VIDEO PARKING GUIDANCE AND REVERSE CAR FINDING SYSTEM

Focus On Achievement Of Products / Services To Achieve The Future

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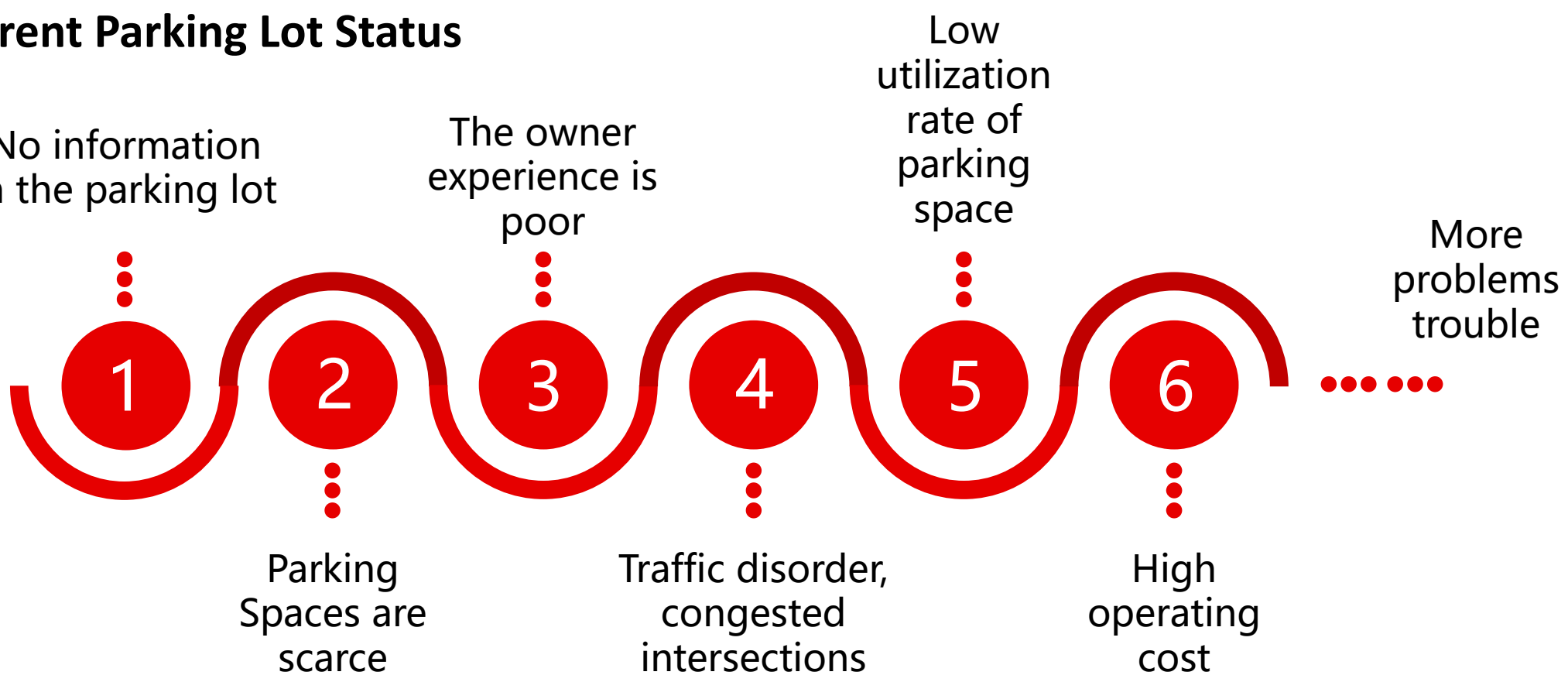
Industry Background

Current Parking Lot Status



The Inevitability of System Emergence



Current parking lot status

The parking lot lacks intelligent systems
Parking, finding the car is difficult



Disadvantages of traditional one

The traditional guidance system has a single function
Low efficiency and high



Advantages of VPGS

Integrated intelligent parking system
Parking and finding the car in place is

Expected benefit



Promote a good parking environment
Improve user parking experience



Reduce operating costs and improve the level of fine management



Enhance corporate image
Improve the competitiveness of enterprises



Save time looking for a car
Reduce exhaust emissions

02

PART

Design Basis

Demand Analysis

Quickly find an empty parking space through information guidance when entering, quickly find a car when leaving, and get a high-quality integrated parking experience

Car owner

To realize the intelligent management of parking lots, establish benchmarking projects in the region, and provide integrated quality services for the public

Government

Different Groups Demand Analysis

Investor

After the input of the system equipment, it can effectively save the labor cost, improve the parking change rate of empty parking Spaces, and increase the income of parking lots

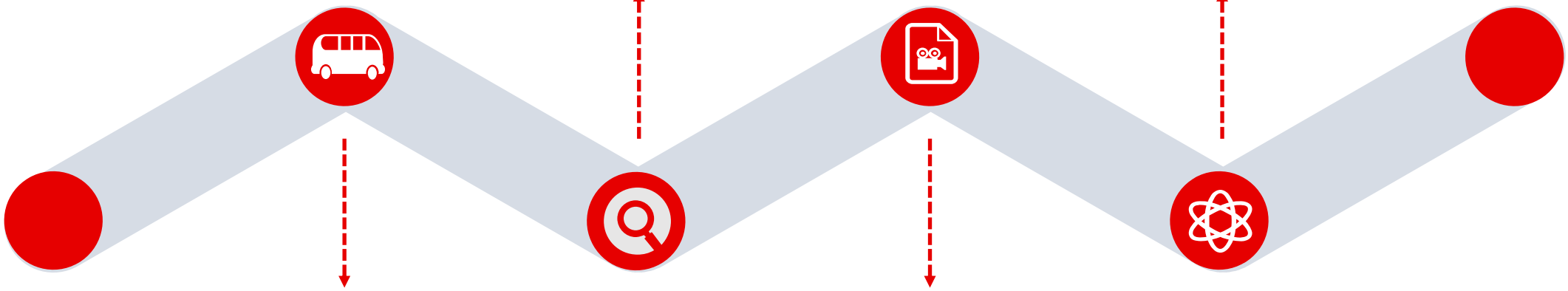
Operator

Platform management of parking space, statistics of occupancy information, based on weekly and monthly reports, reasonable decisions and arrangements

Overall Goal of System Design

Realize reverse car finding function
Guide the owner to find the car quickly

Realize real-time monitoring function
Convenient operation query management



Realize parking space guidance function
Instruct car owners to stop quickly

Support inquiry machine image graphics playback
So that operators can promote

Design Principles

Product design principles

The product function is practical

Simple appearance atmosphere

Easy installation and wiring

Can be docked with other system

Accurate, affordable

System design principles

The guide car search function is perfect

The system is running steadily

The system architecture is simple

Can be docked with other systems

SAFE, reliable

Principles of software design

The software interface is friendly

Practical and convenient operation

Long-term use of stable

Can be docked with other systems

Convenient and quick

03

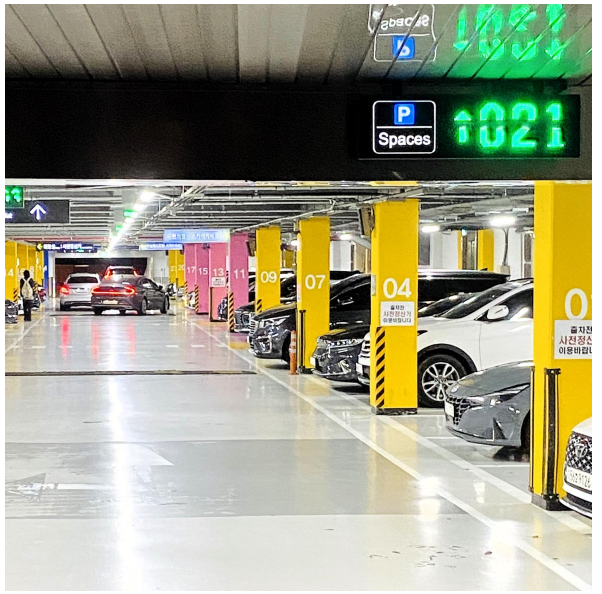
PART

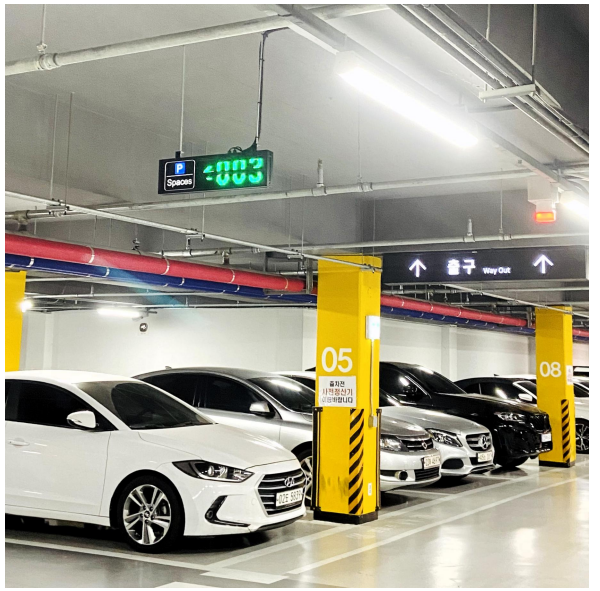
System Introduction

System Overview

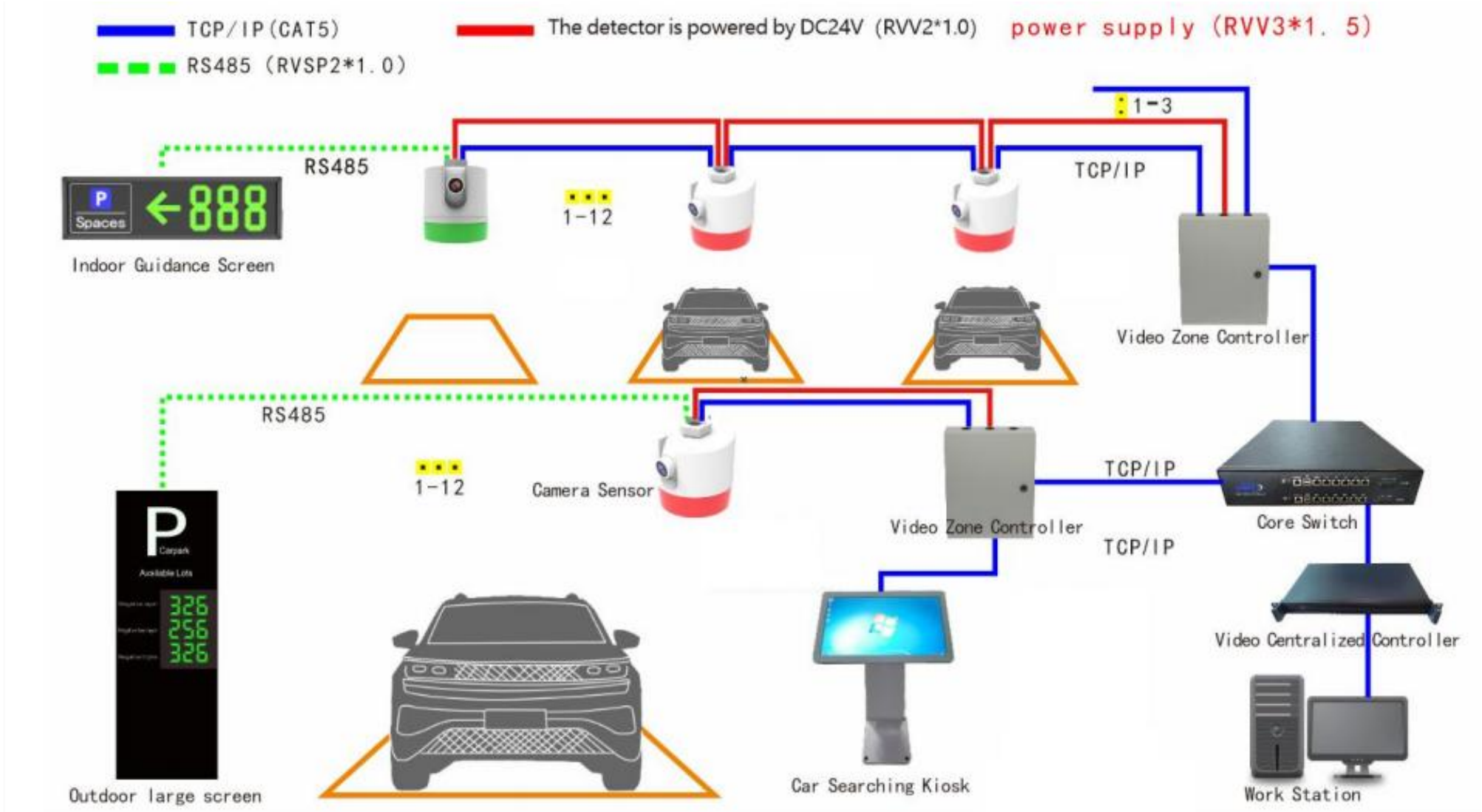
The video parking guidance and reverse car finding system captures the image information of the parking space in real time by installing a video detector in front of the parking space in the parking lot. The video detector transmits the captured image information of the parking space to the video area controller for parking status information processing. At the same time, the video area controller transmits the parking status information to the system management platform for data processing and stores it in the database of the server for unified management. The system management platform will process all the parking status data and send the empty parking information of the corresponding area to the parking guidance screen for display, so as to realize the parking guidance function.

When the owner returns to the parking lot to pick up the car position, he can enter the license plate of his car through the car search query terminal installed in the elevator hall of the parking lot. The query terminal obtains the data of the server database in real time, and displays the map of the parking lot where the owner is currently located on the screen. The map will indicate the location of the owner and the parking position of his vehicle. And according to the overall route situation of the parking lot, an optimal route to take the car is automatically displayed, so as to guide the owner to find the car quickly.





System Architecture



System Composition

Video Parking Guidance And Reverse Car Finding System

- Using new video detector, query terminal and other key system equipment, the data is accurate, stable, safe and reliable.
- Integrated parking guidance, one-click vehicle query, can achieve convenient parking management and control, and obtain unanimous praise from users.
- Optimize system equipment, shorten construction period, reduce operating costs, and improve system efficiency.

Standard System Hardware

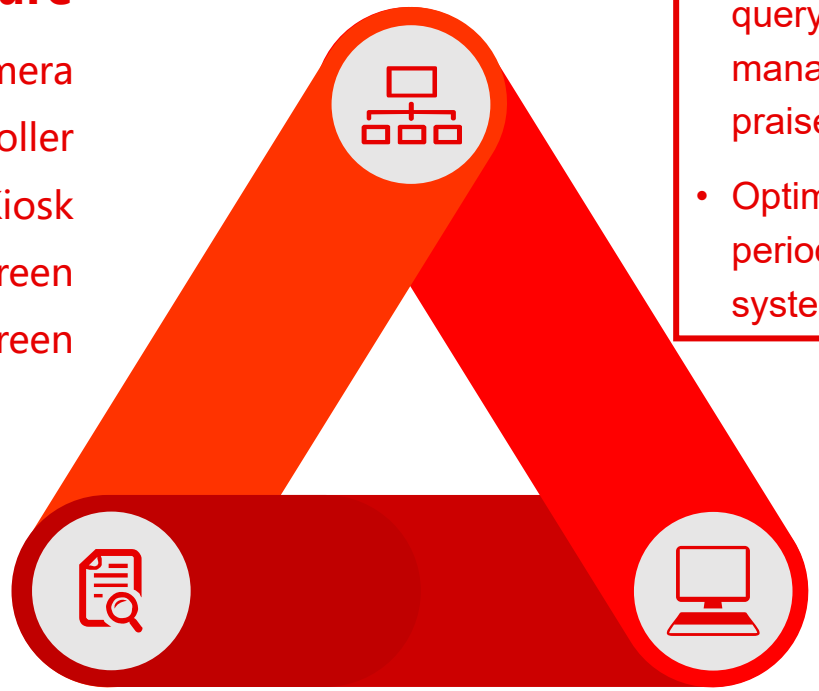
Video LPR Sensor Camera

Video Zone Controller

Query Terminal Kiosk

Indoor Guidance Screen

Large Outdoor Guide Screen



Reverse Query Platform

Vehicle location online search

Vehicle pictures are displayed online

Real-time vehicle location navigation

Integrated Management Platform

Monitor device status in real time

Store data information in real time

Real-time data information query

System hardware

Standard System



Video LPR Sensor Camera



Video Zone Controller



Centralize controller



Car Searching Kiosk



Outdoor large screen



Indoor Guidance LED



Parking Guidance Software

Option Function



Parking Lock



Parking Management Camera



Video External Indicator 1



Video External Indicator 2

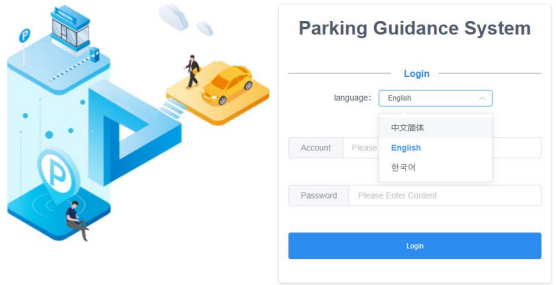


43 inch inquiry machine



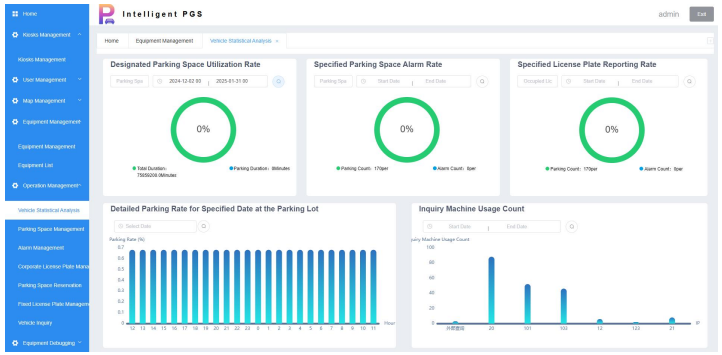
28.6 inch LCD Display

System Software Platform



1

Support multiple language options,
currently support Chinese/English/Korean.
Can cooperate with customers to change the language pack



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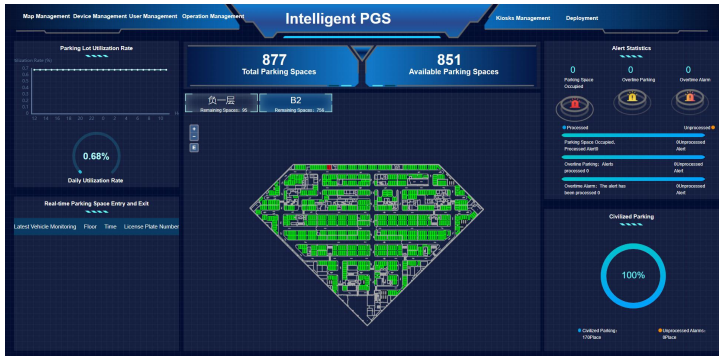
Real-time information storage and query



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Real-time monitoring of parking status



4

Query terminal reverse car search

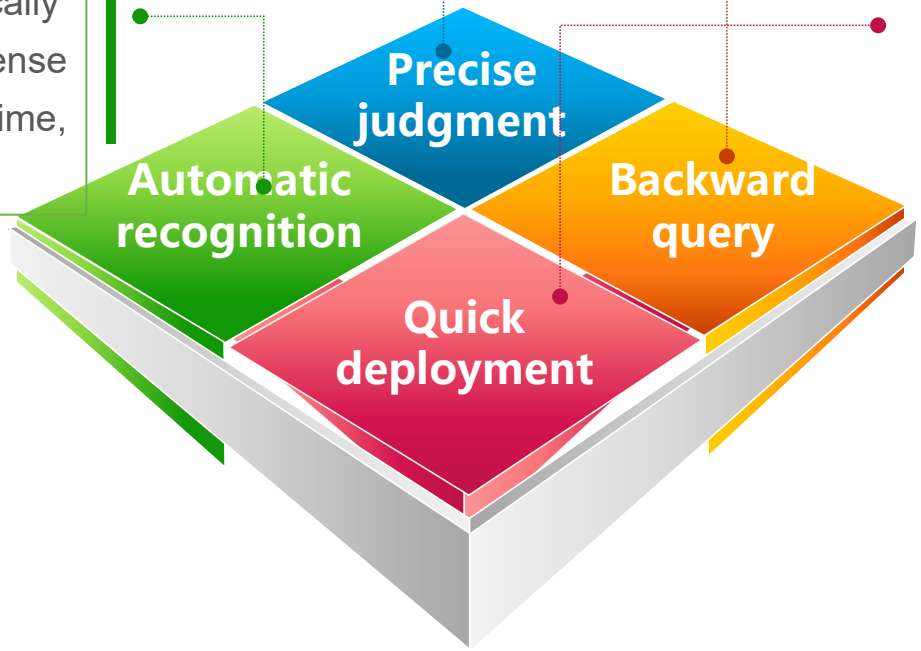
System advantage characteristics

Through the use of this system, the intelligent and information level of the whole parking lot can be improved, and the problems that need to be handled manually are dealt with by intelligent equipment, which not only saves a lot of labor costs, but also ensures the timely, accurate and effective of various data. The owner can quickly and freely find the parking space and pick up the car through all kinds of guidance equipment, saving a lot of time, making the parking lot image more perfect, and bringing the owner a noble experience.

Accurately determine whether the parking space is parked, and automatically recognize the license plate number of different countries

Through license plate number, parking number, parking time, unlicensed car and other conditions reverse query.

It can automatically identify the license plate, stop time, departure time.



The system is highly integrated and does not require much intermediate equipment. The network structure is simple, fast and easy to deploy.

Video Detector LPR 1-3/1-6 Camera Sensor





Video LPR Camera Sensor is an important part of the parking guidance system, it integrates the detector and the indicator light, installed in the front of the parking space, uses the way of video photography to obtain the current image information of each parking space and transmit it to the server, and controls the parking light to do the corresponding status display.

Product Parameter / Product Name	Video LPR Sensor Camera 1-3 WBP-T03V-H3	Video LPR Sensor Camera 1-3 PoE WBP-T03V-H3P	Video LPR Sensor Camera 1-6 WBP-T03V-H6	Video LPR Sensor Camera 1-6 PoE WBP-T03V-H6P
Camera pixel/resolution	2304*1296/4 megapixels			
Image setting	Brightness, contrast, saturation, sharpness, image flipping, exposure time, 3D noise reduction, and more			
Supervised parking space	1-3 Parking spaces		1-6 Parking spaces	
License plate recognition types	General country support identification, specific countries can be asked when shipping			
Lens specification	2.8mm lens as standard. Available 2.8mm, 4mm, 6mm prime lens			
Non-standard POE	Nonsupport	Support	Nonsupport	Support
Parking detection accuracy	≥99%			
License plate recognition accuracy	The accuracy rate of license plate recognition in overseas countries is as high as 98%, and the commercial recognition rate is as high as 99%. Consultation before shipment in specific countries			
License plate recognition speed	After the vehicle stops, ≤3s			
Indicator color	Supports 7 colors (red, green, white, yellow, purple, dark blue, light blue)			
Power dissipation	≤3W	≤3W	≤6W	≤6W
Power supply mode	Standard working voltage DC 12V/1A, support DC 9~36V wide power supply	Non-standard PoE	Standard working voltage DC 12V/1A, support DC 9~36V wide power supply	Non-standard PoE

Video Zone Controller





The video zone controller is the center of the whole system, which collects the image information and parking status and license plate number uploaded by all the video detectors at the lower level, transmits the relevant information to the system management platform through the network switch, and each video area controller can connect a maximum of 60 three-parking video detectors.

Standard network cable connection, greatly reducing the cost of wire and construction difficulty; The whole adopts industrial design, through strict testing, effectively ensure the reliable use of equipment.

Product Parameter / Product Name	Indoor Video Zone Controller WBP-K02ZV	Indoor Video Zone Controller(POE) WBP-K03ZV-P
Capacity	60* 1-3 space video sensors in 5 roads (1-6 space video sensors equals 2*1-3 space video sensors)	
Network interface	8*dedicated network ports for video sensors + 2*upper RJ45 ports	
Input power	AC110-240V	
Operating temperature	-30℃ ~ 70℃	
Storage temperature	-40℃ ~ +85℃	
Sheating material	Cold steel paint	
Size	400*260*90mm	
Non-standard PoE	Nonsupport	Support

Query Terminal/Kiosk（Vertical/Horizontal）
Find My Car



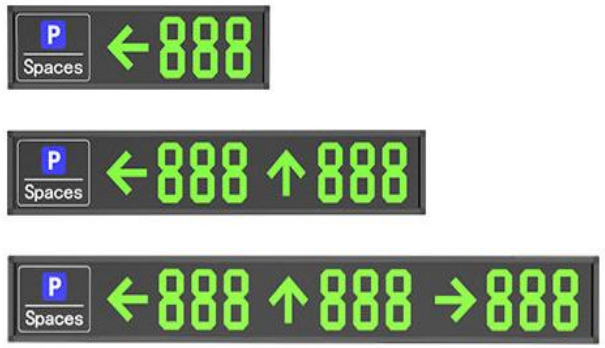


By inputting the license plate number, parking number, parking time, etc., it displays the information of the optimal car search route in the form of electronic map. Query system adopts industrial design, surface luxury car paint, professional spray treatment, simple and generous; HD industrial LCD screen, clear display, touch sensitive without drift, good user experience; Support audio output, in the idle state can be used as advertising terminal equipment, high utilization.

The query terminal is a graphical vehicle search system device, which is mainly deployed at the entrance of the elevator or the entrance of the parking lot. It is a query system composed of LCD touch screen and host. The owner can quickly locate the parking position of the vehicle by entering the license plate number, parking number and other ways, and the system displays the parking area in the form of an electronic map to guide the owner to quickly pick up the car. And with advertising function.

Parameter Name	Parameter specification
Input Device	Capacitive touch screen
Number of Touches	More than 60 million times Service life ≥ 50,000 hours
Cabinet Interface	RJ45 network interface
Communication Control	USB interface
Power Supply	AC220V±10%
Power Dissipation	Different sizes vary in power consumption. For example, 32 inches ≤50W
Installation Position	Elevator hall or passageway entrance
Optional Size	21.5”/32”/43”/49”/55”/65”

Indoor Guidance Screen



The indoor guidance screen is composed of high-brightness LED module, drive unit, power supply and other parts. Installed inside the parking lot at important turnovers. Receive the output information of the system, display the number of empty cars in the area in the form of numbers, arrows, etc., guide the owner to quickly find the empty parking space, and ensure the smooth flow of the parking lot and the full use of the parking space.

Product Parameter / Product Name	Indoor Guidance Screen（One Way） WBP-IA31-1	Indoor Guidance Screen（Two Way） WBP-IA31-2	Indoor Guidance Screen（Three Way） WBP-IA31-3
Size	650 * 183 * 56 mm	1030 * 183 * 56 mm	1410 * 183 * 56mm
Appearance Material	Black aluminum alloy outer frame		
illuminant	Red and green double-color LED lamp beads		
Point spacing	4.75 mm		
Maximum Power dissipation	20 W	40W	60W
Ambient Humidity	5%--9 5% RH		
Communication Mode	RS485 Bluetooth (debugging for use)		
Communication Distance	Rs485≤ 300m		

Outdoor Guidance Large Screen



Functional Characteristics

1. Wide viewing distance
2. Galvanized steel spray + Plexiglass
3. The text part adopts laser cutting process,
4. Embedded light transmitter plate and light box
5. Set the address and parameters of the mobile APP.

The outdoor guidance screen is composed of high-brightness LED module, drive circuit, bracket and other parts, and is installed at each entrance of the parking lot to display the remaining parking space information in the parking lot. The number of empty parking Spaces in the current parking lot is displayed in real time in the form of numbers and words, and the vehicle drivers who are ready to enter are reminded to use them 24 hours a day.

Model	P-VA3N-1 (single-layer)
Size	800*160*2200mm
Levels of Protection	IP65
Supports the Display Number	3/4
illuminant	Red / green highlighted LED
Appearance Material	Cold steel baking paint + tempered glass panel
Working Voltage	AC 110～240V
Working Temperature	-30℃ ~ +75℃
Ambient Humidity	≤90% RH (no condensation)
Power Dissipation	15W (single layer)
Communication Mode	RS485(Also provide Ethernet option)
Communication Distance	≤ 300 m,TCP/IP≤100m

Video Centralized Controller



Functional characteristics

1.Stable running, multi-tasking threads

2.Data security, powerful performance

3.Pre-installed software to improve efficiency

The video centralized controller is the calculation and control center of the parking guidance system, which can replace the dedicated server and summarize all kinds of equipment and the video centralized controller in the same network. The video centralized controller summarizes and processes the information of the detector equipment, and sends the processed data to the guidance screen, and provides the reverse car finding system for the query terminal

Product Parameter / Product Name	Video Centralized Controller WBP-K04M	Video Centralized Controller WBP-K04M	Video Centralized Controller WBP-K04MP
Communication Mode	TCP/IP		
Communication Distance	TCP/IP≤1000m		
Power Supply	AC110~240V		
Power Dissipation	≤250W		
Dimension	428*250*44.5mm		
Operating System	Linux		
Net Weight	3KG		
Number of Available Parking Spaces	1000 parking spaces	1000-3000 parking spaces	3000+ parking spaces

Parking Management Camera
Rear Parking Camera



Functional characteristics

1. Manage 1-2 parking Spaces simultaneously
2. For reserved parking Spaces, fixed parking Spaces, VIP parking Spaces and other parking Spaces with parking lock control, identification in the parking process, control the parking lock automatic lock.

The parking management camera is an important part of the parking guidance system. It integrates the detector and the indicator light and is installed directly behind the parking space. It obtains the current image information of each parking space by taking video photos and transmits it to the server, controls the parking indicator to display the corresponding status, and controls the parking lock lifting.

Parameter Category	Parameter Name	Parameter specifications
camera	Sensor type	3MP High performance CIS
Image parameter	Image compression	JPEG
	Capture resolution	2304(H) x 1296(V)
	Video stream	H.264/H.265 Video output
Feature	Detecting car number	1-2parking spaces
	Parking light	Supports integrated lights and external video lights
	Non-motor vehicle occupancy alarm	support
Property	Capture rate	≥99.9%
	Recognition accuracy	≥99.9%
	Parking detection time	≤5s
	License plate check out time	≤5s
Port	Net interface	1 route 100 Mbit RJ45 Ethernet port
	Power interface	3.81Connecting terminals
	Serial port	1 route RS485
Conventional parameter	Power source	Standard DC12V, support 9-15V input voltage
	Power dissipation	Camera power consumption ≤5W; Fill light power consumption ≤4W
	Working humidity	10% ~ 90%
	Operating temperature	- 30 ℃ ~ 70 ℃
	Class of protection	IP66
	aseismatic	National standard
	Install	Vertical erection

Parking Lock



1.Pressure resistance: withstand 3 tons of car rolling without damage;
2.Anti-collision: withstand the impact of conventional vehicles on both sides;
3.Waterproof: IP67
4.Remote control: stability control range is 0-15m;
5.Anti-theft: The user can only disassemble the outer cover after opening it with a key.

Functional Characteristics

Protocol control through 485 lines, with cameras, charging piles, centralized controllers and other devices, suitable for charging parking management, unattended parking and other scenarios. 12V DC power supply can achieve long-term maintenance free, greatly reducing operating costs.

According to the requirements of the operation scenario, our company has newly developed the rocker arm made of HDPE (high density polyethylene) and the cover made of fiberglass. The anti-collision and anti-compression properties have been significantly improved.

Parameter Category	Parameter Name	Parameter specifications
Model		P-PL01-485
Communication	Communication mode	Wired RS485
	Communication distance	RS485≤100m Remote：≤20m
Conventional Parameter	Power Supply	DC 12V
	Power Dissipation	≤20W
	Dimension	460*460*80/460*330*400mm（Down/Up）
	Appearance Material	Rocker arm: HDPE (high-density polyethylene) Cover: fiberglass

Video External Indicator





The video external indicator light is installed directly above the front of each parking space and displays a different color according to the detector's command. The indicator is green when there is no vehicle parked, and red when there is a vehicle parked.

Product Parameter / Product Name	 P-LED02	 P-T03LED
Power Dissipation	<2W	
Voltage	DC 5V	
Dimension	ϕ120*45mm	Φ100*101mm
Material quality	ABS engineering plastics	
Color indication	7 colors light	
Installation Height	2～3m(Level with detector)	
Installation Mode	Bridge mounting	

28.6 inch LCD Guidance Screen





Functional Characteristics

1. Support the WEB side to publish custom videos and online configuration display content
2. Support voice broadcasting;
3. Support weather forecast, clock and other content playback;
4. Support customized UI.

The indoor full-color LCD guide screen is installed at important turnovers inside the parking lot. Receive computer back-end release software management, control the playback content of the guidance screen (the number of remaining parking Spaces, arrows, text, pictures, videos, full screen, split screen, weather forecast, clock, etc.), guide the owner to quickly find the empty parking space, to ensure the smooth parking lot and full use of parking Spaces.

Parameter Classification	Parameter Name	Parameter Specification
Model		P-IA28-LCD
Display	**Screen size**	28.6 inch LCD
	Visible area	698.4mmX196.43mm
Communication	**Mode**	TCP/IP、WiFi
	Distance	TCP/IP≤100m WiFi：Coverage area
Conventional Parameter	**Power**	AC110～240V
	System	Android 11
	Timing switch	Support
	Voice broadcast	Support
	Operating temperature	-0℃—50℃
	Appearance material	Cold rolled steel plate + tempered glass

System Management Platform

The video parking guidance and reverse car search system management platform can realize a series of functions such as online parking map management, parking status management, parking data analysis, online equipment management, parking lot operation analysis, etc., to achieve the level of intelligent parking lot management, establish regional benchmarking projects, and provide integrated quality services for the public.



System Management Platform

Functional advantage

· Parking statistics function:
Display the current total parking space and the total remaining parking space, and show the remaining number of parking Spaces by floor.

· Real-time usage display:
Displays the current usage of the parking lot in real time.

· Parking utilization statistics:
Display the usage of the parking lot 24 hours a day, and visually display the hourly usage of the parking lot in the form of a graph.

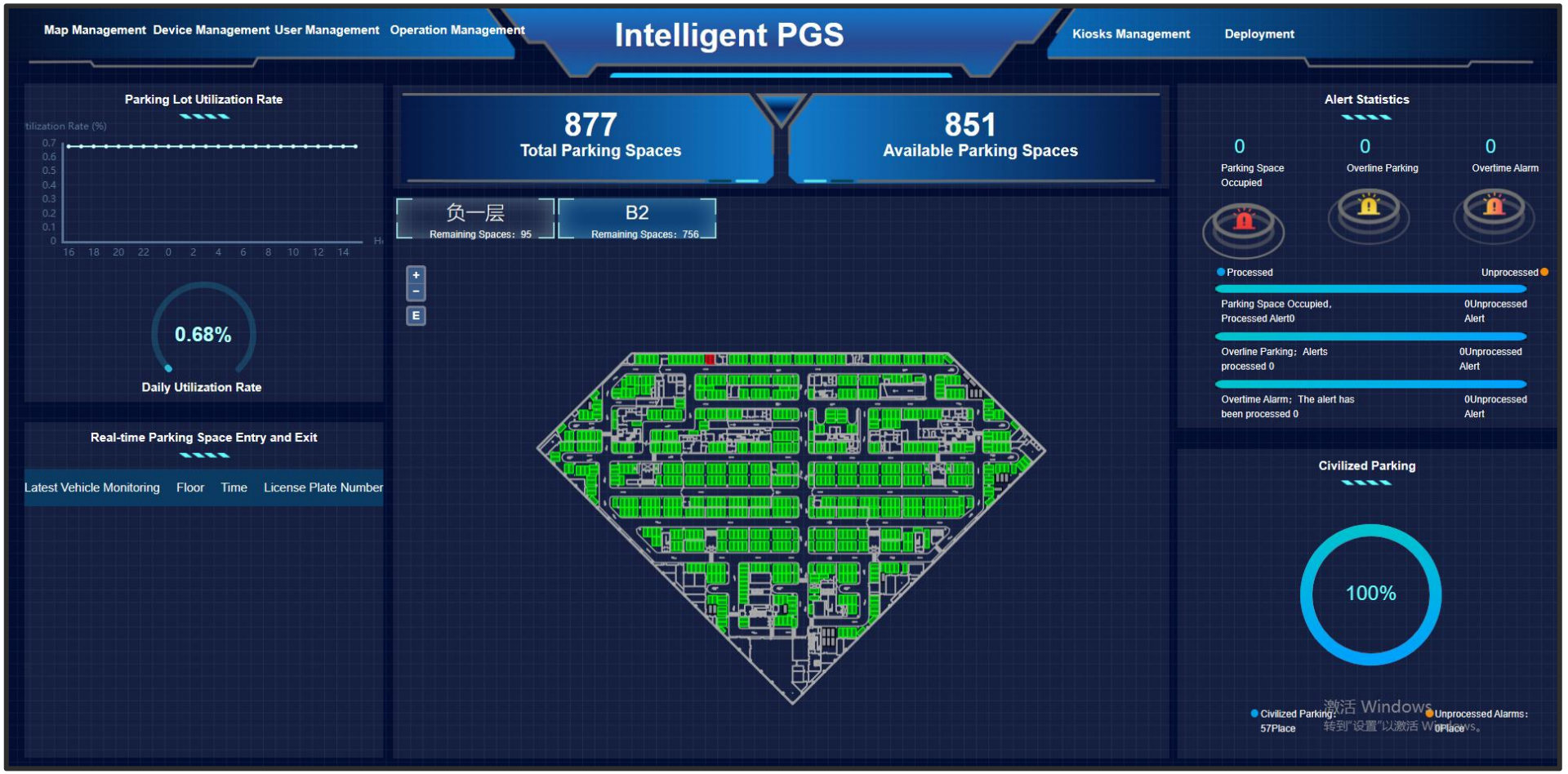
· Real-time display vehicle information:
real-time display of parking space access, access time, parking space, license plate number and other information

· Electronic map display:
Generate an electronic map of the parking lot, and display the real-time status of each parking space according to the distribution of parking Spaces. Red represents occupied parking Spaces and green represents vacant parking Spaces.

· Illegal parking alarm function:
support one car multiple, overtime parking alarm function, support fixed parking, group parking, monthly truck parking, new energy parking and other parking space illegal occupation alarm.

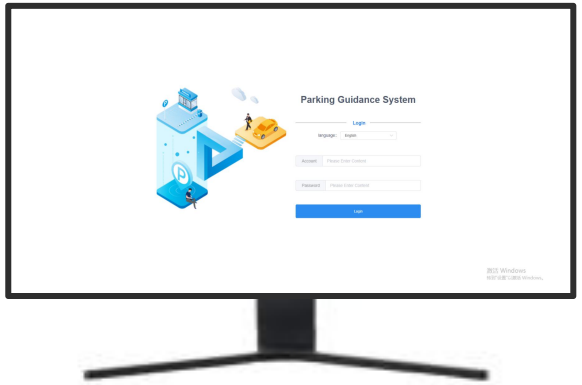
System Management Platform

Home dashboard



System Management Platform

Management Page











System Management Platform

Operational Function

- **User Management:**
  Multiple users can log in at the same time, and user rights can be customized.

- **Device management:**
  Supports single device management and batch import and deletion of multiple devices.

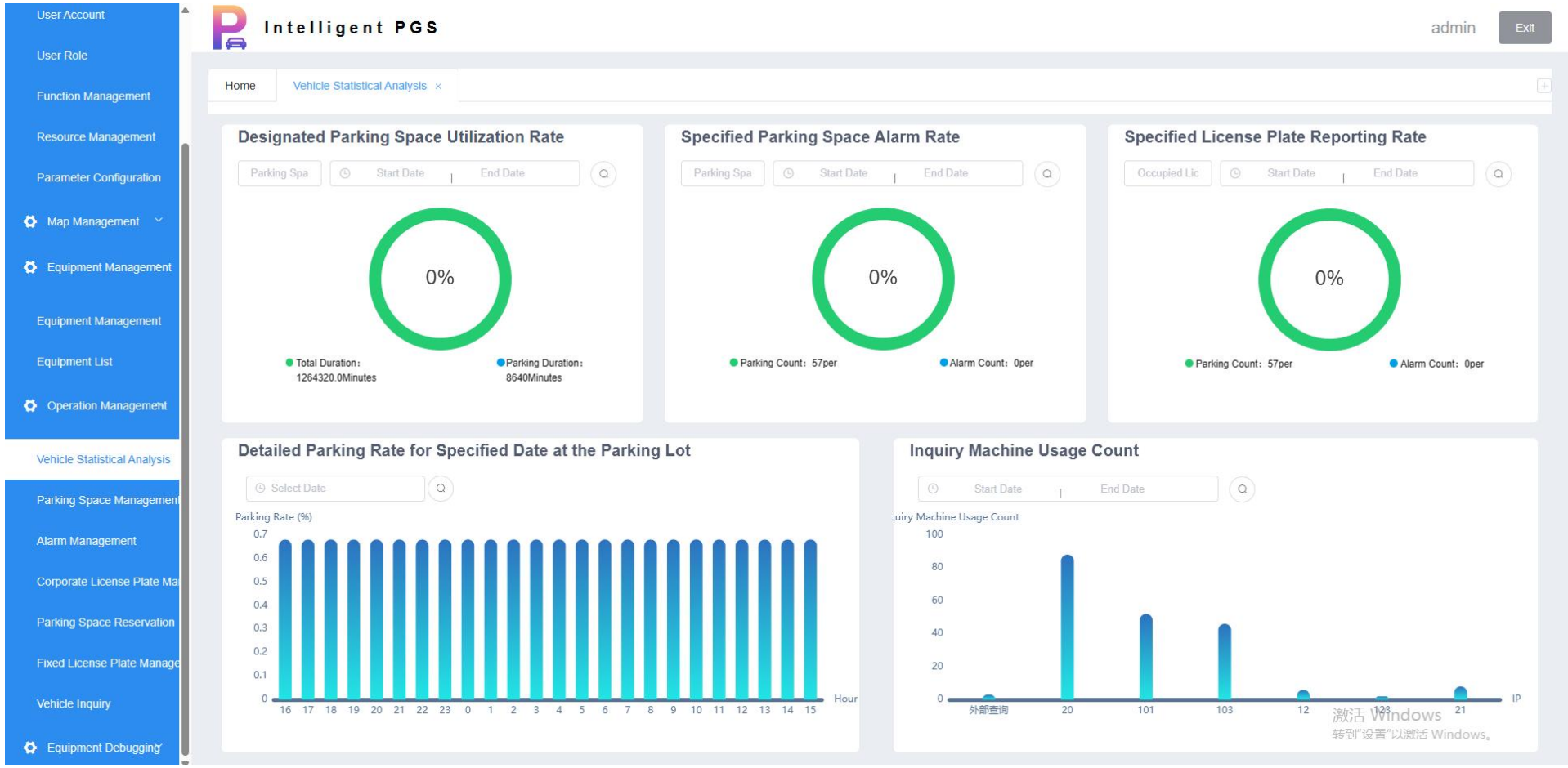
- **Map management:**
  Support parking editing, background editing, map management and other functions.

- **Operation management functions:**
  Statistical data, support the statistics of parking space utilization, license plate alarm rate, parking alarm rate and other statistical data.

- **Parking Space Management:**
  Support parking number modification, group parking, fixed parking, new energy parking Settings.

System Management Platform

Operation management display



System Management Platform

Parking Lots Management

Edit parking spaces

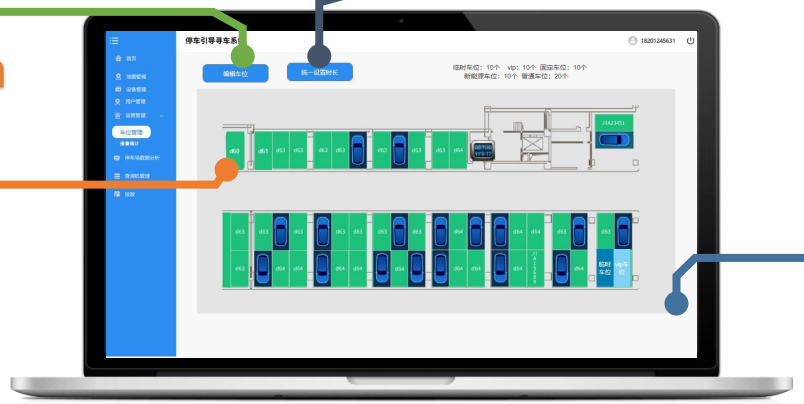
Click the Edit parking space button, you can set the type of the parking space, according to different parking types (ordinary parking, temporary parking, fixed parking, new energy parking, vip parking), you can set different parking duration.

Uniform set duration

Box selection of parking space, box selection after the table display, can quickly set a unified parking time

View parking information

Quickly view the number, type, and duration of the parking space.



Page display view

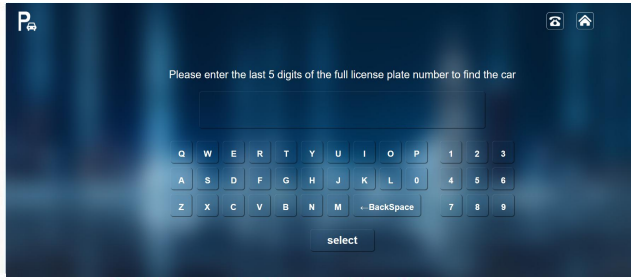
Different parking space types are distinguished by different colors.

Reverse Query Platform

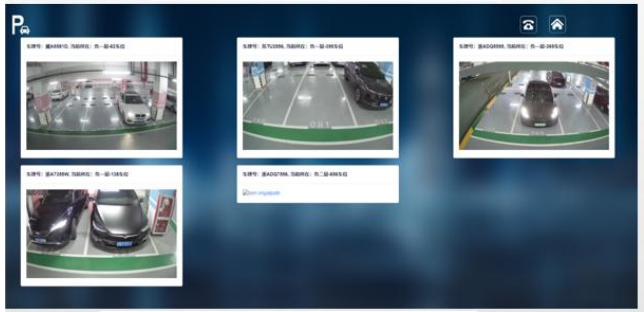
Reverse query: query the position of the current vehicle in real time by entering the license plate number, parking time and other information, and visually display the current vehicle with the image captured by the video detector, and plan the best route to the location of the vehicle according to the one-click navigation of the vehicle information query, so as to achieve rapid reverse car search and improve user satisfaction.



1.Choose car finding method



2. Input vehicle inspection features
(license plate/unlicensed car/time period/parking number)



3.Select vehicle picture



4. view the map

Reverse Query Platform
（Find My Car）

Platform Characteristics

- **Multi-language switch:**
  Regular support for Chinese and English bilingual switch, with a language switch button.

- **A variety of query methods:** support full license plate query, fuzzy query, unlicensed car query, parking number query, parking time query and other search methods

- **Humanized path:** support inquiry machine search route dynamic display.

- **Fee search integration:** Support docking parking lot charging system, can realize the scan code after car search direct payment

04

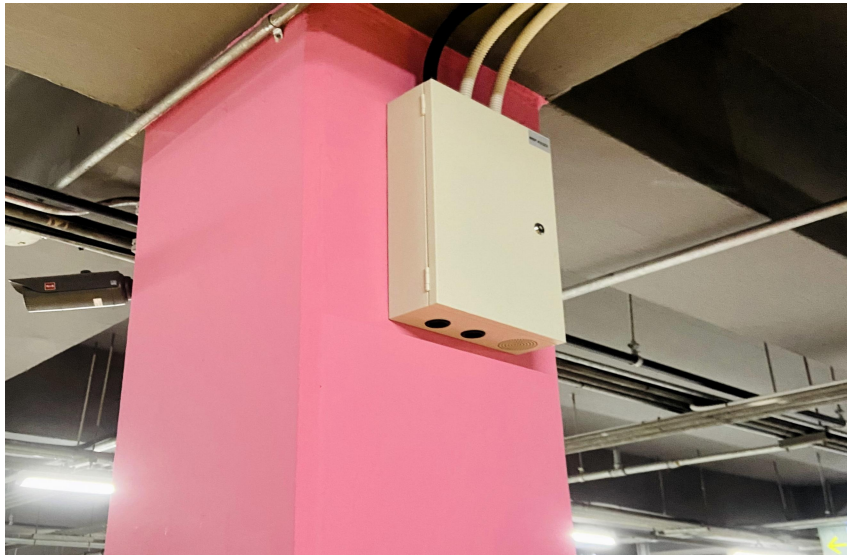
PART

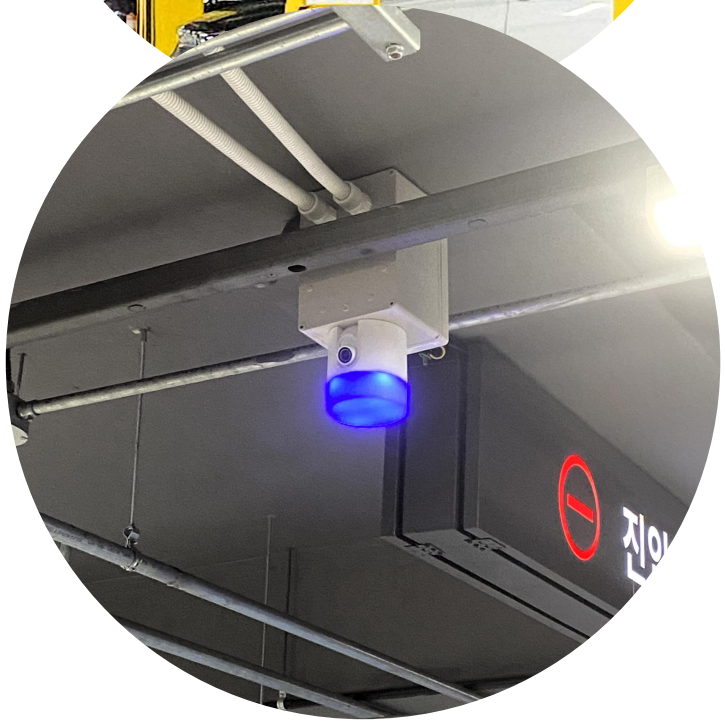
Cases Show

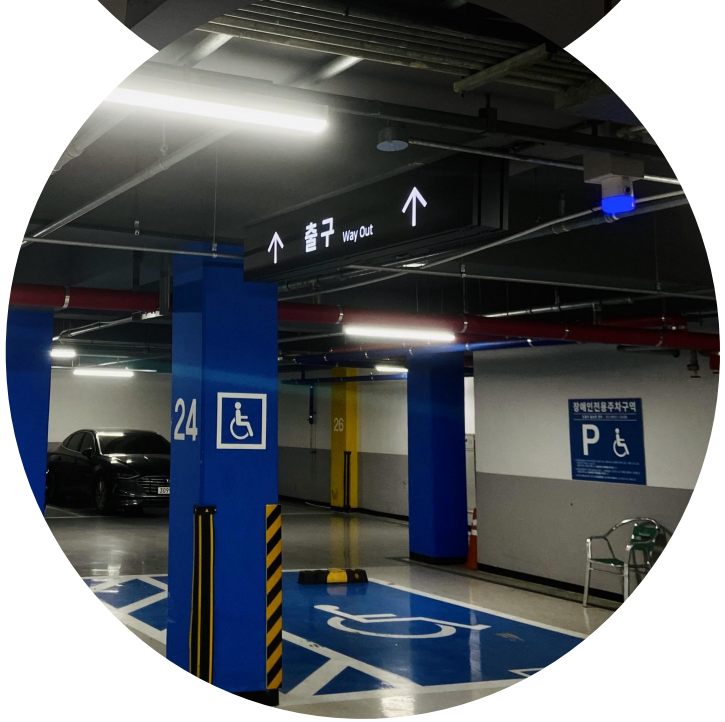
Case-Korea Video LPR guidance system













Case-Shenzhen Wanfeng coastal city







05

PART

Service & Support

Service & Support

Pre-Sales

Advisory Sales Services

•Project approval, preliminary scheme planning and product selection recommendation.

•Detailed scheme design, system construction wiring drawing and project budget.

•Product delivery and construction cycle confirmation.

In Sale

Comprehensive tracking system

•Product production and supply consulting

•Installation technical documentation is provided

•Project manager on-site guidance

•System debugging and acceptance

•Personnel training

•Product use and maintenance manual is provided

After Sale

Multi-channel service approach

•Service Hotline:

•Service mailbox:

•Technical support Hotline:



After-Sales Service

Product Production Standards

All of our company's products are manufactured in strict accordance with relevant international product technical standards and specific requirements from our customers. We ensure that every product meets high-quality benchmarks to satisfy the diverse needs of our global clientele.

Comprehensive Inspection Process

1.Raw Material Inspection: Rigorous inspection is carried out on all purchased raw materials to guarantee their quality and compliance with international standards. This step is crucial for the overall quality of our final products.
2.In-production Inspection: We implement a three-inspection system during the production process, namely self-inspection by the operators, mutual inspection among team members, and specialized inspection by our quality control experts. This comprehensive approach helps to identify and rectify any potential issues promptly.
3.Delivery and Packaging Inspection: Before the products are shipped, a thorough inspection of the transportation, delivery, and packaging is conducted to ensure that the products are well-protected and arrive at their destination in perfect condition.



Documents Accompanying Product Shipment

Each product leaving our factory is equipped with a product certificate of conformity, a quality inspection report, a detailed user manual, and relevant technical documentation. These documents provide our customers with comprehensive information about the product's specifications, performance, and usage instructions.

After-Sales Service



Free Warranty Service

Our company offers a 12-month free warranty for all the equipment and systems we supply and install. The warranty period commences from the date of receipt of the goods. During the warranty period, in case of any damage or malfunction caused by the quality of the equipment, our company will be responsible for free repair or replacement without any additional charges.

Response to Quality Issues

Technical Support Response: In the event of quality issues during the installation, commissioning, or operation of our products, our company provides rapid technical support services during working hours. For non-working hours, we also offer support upon prior appointment. Our service response time is guaranteed to be within 1 hour to ensure that our customers' concerns are addressed promptly.

Problem Resolution: We strive to resolve issues remotely within 12 hours. If on-site commissioning is required for the project, after communication and negotiation with our customers, our company will dispatch experienced technical personnel to the site to handle the problem as soon as possible.



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