Smart Carpark Solution Introduction

Base on the video analysis technology

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Industry Development & Customer Confusion
Guard on Site
Someone is responsible for the distributing ID card, billing and entrance control

Yesterday

Unattended Operation
Use the modern technique, such as RFID, Bluetooth, Ultrasonic, Video ANPR improve the parking efficiency and make sure the unattended Operation

Today

Automatic Park
Completely automatic parking, supports immediate access, easy to entry or exit from the parking lot.

Tomorrow
Customers Confusion

Entrance & Exit
Low efficiency!
Manual entrance control and payment. Low efficiency.

Parking
How to find available space?
Where are available parking spaces? It becomes a troublesome issue to customers.
Customers Confusion

Locating Vehicle

Where is my car?

Too many cars in the parking lots. How to locate my car? Many customers face the same problem in the parking lot.

Accident

Hard to find evidence!

Accidents and scratches happen in the parking lot. How to trace back the accident process? No video surveillance, no evidence!
Dahua smart Carpark solution is based on the video technique. Video analysis, ANPR and other technologies guide the customers to park, locate vehicle and pay quickly and easily.

**Entrance Control**
Base on the ANPR technique to replace manual entrance control to **enhance the efficiency**.

**Parking Guide**
Automatic calculate the number of available parking spaces in each area and show in the screen. Guide driver to **find available spaces**.

**Vehicle Locating**
Base on the ANPR technique to **locate vehicle position through kiosk to display**.

**Video Surveillance**
Provide **comprehensive video surveillance** as evidence whether or not an accident happen.
Parking System Topology

Management Center

- IVS-T Server
- EVS Storage
- PMS System
- Client

- Fiber Cable
- Ethernet Cable
- I/O
- VGA

Entrance
- Barrier
- ANPR
- Ticket Dispenser
- Digital Vehicle Detector

Exit
- Outdoor LED Info Screen
- Ticket Validator
- VTO

Parking Lot
- Up to 10 spot cameras or 100m
- Cascade connection

Lift Lobby
- Car Locator
- Auto Payment

Outdoor Guidance Screen
**Entrance & Exit Control**

- **Auto Ticket Control:** Vehicle entrance controlled by ticket, auto dispense and validate unattended. Save the cost and increase the efficiency.
- **ANPR:** Special designed access camera, it can detect and record high-quality license plate image and send them to IVS server.
- **Loop Trigger:** Loop trigger guarantee 100% capture rate, no car missing. Pure video trigger is also available.
- **Outdoor LED Screen:** LED screen could show the available number of every floor.
- **Abnormal Holding:** Press VTO button for emergence call once needed.
Parking Guidance

Guidance Screen
Show the number of available parking space in each direction, indicate the driver to the available zone.

Spot Detector
Detection camera will tell you if the parking spot is occupied or not. Integrated seven color indication light could show different kinds of parking space and status.

ANPR
License plate is recognized by IVS server and space detector automatically identify the current parking space of the license plate.
Reservation services
Provide reservation interface or protocol to third-party platform. Customers can reserve a private parking space or choose the nearest parking space to the elevator.

Illegal Occupation Warning
If reserved or special parking place is occupied illegally, there would be a warning for the administrator, and real-time video preview could display automatically. The administrator could activate sound-light alarm to the illegal vehicle.
Vehicle Locating

Car Locator
Through touchscreen kiosks positioned at locations

Input Plate Number
Support fuzzy search, simply find your vehicle and provide picture for confirmation

Show the Best Path
Show the best route from kiosk to the vehicle
Self-Service Payment

- Payment methods: Cash, Coin. Change is accepted. A period of time could be set, such as 15/30 minutes, to allow drivers to reach the exit after payment.

- Replace traditional manual operation: LCD touch screen, touch, good user experience.

- Easy to pay: Scan the ticket or input the vehicle license number to pay. Improve the experience in the parking system.

- Payment methods: Cash, Coin. Change is accepted.
Control Center

Comprehensive Surveillance: Real-time video, image preview and playback

Abnormal Handling: Response to visitor or emergency call by VTO

Remote Management: Modify the vehicle information remotely. Control the barrier remotely.

Information Display: Space status, Vehicle plate number, entry & exit history log, Real-time surveillance video in the platform.

INFORMATION DISPLAY
Including the vehicle picture, license plate number, entry & exit history log, Real-time surveillance video in the platform.

Manual Control
The administrator can control the barrier and modify the status of ANPR when emergency is triggered, put video and related information on the wall.
Easy Come, Easy Go

- Conveniently find available parking spaces
- Quickly locate the vehicle and pay to leave
ANPR, High accuracy
Professional IVS server responsible for plate number recognition. High-performance and stable

Provide Relative Information
Upload plate number and image info to the software platform. Provide rich parking data

Provide License Plate for Billing
License plate could bind with ticket, it could help when the customers lose their ticket
Comprehensive Surveillance

- Offers 24×7 surveillance features using the Access Camera and Space Detector.
- Search the video and image by date/time/license plate number from the storage.
Innovative way

Simplify Deployment & Cost Down

- Reduce UTP cable deployment and cost (83%)
- Reduce the quantities of switches
- Reduce the cost of cable bridge (63%)

VS

Traditional way

e.g. 45 spot detection cameras

Innovative way

e.g. 45 spot detection cameras

cascade connection

Cover more spots
Professional parking management platform

Easy-To-Use Platform: Special design for parking management. Visual interface and operation.

Devices Status: visually display the status of the device in the map.

Smart Search: Search the video and image by date/time/license plate.

Parking Log: Rich parking, entry and exit history log, including vehicle picture, license plate, parking spaces, time information and etc..
Access Camera

**ITC237-PW1B-IRZ**
Ideal distance for ANPR: 3~8m, 1 lane width

- 1/2.8” 2Megapixel Exmor R CMOS
- H.265, Duel video streams
- Short range(PW1B): 2.7-12mm motorized;
- Interface PW1B: alarm in/out: 2/1
- Video & loop detection, video analysis less than 40kmh
- ANPR Snapshot: plate cutout, overview image
- White list inside to control barrier, 10000 lists.
- DC 12V, POE, <12W
IPMECD-2012AL(Straight-arm)

- Speed: 3 second
- Straight-arm: less than 4m
- Control way: Manual button, hand movement when power is off
- Interface: 1 I/O for open, 1 IO for close, 1 IO for stop, 1 RS485
- Automatic falling: Support, 1 ch loop and 1 ch IR detection
- Anti Hit
Ticket dispenser

TD81
Ticket dispenser for entrance
- Using thermal paper, economic and environmental
- Easy maintenance, large size paper roll maximum to 260mm with 7500 copies continuation dispensed tickets, particularly suitable for large volume of the parking lot;
- Works online and offline with management system
- Support vehicle detection with loop
- Working voltage: DC24V/AC110V 60Hz/AC220V 50Hz
**EV91**

**Ticket validator for exit**
- Read the ticket and recycle bills
- Works online and offline with management system
- Support vehicle detection with loop
- Working voltage: DC24V/AC110V 60Hz/AC220V 50Hz
Spot Detection Camera

**ITC314-PH1B Series**
3 Megapixel Parking Spot Detector

- 3 Mega Pixel 1/3”inch CMOS, 0.01lux min illumination.
- Simultaneously detect 3 spaces.
- Indicator supports at least 7 colors.
- Interactive design with parking space indicator.
- In-ceiling installation.
- Unique dual-streaming insure high quality photo output and video output.

**ITC314-PH1A Series**
3 Megapixel Dual-Lens Parking Spot Detector

- 3Mega 1/3”inch CMOS, 0.01lux min illumination.
- Dual-Lens design, simultaneously detect 6 spaces.
- Indicator supports at least 7 colors.
- Interactive design with parking space indicator.
- In-ceiling installation.
- Support dual stream output of JPEG and H.264, 1~10fps adjustable.
Indoor LED Screen

DHI-IPMPGI Series Indoor LED Screen
The DHI-IPMPGI indoor LED screen series product is used in the indoor parking area. Guide the vehicle to find the available parking space quickly and improve the parking efficiency.

- Providing three directions of arrow indication.
- Red/Yellow/Green tricolor display.
- Up to 3 arrows & 9 digits number display.
- 1 RS485 port and 100Mb Ethernet port.
- Providing SDK Tool for third-party management platform integration.
- Meet the ROHS and CE certifications.
Outdoor LED Screen

DHI-IPMPGI Series Outdoor LED Screen
The DHI-IPMPGI outdoor LED screen series product is used in the entrance of the parking lot, or installed on the road to guide the vehicle finds the available parking lot quickly.

- Providing six layers LED display.
- Red/Yellow/Green tricolor display.
- Modular design, easy to maintain.
- 1 RS485 port and 100Mb Ethernet port.
- Providing SDK Tool for third-party management platform integration.
- Meet the ROHS and CE certifications.
Car Locator

**DHI-IPMPGS-200A**
Base on the ANPR technology to locating vehicle position through kiosk show the best path from kiosk to the vehicle.

- 19 inch touch screen
- Support locating the vehicle position within plate number.
- Show the location of vehicle and route from kiosk to destination in map
Auto Payment Machine

- 19 inch touch screen
- Scan the bar code ticket
- Accept coin and cash, support change
- Print receipt
- Power: AC110V 60Hz/ AC220V 50Hz
Parking Management System

PMS
Special designed for parking management

- Special designed for parking management
- Simple deployment, one-key upgrade
- Safe and stable, high reliable
- Open system, good compatibility
- Distribution and deployment, easy expansion
- Hot standby, high innovation
- Power performance, economical choice
Project Requirement
- Large commercial & complex square including residential, retail and hotel
- Video recognition making non-stopping for entry & exit
- Parking guidance and Reverse Search
- Auto payment & parking fee management

Project Scale
- 2000 Parking Spaces, 750 Detection Camera
- 8 ANPR Camera / 110 Guidance Screen / 17 Kiosks
- Management central
Macalline Plaza in Guiyang

**Project Overview**

The first “Double MALL” urban commercial project in Guiyang, promote the efficiency of access or exit

- 3000 Parking lots/1020 Detection Camera/ 5 kiosk
- 6 ANPR camera, 80 Guidance Screen
- 350 CCTV Camera

**Project Requirement**

- Video recognition making non-stopping for entry & exit
- Visualization of parking guidance and find car
- Unified management