



A SMART GUARD
THAT NEVER SLEEPS
SMART PARKING AREA SOLUTION

 smart solution **2.0**

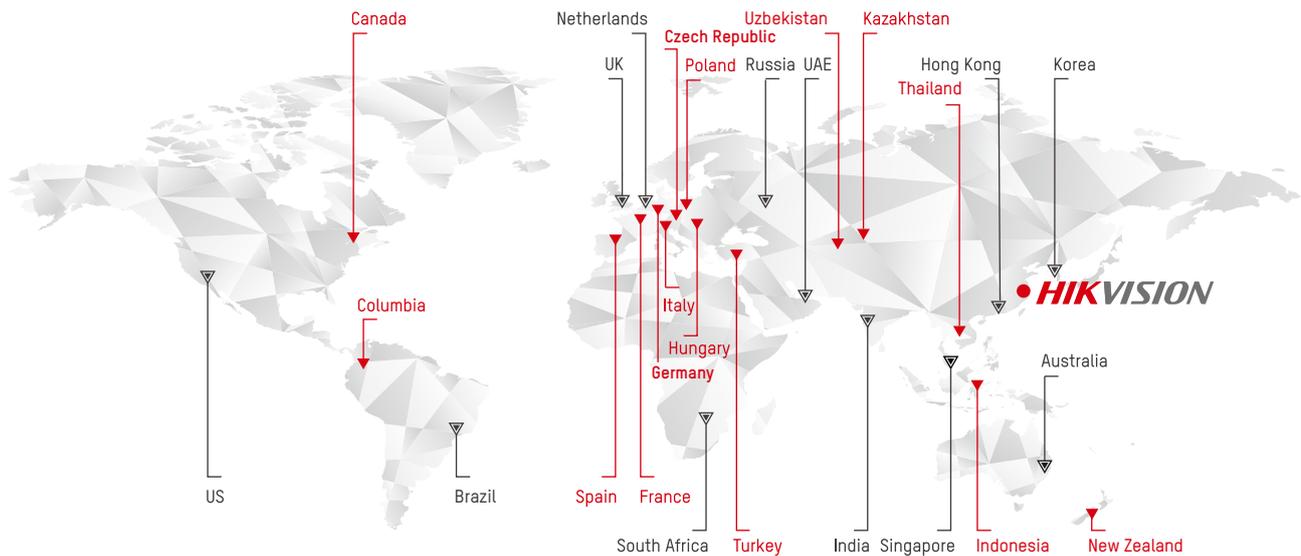
WITH HIKVISION AS YOUR INTEGRATION PARTNER, YOU WILL STAND ON A SOLID FOUNDATION

RAPID GROWTH

Hikvision is the world's leading supplier of video surveillance products and solutions, featuring the industry's strongest R&D workforce and state-of-the-art manufacturing facilities. In just 15 years, Hikvision has developed from being a single-product provider to a complete product and solution provider and a global market leader.

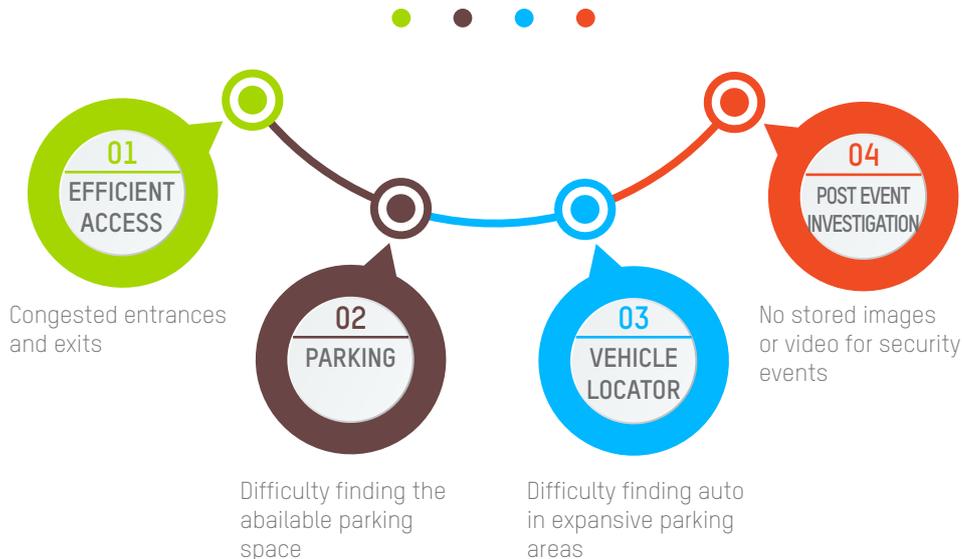
GLOBAL REACH

- 33 Regional subsidiaries
- 57% of Employees in International Business Centre are locals



SMART PARKING MANAGEMENT SOLUTION

CHALLENGES





SMART SOLUTION FOR PARKING AREA

- Reduced administrative effort and ticket costs at the entrance & exit
- Ensure around-the-clock safety of the whole parking area
- Enhance parking lot management efficiency
- Help users to find the closest available parking lot
- Have a reliable HD footage for post-event investigation

PARKING AREA SOLUTION APPLICATIONS



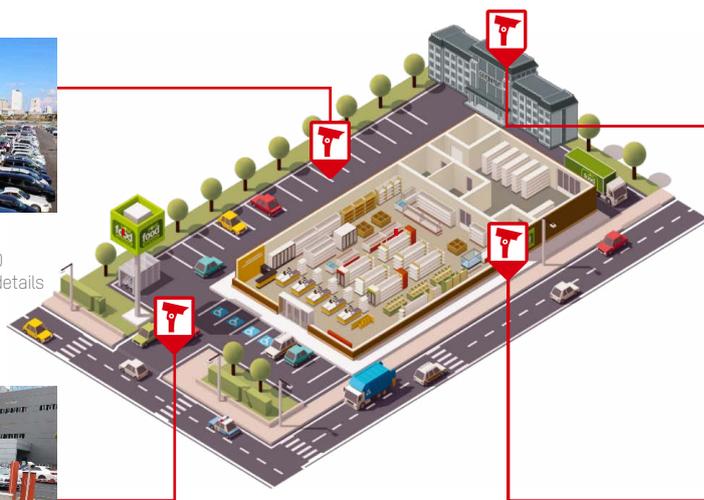
Parking area

Wide open area, requires HD surveillance for capture of details of parking-related events.



Security booth

Clear visibility in strong sunlight conditions, VIP customer vehicle auto release, Abnormal vehicle entrance event quick response.



Management Centre

Efficient and flexible management of customer's vehicle and parking place resource. Quick location of a specific vehicle's parking event from historical mass data for post event investigation.



Perimeter

Keep the wide perimeter secure and stay vigilant 7*24 hour to unexpected event.

PARKING AREA SOLUTION APPLICATIONS

Entrance & Exit



ANPR, Access Management , Monitoring

- Built-in License Plate Recognition algorithm
- Black/Whitelist configuration and comparison in the camera
- Barrier control by the camera

DarkFighter and True WDR technologies , as well as optional IR, ensure crisp and clear images and video of each vehicle for recognition and recording.

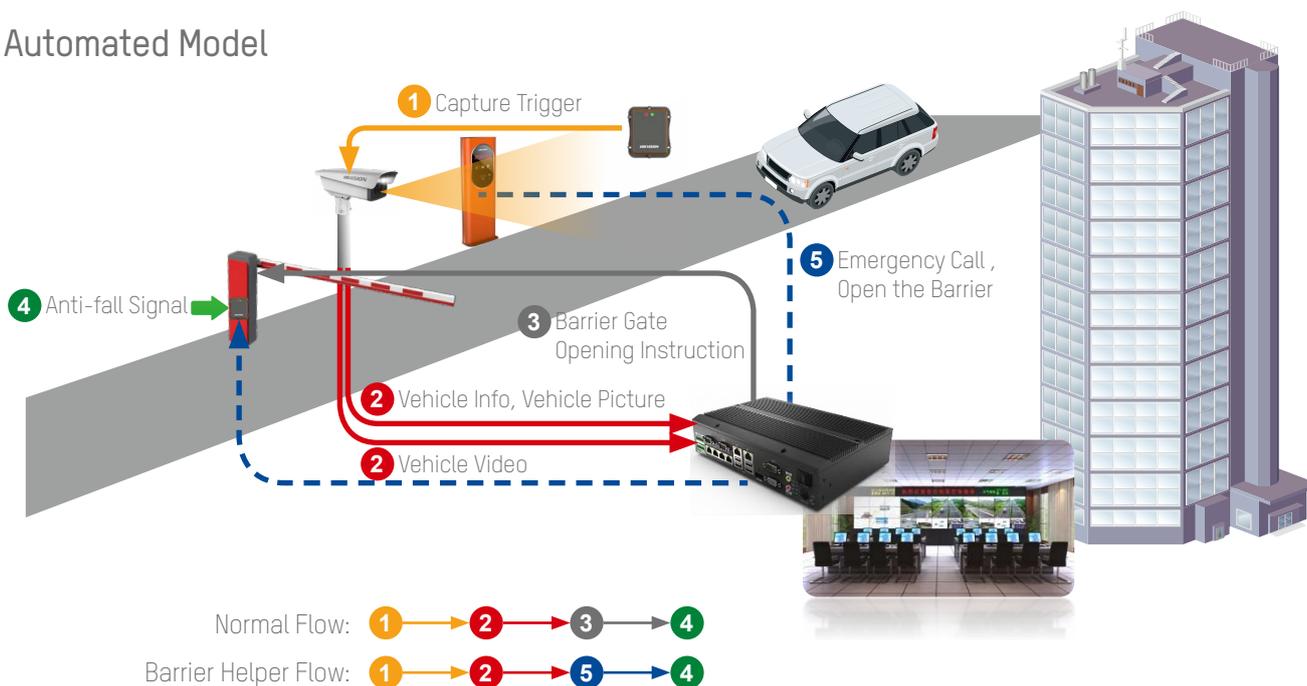


Barrier Trigger Anti-fall Radar

- Easier installation and maintenance – no need to remove pavement for the sensing coil
- Extra safety – both vehicles and pedestrians benefit from protection
- Robust design – free from environmental influences including light, dust, rain and snow
- Trigger radar detects approaching vehicle and triggers ANPR and barrier
- Safety sensor ensures the barrier remains open when passageway is not clear



Automated Model



ANPR Camera

- Automatic number plate recognition
- Upload vehicle's plate information and vehicle's picture to back-end device
- Black/white list management and barrier control off-line

Access Control Terminal

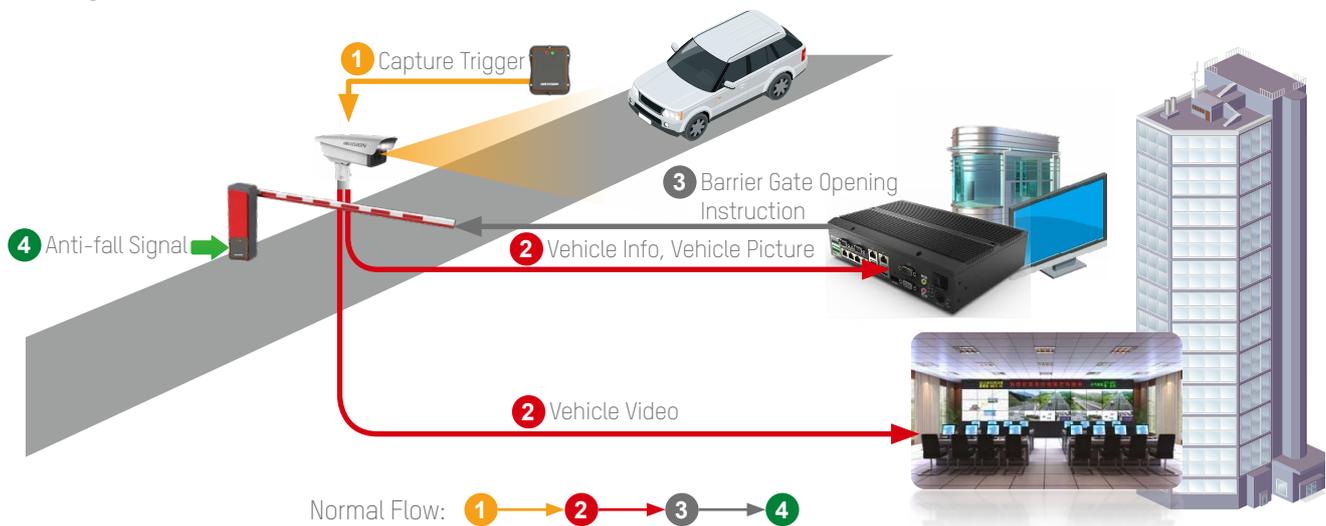
- Vehicle's number plate & vehicle picture storage
- Vehicle's passing-through video clip storage
- Black/white list management, alarm notification (support up to 10000 plate numbers with TF card)
- Simple road barrier control via I/O interface, no manual correction, no manual barrier control



Advantages

Easy-to-use, a true lite system which is also simple to deploy. Ideal for a small entrance control system.

Managed Model



Sensing radar

- Easier installation and maintenance - Extra Safety - Both vehicles and pedestrians benefit from protection
- Robust Design - Free from environmental influences including light, dust, rain and snow

Two radars for each access lane:

- Trigger radar detects approaching vehicle and triggers ANPR and barrier
- Safety sensor ensures the barrier remains open when passageway is not clear

Access Control Terminal extras

- Special parking alarm, including stay time expired, unauthorized period access etc.
- Road barrier control, support error correction, auto/manual barrier control, vehicle auto-matching etc.
- Available parking lot count, support data output to 3rd party LED indicators
- Support data analysis, including vehicle traffic flow report, average parking time report etc.

Advantages

A comprehensive system, dedicated entrance control terminal with rich interfaces to connect external devices, ideal for a mid-large sized location with video surveillance, management, reporting and multi-sites deployment. Customisation support to meet more business requirements.

PARKING AREAS

Parking area & Perimeter monitoring



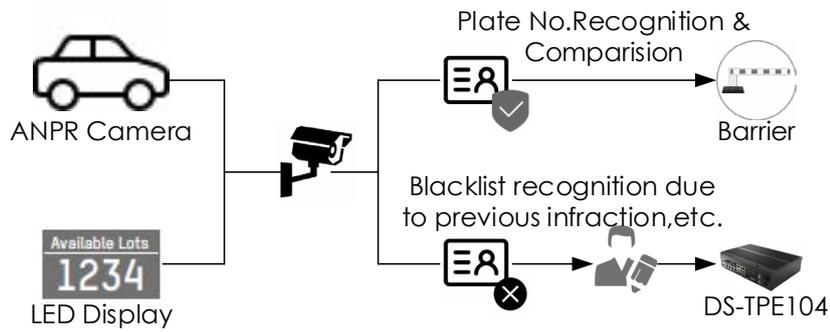
Large parking lots require vigilant management to ensure the flow of traffic and HD footage, and to resolve disputes when accidents happen. Hikvision's solution provides Smart features to keep your parking areas operating efficiently and your visitors pleased.

DarkFighter cameras: Parking area lighting can be a tremendous challenge, but Hikvision's DarkFighter camera captures sharp colour images – even at very low, light levels.

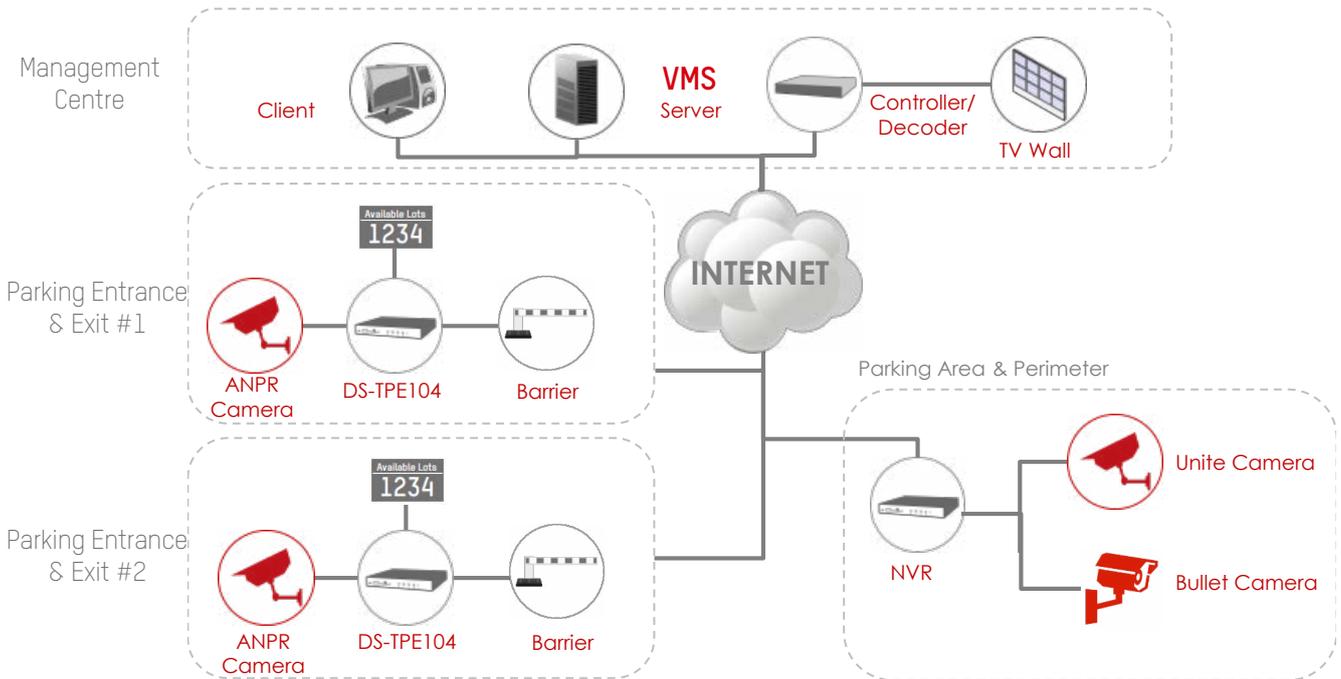
LED display panel integration: By integrating an LED display panel at the entrance, all available parking resources and information can be easily displayed for customers.



For large parking lots, high customer flow may create parking entrance congestion. Effective parking safety and management are critical concerns, especially in retail sectors.



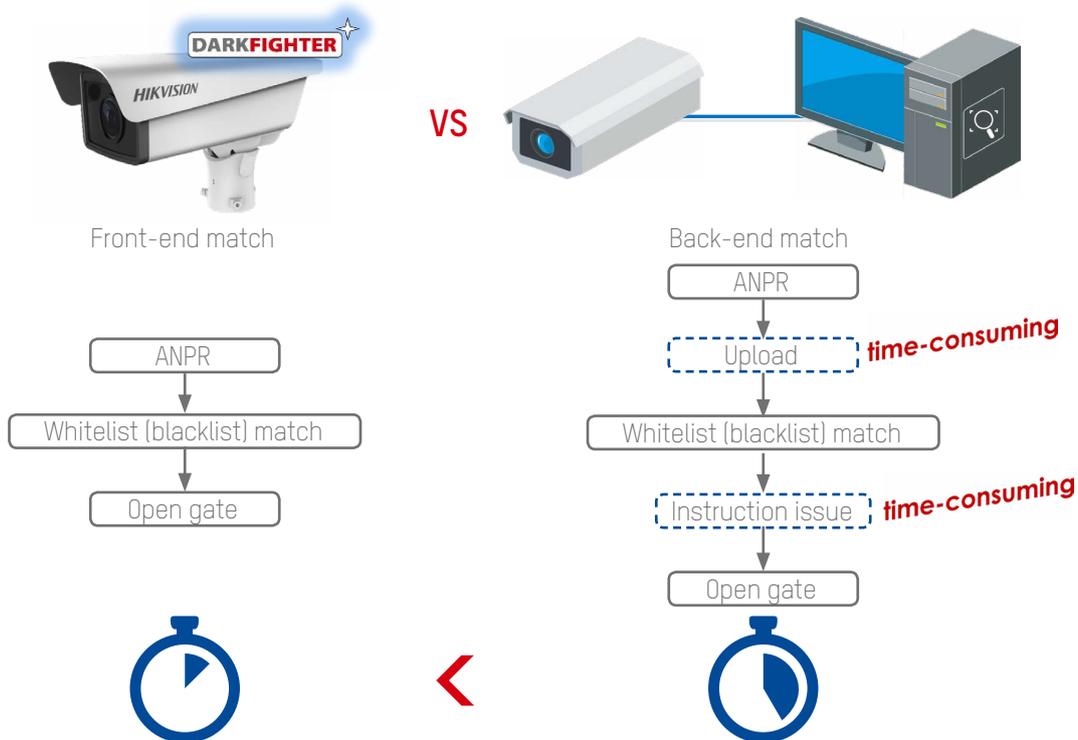
- Automatic number plate recognition – High-definition image captured and video stored locally in Entrance & Exit control terminal
- Automatic barrier can be opened for whitelisted vehicles. The barrier can remain in place and alarm sent for blacklisted vehicles
- Plate number can be manually corrected by management personnel to avoid congestion in the entrance & exit in case of recognition failure
- Black/whitelists can be modified easily at each guard office according to user authority
- Smart vehicle-access event searching based on time or full or partial plate number
- Local HDMI/VGI output support
- LED displays the available lot information in real time to notify customers of open stalls, hours of operation, etc.



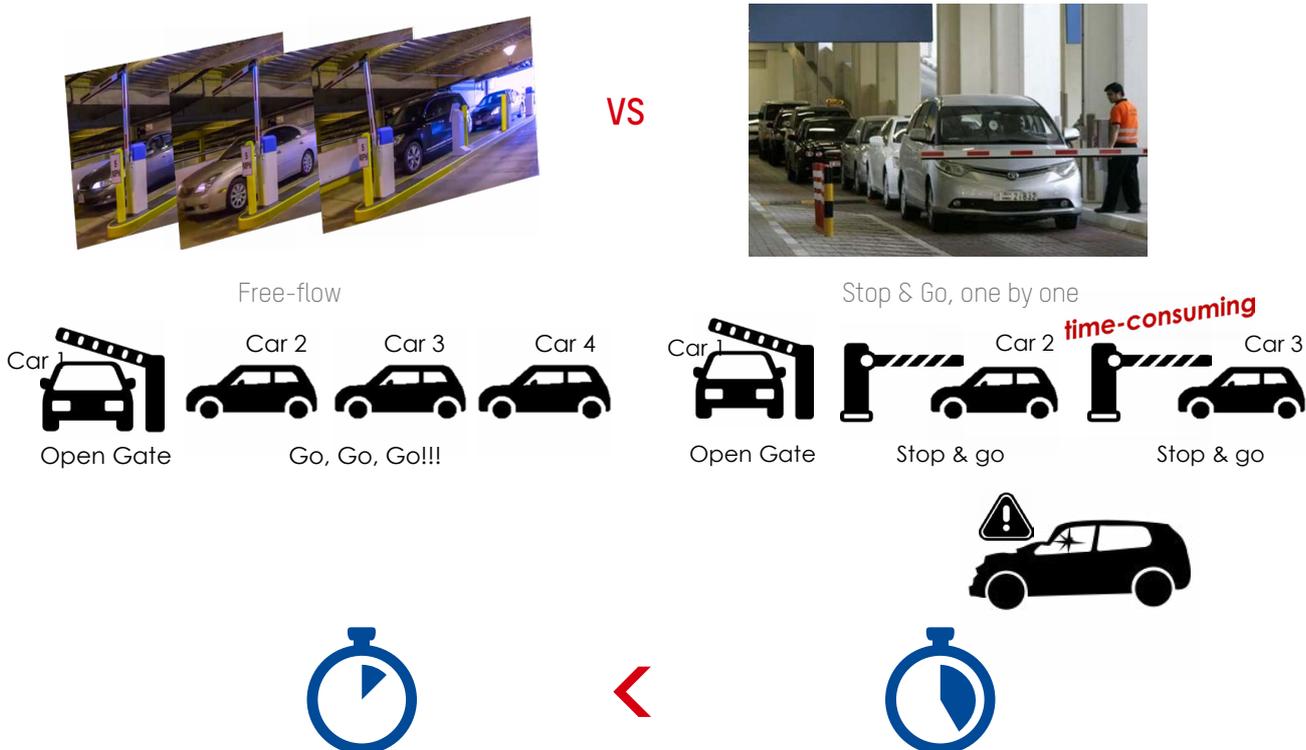
PARKING AREAS

KEY TECHNOLOGY

1 More efficient plate matching



2 More efficient and lower risk of car damage



Anti-Glare

High night image quality in spite of high beam lights



No lights

Low beam lights

High beam lights

Offline Barrier control

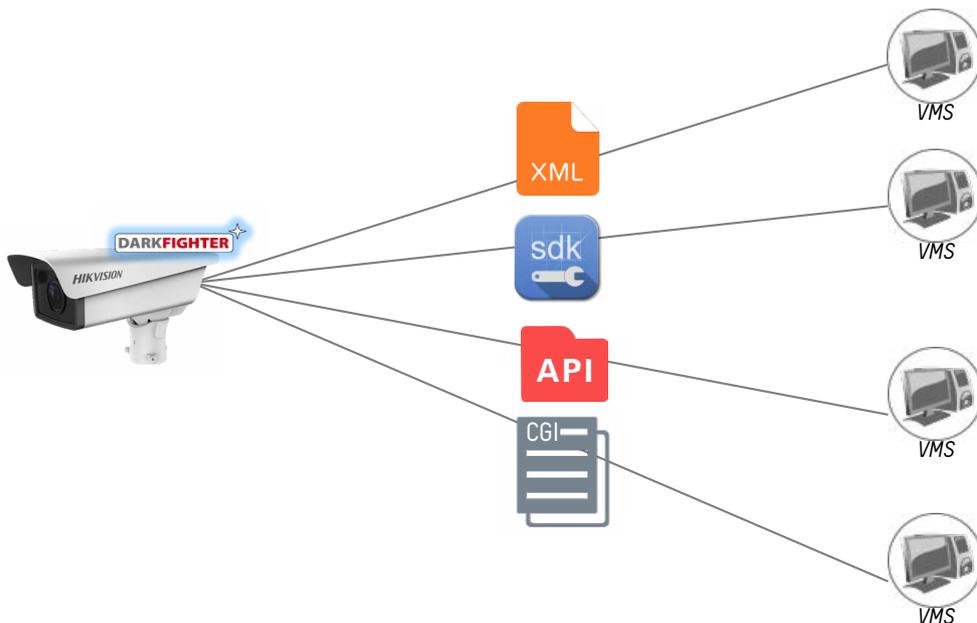
To keep the barrier normal working 24/7 even with network disconnection

When the network between capture unit and Access control terminal breaks down, the capture unit will keep working and functions such as LPR, blacklist/whitelist comparison, and barrier control will not be influenced (using TF card). After the network recovers, the captured pictures stored in the card will be transferred back to the back-end device automatically.



Open Protocol for integration

Provide abundant data through ISAPI of different product combinations



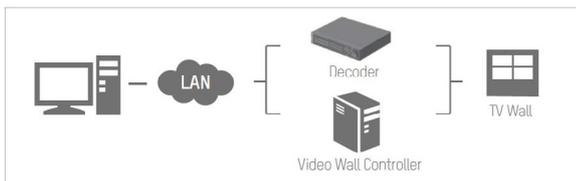
MANAGEMENT CENTRE



Compiling all the critical video from daily operations, the central office management centre is the core of a total CCTV system.

It provides the utmost reliability and manageability for data protection and alarm response. It also provides a means for improvement in business operations.

- **Video management platform:** The HikCentral Video Platform or iVMS-5200E platform is the core of the CCTV system to manage, view live, play back, and control all the daily operations on all connected devices.
- **Monitor display system:** Everything from standalone monitors to expansive TV walls.

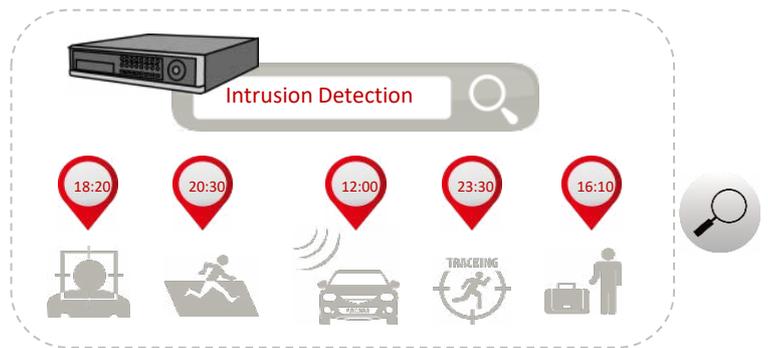


Hikvision display system

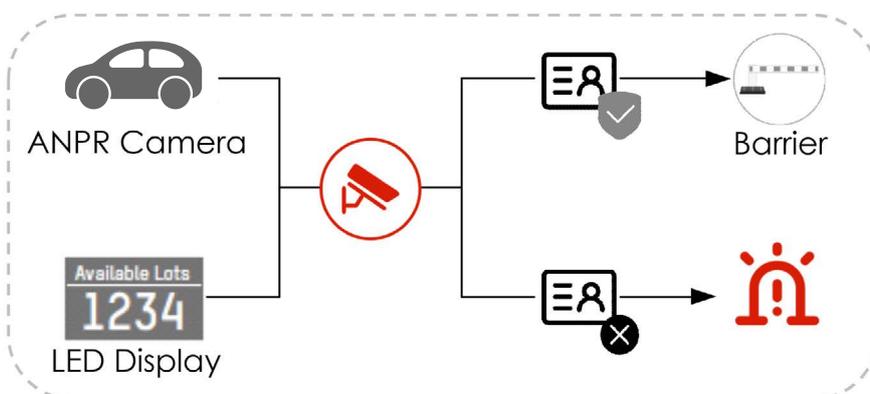
- LCD/LED/DLP video wall displays of different sizes are available to meet any requirement
- Powerful Decoder/Controller products support flexible screen jointing and window roaming
- One system supports integration of up to 72 screens into one video wall
- Supports multiple signal input types – Including DVI – to display signals from PCs on video walls

Mega Data Management Smart Search and Play Back

- Fully compatible with Hikvision Smart IPCs
- Quick, easy search for snapshots and recorded video based on plate numbers or keywords
- Playback the desired event footage at standard speed and fast-forward to skip past unrelated video



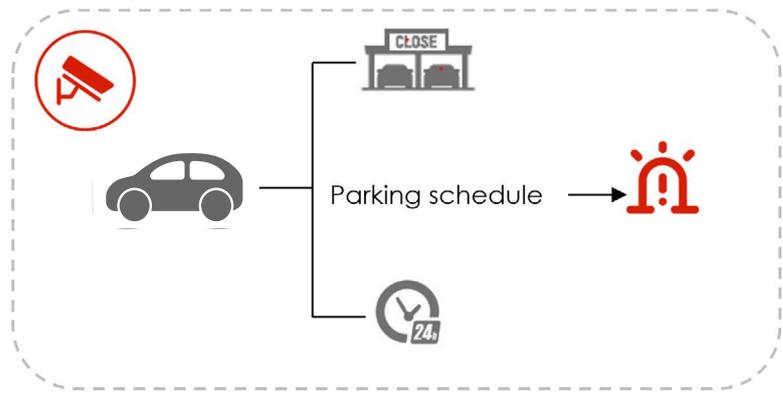
Multiple parking violation alarms to expedite response



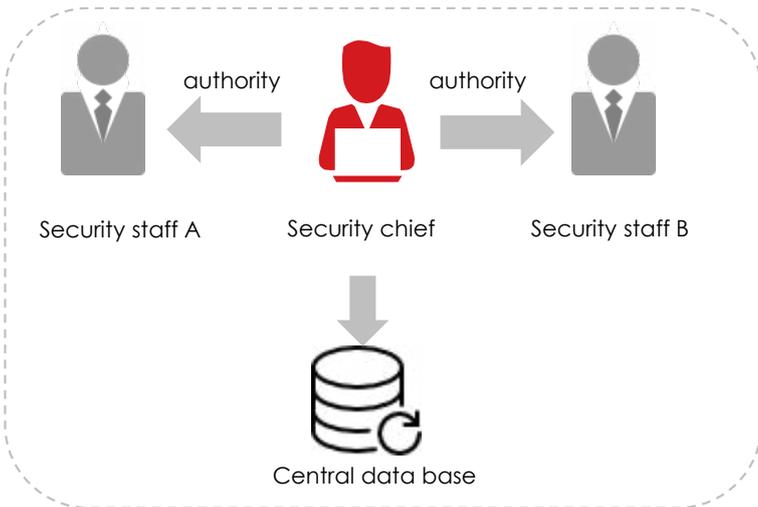
Whitelist Expiration / Blacklist Alarm

- An alarm will be triggered when a vehicle is recognised as included on blacklist; the barrier can remain closed to prohibit entry by that vehicle
- Whitelist Expiration Alarm: When a vehicle on a time-limited whitelist attempts to enter and/or park after expiration, an alarm will be triggered. This function is especially useful for hotel parking, visitor parking in residential areas, etc

- An alarm will be triggered when a vehicle remains in a parking area after business hours or other specified period
- Helps parking area management personnel quickly identify how many and which vehicles remain in a parking area after business hours or other specified period



Parking after closing time / forbidden parking periods

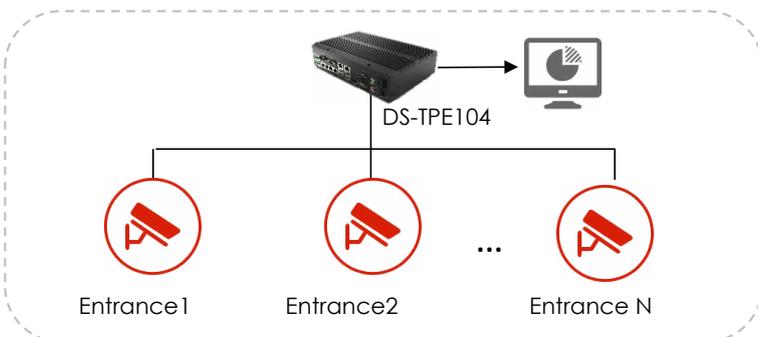
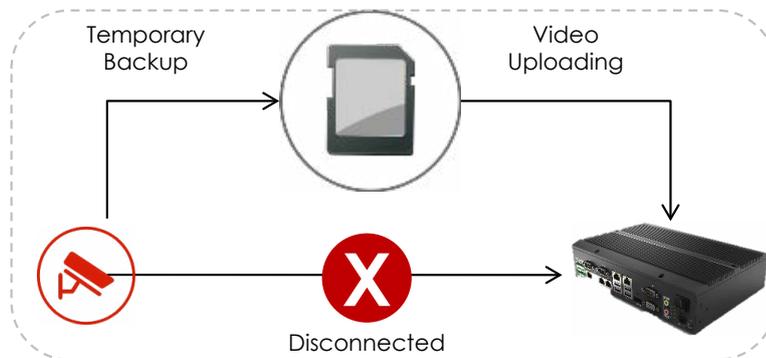


Centralised management security operator authority

- Centralised management of security personnel and authorities
- Security personnel have assigned authority levels, such as live view, playback, area cameras, or PTZ control
- Higher permission-level users have priority control over the system, i.e., they can takeover PTZ control, force logout of lower-level users, and more

High data safety Auto Network Replenishment (ANR)

- Auto backup on SD card when network is disconnected
- Video data will be transferred from SD card to NVR when network connection is restored
- Using Hikvision Micro SD cards for ANR storage is recommended for best performance



Business Intelligence Reports

- Generation of multiple parking area reports, including reports of multiple entries & exits, etc.
- Business reports inform management personnel of daily parking and visitor statistics, such as normal parking times, etc.

PARKING GUIDANCE SOLUTION APPLICATIONS



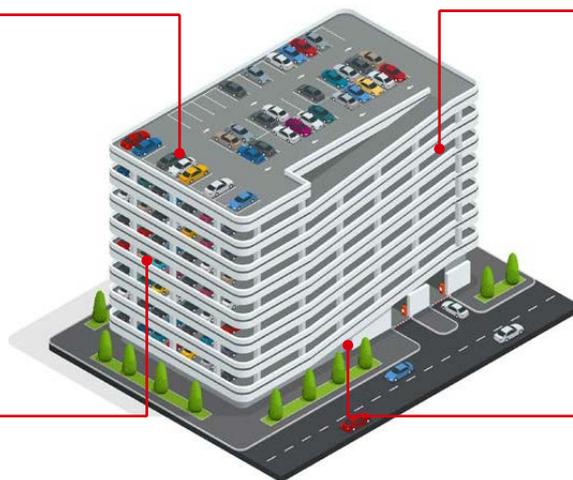
Parking Guidance

- Detects available parking spaces automatically
- Available spaces indicated by arrow and colour



'Find My Car' Application

- Find My Car Kiosk locates user's car
- Provides shortest route



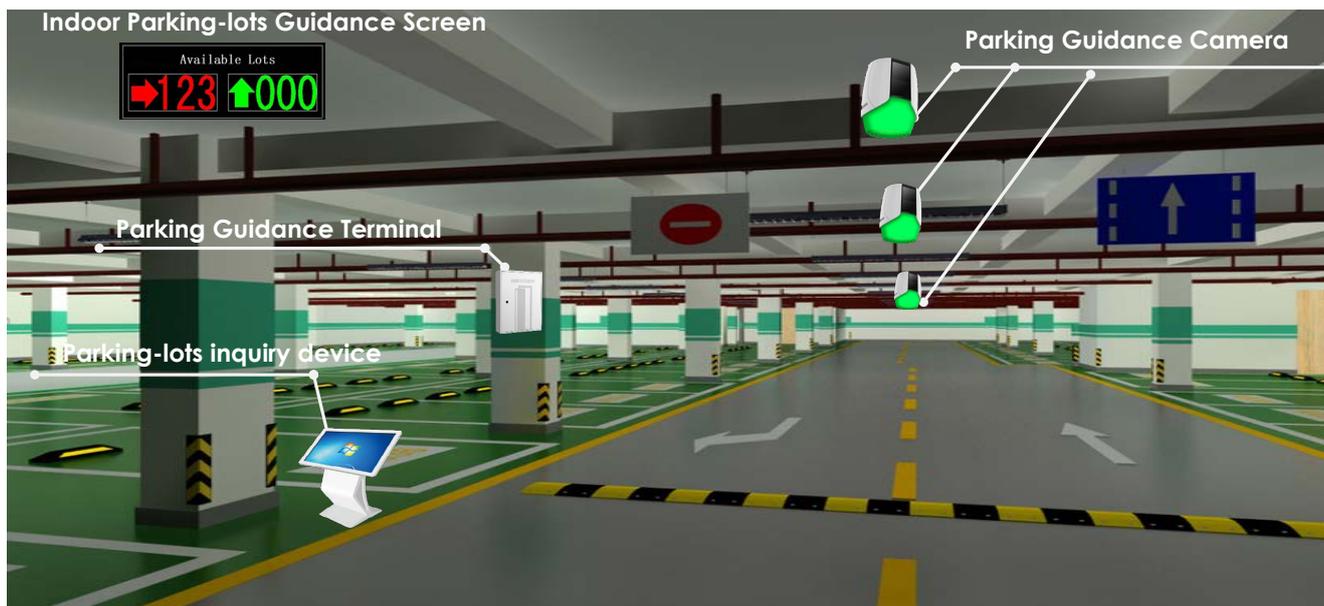
Parking Management

- Improve parking lot management efficiency



Video Surveillance

- Provides images and video for auto-related security events
- Robust parking log includes vehicle data, alarm info, more





1 Showing the way

Parking guidance displays are installed in critical junctions within the car park, displaying the number and location of available parking spaces, reducing the time taken for drivers to find an available space.

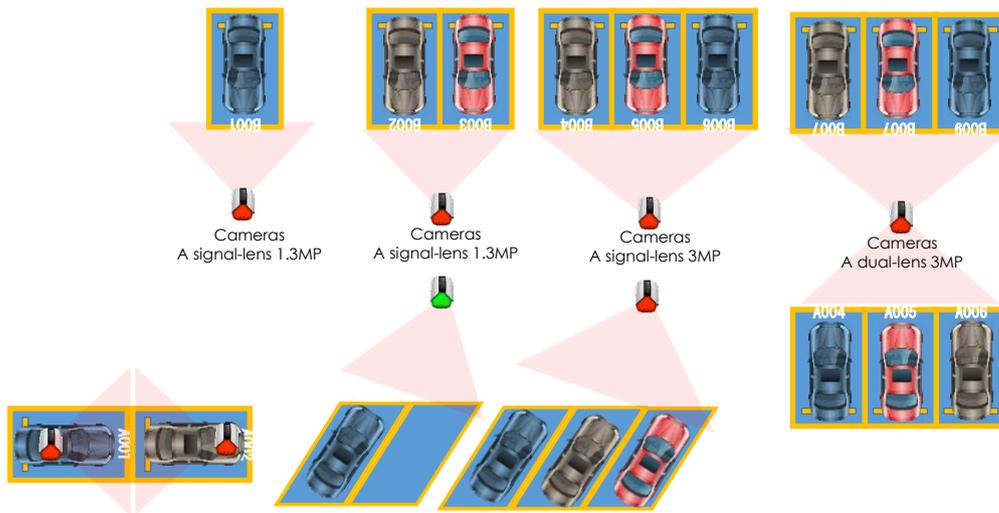


2 Every bay is under control

High-definition and real-time video is provided by the parking guidance cameras for surveillance and incident evidence preservation. What's more, parking bay status detection and number plate recognition are also processed at the front-end, based on surveillance video.

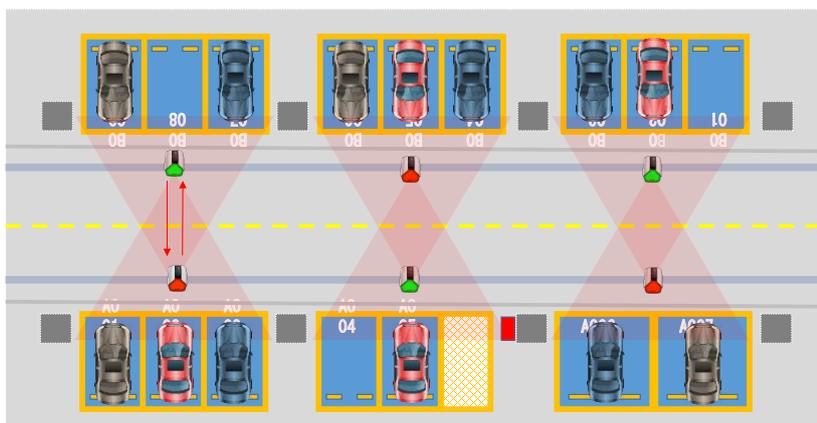
3 There is always a suitable camera

1.3 MP Parking Cameras detect and monitor one or two spaces while the 3 MP camera covers three. A dual-lens 3 MP camera detects and monitors six bays with a single camera.



4 Professional Guidance Light Control Design

If the installation position of the parking camera is not in the area where the parking place is located, a cross-control indicator light can support.



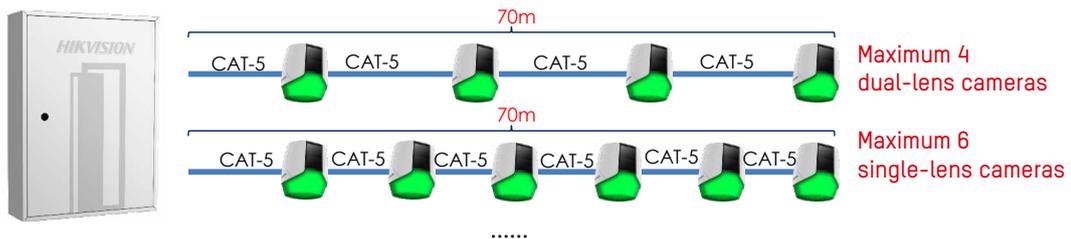
Let the colour do the talking

The indicator light inside the parking guidance camera has seven configurable colours, allowing for dynamic indication of the purpose of the parking bay – disabled users, VIP, or other reservations – and instant indication of parking bay availability. Unique parking status, such as reserved, unlicensed use or parking over the line can also be indicated.



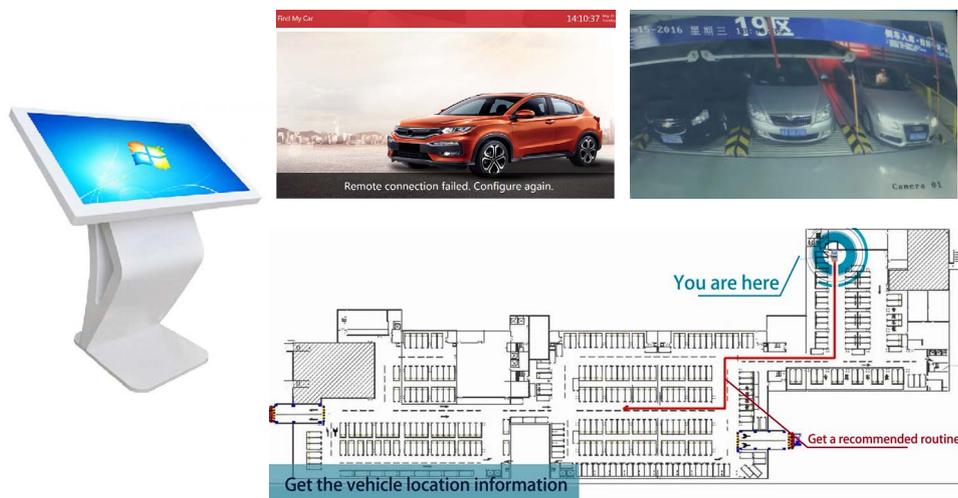
Smart networking

The Parking Guidance Terminal provides not only power and network access for up to 32 nearby cameras, but also provides edge storage for video and images. What's more, the terminal backs up critical data locally and runs parking guidance offline to ensure optimal system reliability. At the same time, the model can reduce the quantity of switches and reduce the cost of cabling (63%).

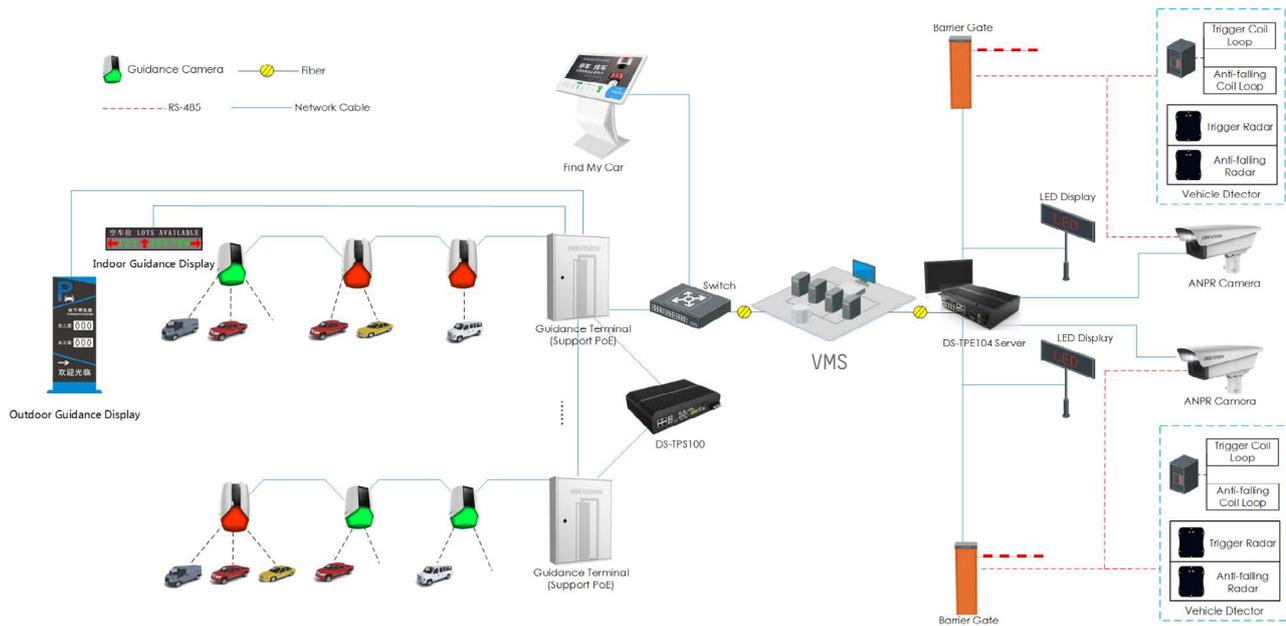


Show me the way

Drivers can use the query kiosk touchscreen before leaving the car park. By simply entering their plate number in full or in part, vehicles can be easily located on the floor map as well as the shortest and best route. No more getting lost in a large parking garage!



PARKING GUIDANCE SOLUTION ARCHITECTURE



KEY TECHNOLOGY

Embedded ANPR

- Uniquely developed LPR algorithm for more than 70 countries
- High recognition accuracy $\geq 98.5\%$ capture accuracy $\geq 99.5\%$
- Recommended to set radar in low speed less than 45km/h for best performance
- Recognition in less than 150 milliseconds
- Algorithm is built into the camera, instead of at the server
- Offline mode ensures continuous operation under network failure



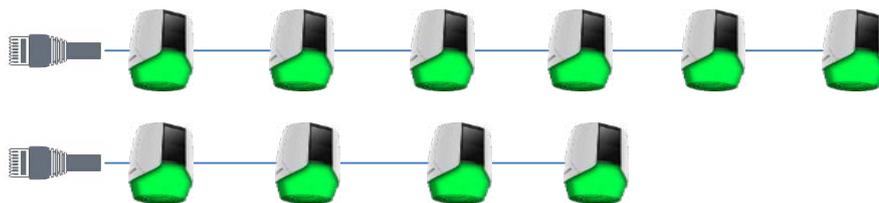
2 AI technology

- Optional AI server for supplementary analytics
- Parking status detection accuracy increases with vehicle characteristic recognition



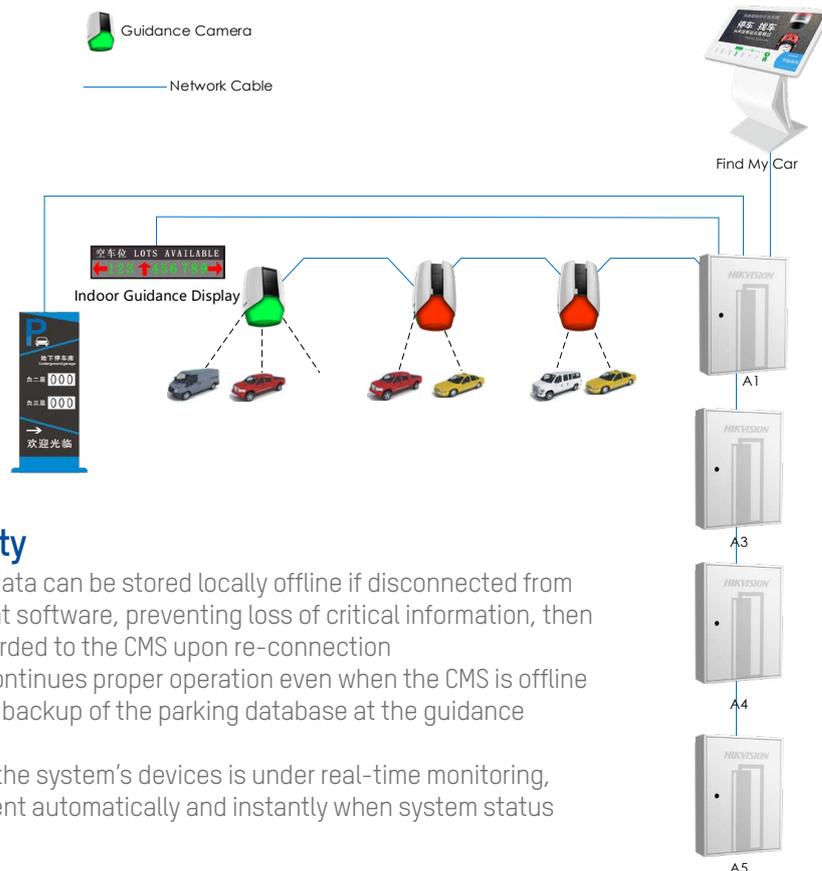
3 Simplified cabling

- Up to 6 cameras cascaded connection for both power and network
- Both power supply and data transmission transmitted over a single cable
- Guidance terminal cascades with built-in Gigabit Ethernet port
- Flexible guidance display and query kiosk connect to any terminal



4 Highly Integrated Guidance Terminal

- 8 built-in PoE ports, 8 non-PoE ports, and 4 Gigabit ports
- Power supply and network connection for camera loops
- Free from power boxes, equipment cabinets, access switches
- Up to 24 TB edge storage for video and images from 32 single-lens parking guidance cameras or 16 dual-lens parking guidance cameras



5 System reliability

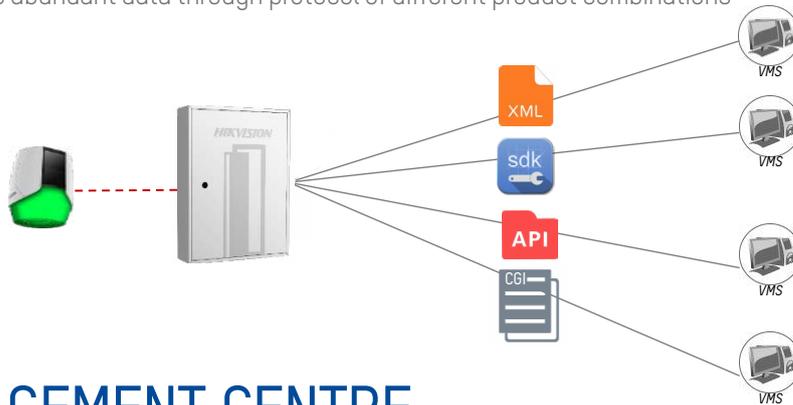
- Video, images and data can be stored locally offline if disconnected from central management software, preventing loss of critical information, then automatically forwarded to the CMS upon re-connection
- Parking Guidance continues proper operation even when the CMS is offline due to a distributed backup of the parking database at the guidance terminal
- Health status of all the system's devices is under real-time monitoring, and alerts can be sent automatically and instantly when system status abnormal

6 Indoor navigation based on iBeacon

- Optional iBeacon module in parking guidance cameras
- Apple Inc. technology standard for location awareness and interactivity
- API for mobile app (iOS and Android) creates Find My Car and indoor real-time navigation

7 Open Protocol for integrated

- Provide abundant data through protocol of different product combinations

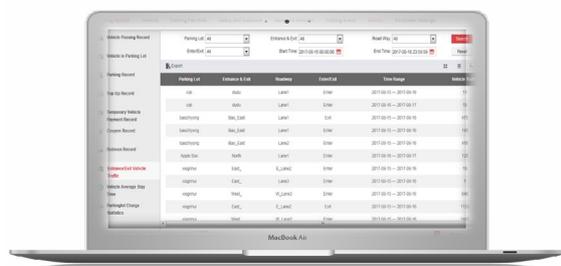


MANAGEMENT CENTRE



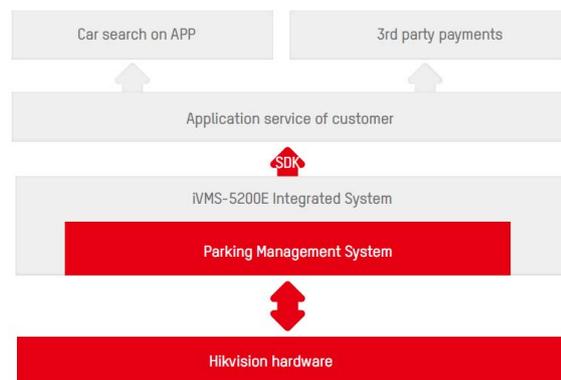
1 Central management

- Central management for monitoring and configuring all the system's devices
- Support for remote operations including intercom, barrier control, manual correction of license plates, and more



2 Accurate vehicle parking management

- Various alarms are supported for unauthorised parking, over-time parking, illegal access and abnormal status



3 Parking statistics

Statistics report for parking status history, parking bay usage rate, parking vehicle flow and more

4 System integration

Highly modularised platform software with options for video surveillance, parking, access control, alarm, under vehicle screening, visitor management, more

PRODUCT SHOWCASE



DS-TCG225/DS-TCG227
ANPR Unit

- 2 MP, CMOS, 1920 x 1080, built-in LPR algorithm
- Integrated camera, housing, lens, power adaptor, supplement Lights
- Motorized lens
- Software one-key focus, easy debugging
- Built in whitelist, LPR identification support, barrier / gate control , audio output



DS-TVL224-4-5Y
E&E Outdoor LED Display

- Four lines of text, LED outdoor Display
- Integrates with speaker
- LED Brightness: 1,200 cd
- Colours: Red, yellow, green
- Pixel Resolution: 64 x 64
- Dot Pitch: P4.75
- Dimensions: 364 x 484 x 60mm



DS-TPE104(2T)
Control Terminal

- 4 Channels of lanes access
- 4 x 10/100 Mbps Ethernet ports, 2 x 1000 Mbps Ethernet ports, dual NICs
- 2 x RS485 ports, 3 x RS232 ports
- 4 x Relay ports support barrier / gate control
- 1 x Audio Output
- 2TB HDD included



DS-TME401/402-TL-S
Entrance / Exit Controller

- Entrance, HDD not included
- Supports chat, no card output, support LED audio remind,
- Supports to charge and allow car when system offline.



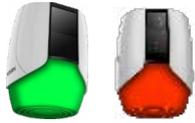
DS-TMG033
Capture-trigger

- 2.4GHZ MMIC
- The maximum Trigger distance : 6m
- Beam width : Vertical 34°, Horizontal 12°
- Adjustable Detection Range
- Distinguish the Vehicle from pedestrian and only capture Vehicle



DS-TMG033
Anti-fall

- 2.4GHZ MMIC
- The maximum Trigger distance : 6m
- Beam width : Vertical 12°, Horizontal 34°
- Adjustable Detection Range
- To avoid the accident of fall Vehicle and Pedestrian



DS-TCP145
DS-TCP345
Guidance Camera

- HD 1.3 MP and 3 MP camera, Single / Dual lens options
- Integrated with indicator light, up to 7 colours can be configured
- Covers 1 - 6 parking bays
- Built-in iBeacon module (optional)
- Three external lights can be extended
- Hikvision POE cabling



DS-TPM400-P (3T/6T/12T/18T)
Guidance Terminal

- Accesses up to 32 guidance cameras
- Integrates power supply, cabinet, indoor screen, kiosk and switch
- Wall-mounted design provides flexible camera access
- Video and image storage for up to 32 guidance cameras, 6 HDD bays



DS-TPS100
AI Terminal

- Accesses up to 500 parking bays
- Linux operating system
- Based on AI algorithm, two-step recognition of license plates and parking bays
- 1 TB HDD
- Recognition of Brand and Colour



DS-TPT327-3
Searching Car

- 27-inch LCD, Capacitive touch screen
- "Find my car" function
- Displays parking space info, quickest route to vehicle, and a parking space images
- Advertisement display when on Standby



DS-TVL121-3-6D
DS-TVL121-6-6D
DS-TVL121-9-6D
Indoor Guidance Display

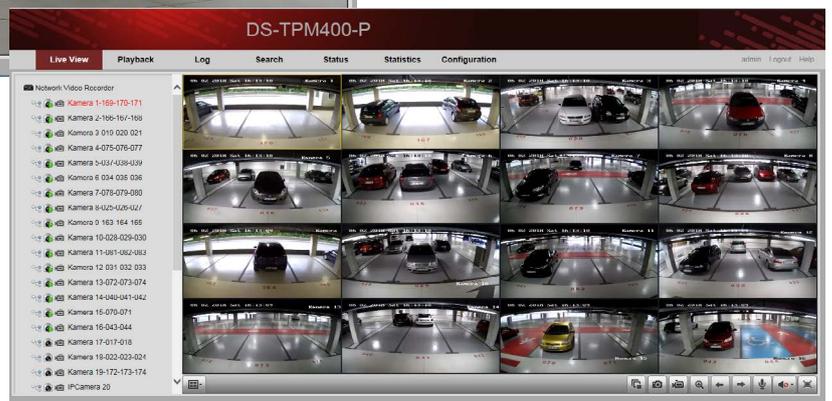
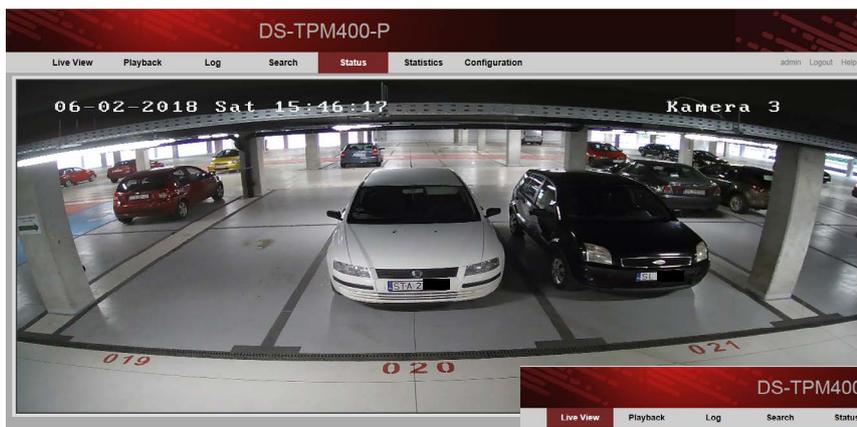
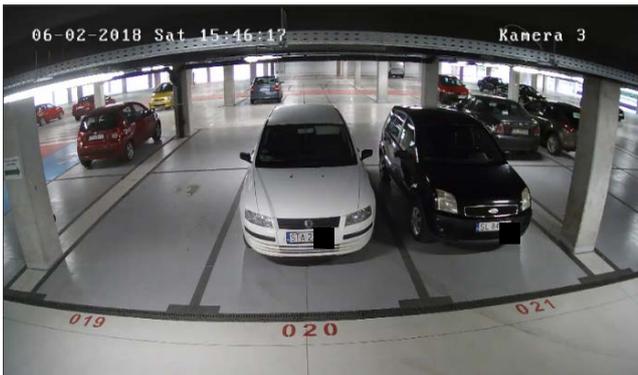
- Indoor one, two, or three-direction indicator
- Single-colour display
- Supports RS-485 and Network Transmission

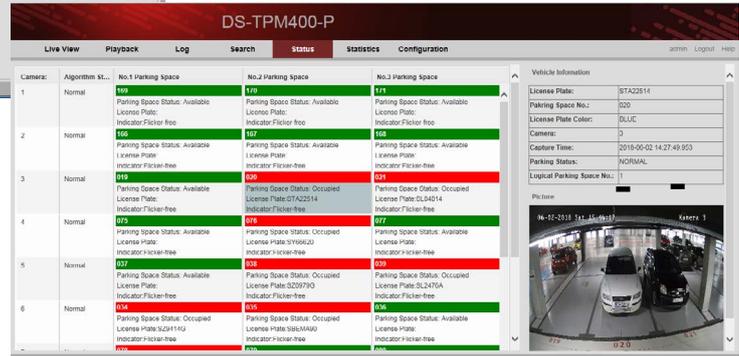
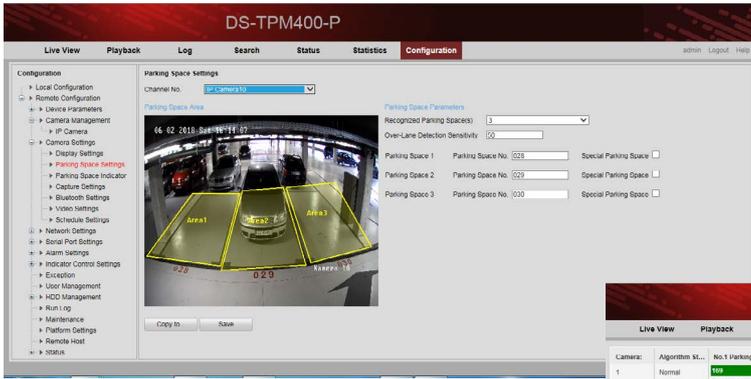
SUCCESS STORIES

The Parking Lot Guidance Solution, Zabrze, Poland



There are 450 parking spaces in the commercial parking lot. HIKVISION's indoor parking guidance system provide accurate real-time information on the location and availability of parking and can have a very positive effect on congestion, pollution and overall quality of life.





Beijing International Airport

The Beijing Airport ranked tenth in the 2015 list of the world's top 100 airports. A super-large, world-class facility, China's capitol airport is Asia's number one in passenger throughput, and number two in the world. The parking solution, built by Hikvision, provides convenient parking guides, helpful car locator, and video surveillance. Management easily resolves parking disputes based on recorded footage – whether the dispute is over a collision, impact or scratching. The overall efficiency of the 4,300-parking space structures was enhanced many times over.



Cade Dream in Shanghai



Cade Group – one of Asia's largest multinational real estate companies – has long dreamed about developing Minhang Square, which consists of a four-store shopping mall and a 32-storey hotel. The complex has three ground floors.

Hikvision provided a total parking solution that includes the E&E System and VPGS, hosting 1,600 parking spaces.



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SMART PARKING AREAS SOLUTION



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