):

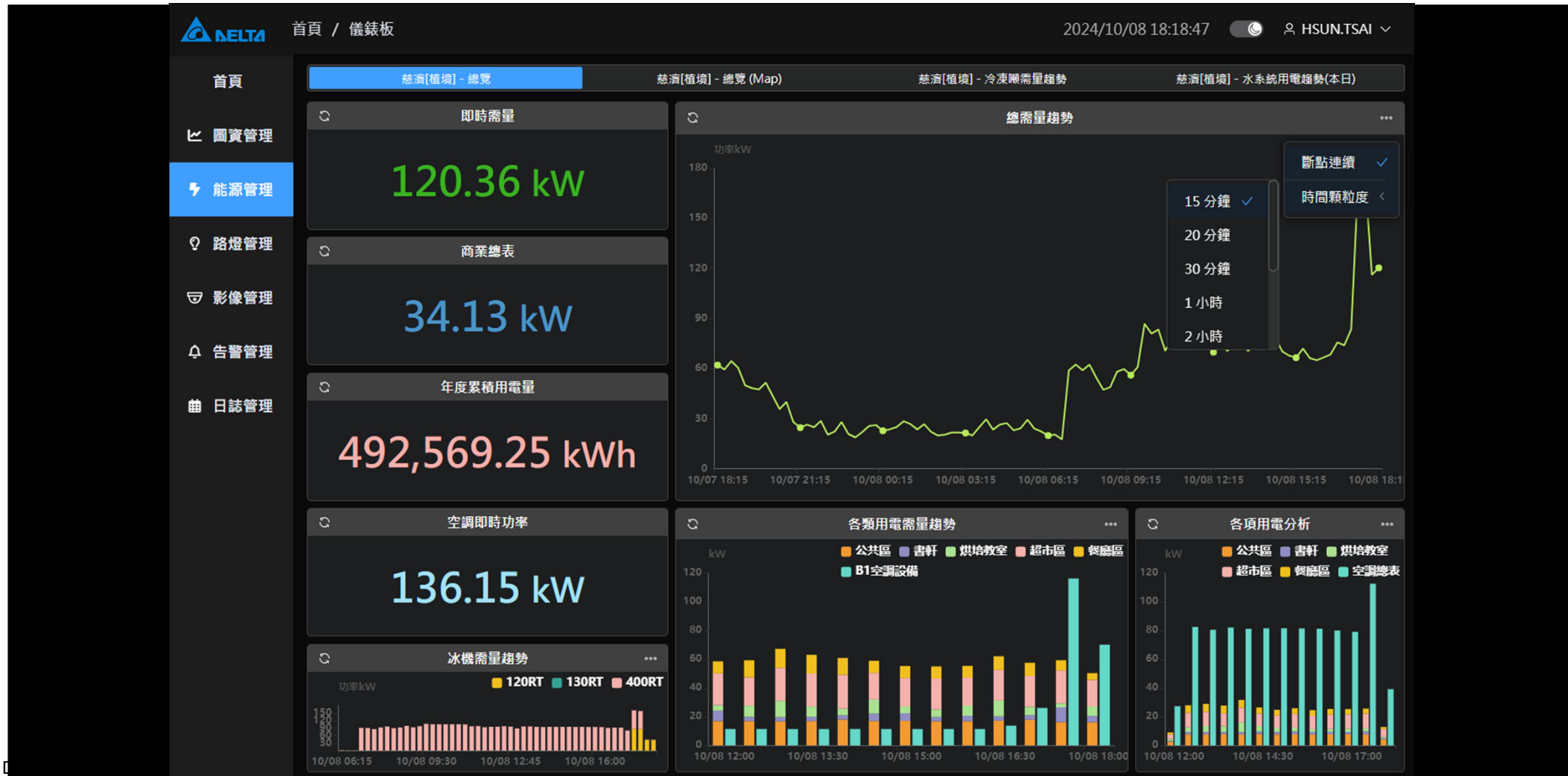
- 環廠車道大門(警衛室)
- A-1F C梯廳往戶外門
- A-1F C梯戶外吸菸區
- A-1F餐廳微波爐區
- B-1F 碼頭鐵捲門3號
- B-1F 碼頭門
- A-1F A車道口(側門)A6
- 大門東園路C25
- A-1F前通廊C12
- A-1F大廳前通廊A2
- A-1F A梯戶外A3
- A-7F宿舍戶外平台C69
- B-RF F梯戶外A40
- C-RF(戶外 A37)
- A-1F水果攤工作區
- A-1F餐廳樂玩咖啡

Grid View (9 cameras):

- 1格 | 4格 | **9格** | 16格
- 輪播 | 全螢幕
- 1. 環廠車道大門(警衛室)
- 2. A-1F C梯廳往戶外門
- 3. A-1F C梯戶外吸菸區
- 4. A-1F餐廳微波爐區
- 5. B-1F 碼頭鐵捲門3號
- 6. B-1F 碼頭門
- 7. A-1F A車道口(側門)A6
- 8. 大門東園路C25
- 9. A-1F前通廊C12

Bottom: 釘選

Management Platform-Energy Management



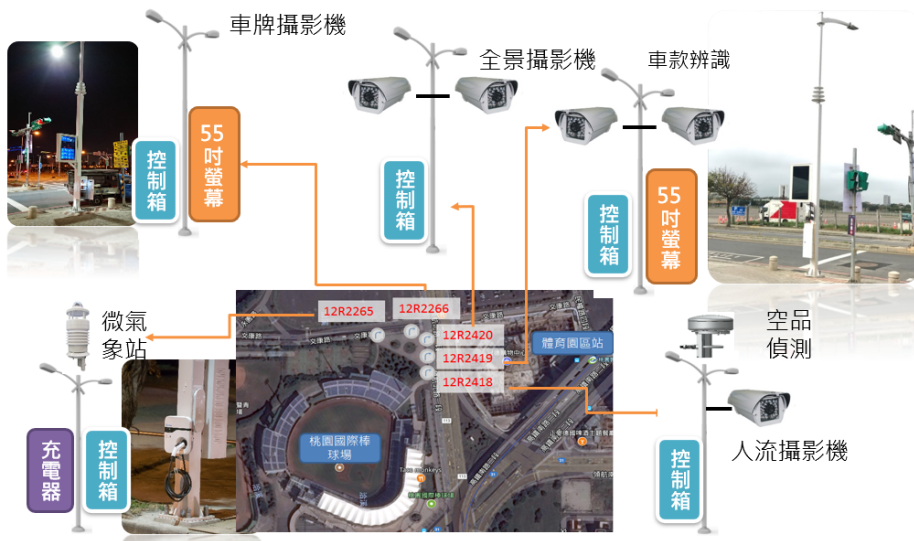
Project Achievements

Smart Pole

The earliest construction achievement in Taiwan in 2017

Num. of Poles : 5

Taoyuan Future Smart City IoT Applications

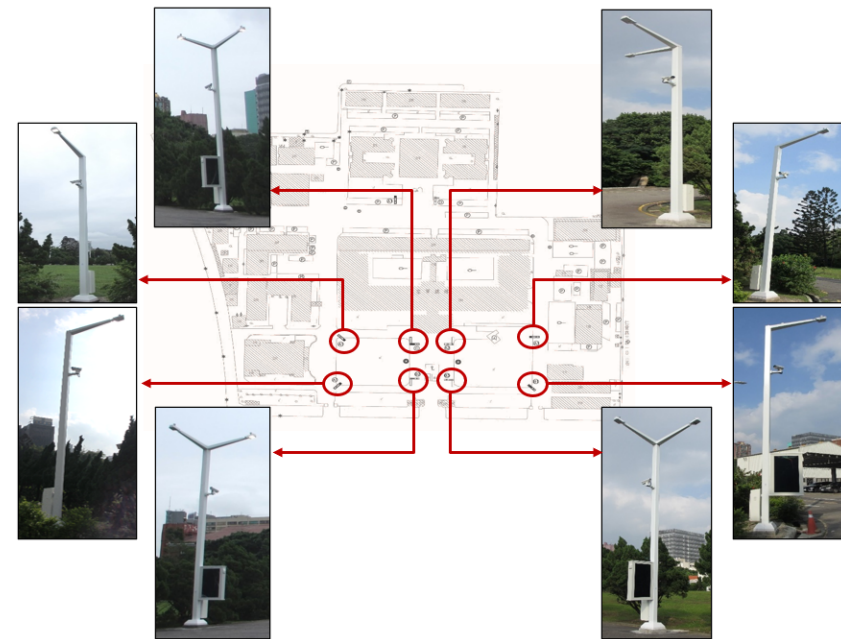


Taoyuan International Baseball Stadium

- Weather stations, charging stations, Digital Signage, surveillance cameras, LED street lights
- IoT Smart Platform Interface

Num. of Poles : 8

Taipei Smart City Light Environment Project



Air Force Headquarters

- Digital Signage, surveillance cameras, LED street lights
- IoT Smart Platform Interface

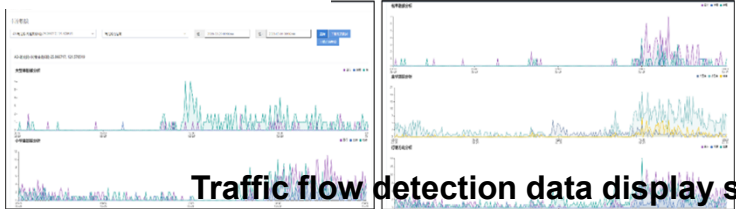
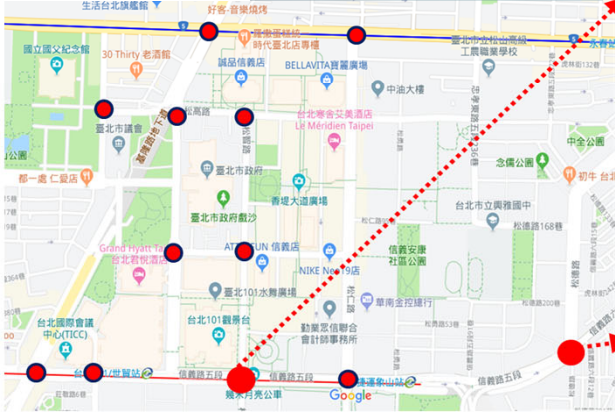
Taipei Lighting Optimization Turnkey Project



Neihu Phase VI Rezoning Area Traffic Detection



Xinyi Project Area Traffic Detection



Traffic flow detection data display screen



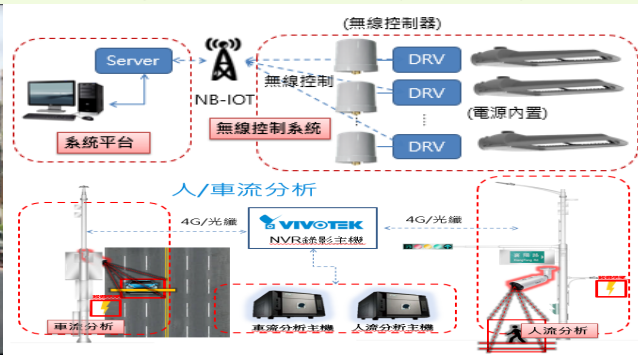
Num. of Poles : 4



Smart Pole Integration of smart pole equipment and management system

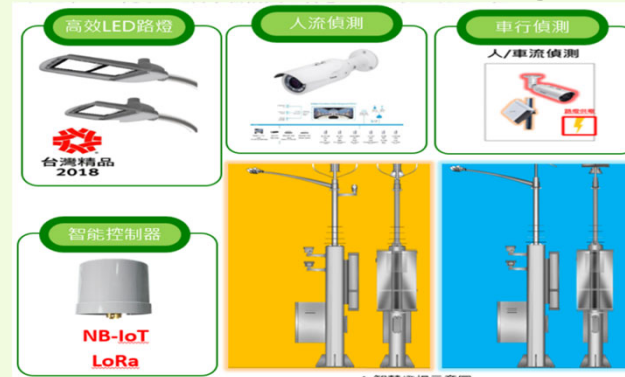
Num. of Poles : 9

Taipei Smart Street Light Turnkey Project



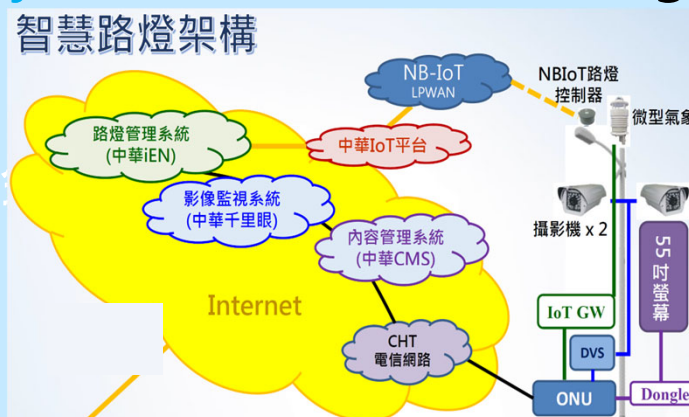
Num. of Poles : 2

Taipei Smart Street Light Turnkey Project



Num. of Poles : 3

New Taipei city Tamsui Smart Street Light Project



Smart Pole

Num. of Poles : 3

New Taipei City Civic Plaza 5G Smart Pole

On New Year's Eve 2024, CHT & DELTA work together to provide a good network experience through 5G smart poles



- 5G base stations, solar power generation, identification cameras, LED street lights, weather stations, display
- Platform Integration



Num. of Poles : 5

New Taipei City Environmental Monitoring



- solar power generation, identification cameras, LED street lights, weather stations, display
- Platform Integration

Smart Pole

New Taipei City Linkou District Smart Pole Installation

Num. of Poles : 3



Mitsui Outlet

- LED street lights, media systems, display
- Platform Integration



New Taipei City Art Museum Smart Pole Installation

Num. of Poles : 5

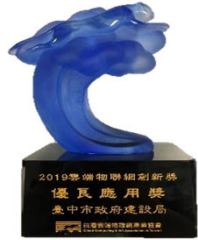


Guanqian Road, Yingge District

New Taipei City Art Museum

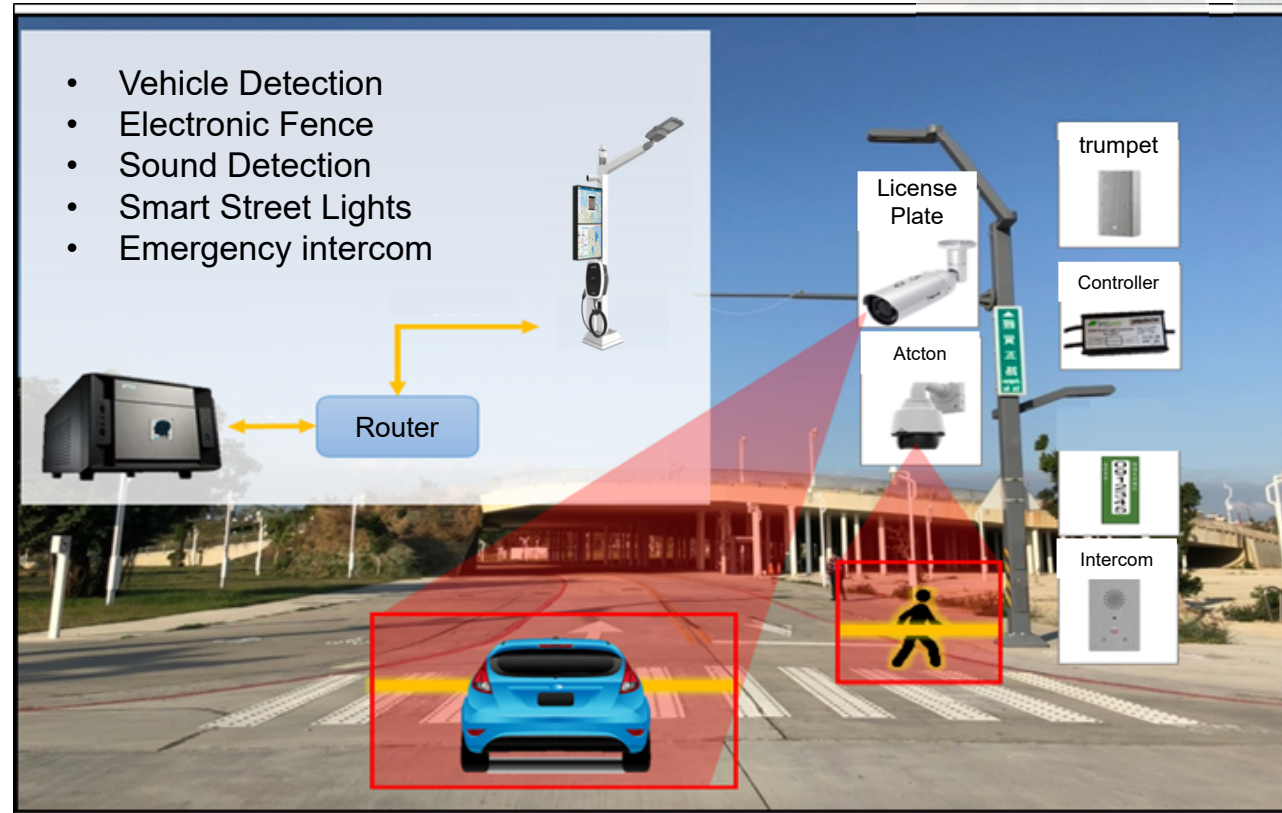
- LED street lights, media systems, display ,UPS
- Platform Integration

Taichung Shuinan Smart City



Num. of Poles : 8

- Won the "2019 Cloud IoT Innovation Award"
- Won the "2022 Smart Innovation Application Award"



Smart Platform and Smart Campus

Tainan City Shalun Energy and Environmental Smart Management Platform

Num. of Poles : 3



Tainan City National Chiao Tung University Zhiyuan Building

Num. of Poles : 1

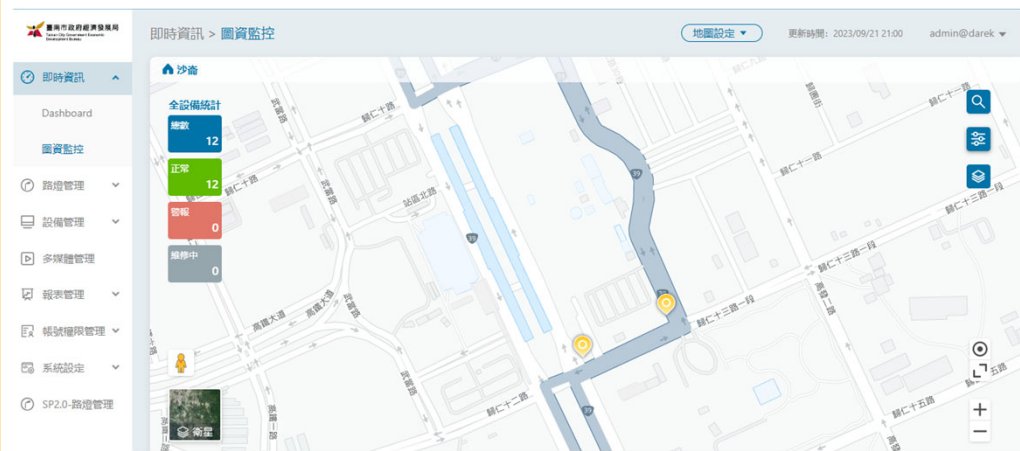


Smart Transportation and Smart Park

Tainan City Shalun

(Platforms, street lights, billboards, CPE, millimeter waves, Wi-Fi AP, cameras, air conditioners, emergency buttons, bus triggers...)

Num. of Poles : 3



Cyanotype of Tainan City

Integrated smart pole field demonstration service case-
Hwacom(Platform, AI image recognition service, video feature search service, multimedia application service, emergency button)

Num. of Poles : 10

