



HIKVISION

Hikvision ANPR SYSTEMS 2018



Content

- Market for LPR
- Product Recommendations
- Advanced System
- Design/Install Requirement
- System Configuration

The Market for Monitoring Vehicles

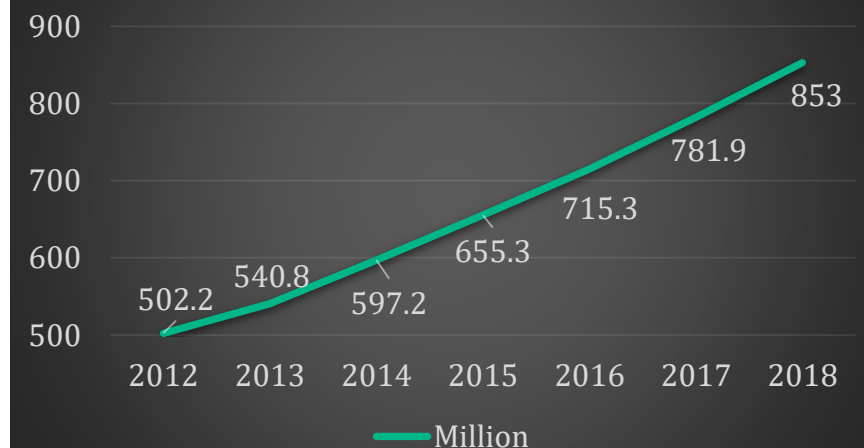
Car Ownership

Car ownership reached 1.2 billion all over the world in 2016 and is forecast to grow at a compound annual growth rate (CAGR) of 2.0% to 1.8 billion in 2035.

LPR Market

The world market for LPR was estimated to be worth £400 million in 2016, and is forecast to grow at a compound annual growth rate (CAGR) of 9.5% to £589 million in 2018.

World Market for ANPR



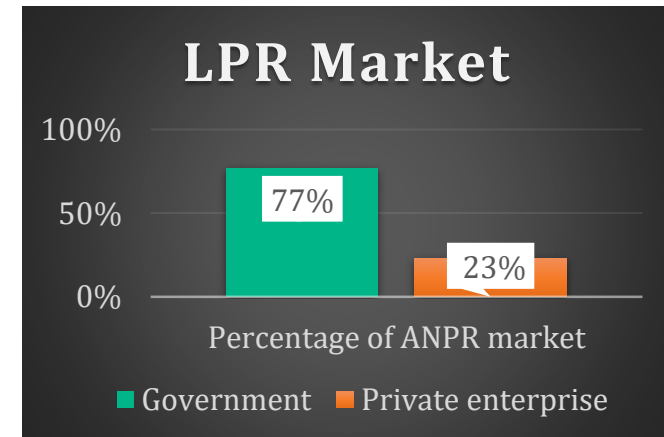
Who is Doing It ?

LPR Market

The LPR market is mainly divided into the government and the private enterprise market, the government market accounted for 77% in 2015.

Governments Policy and Law

- The Dubai government requires all parking lots to install license plate recognition systems.
- The Indonesian government requires that all the private parking lot's install license plate recognition systems.
- The Indian government is promoting smart city construction, this market has strong demand for intelligent parking system, license plate recognition system.
- The demand is clear and sustained growth in LPR market of the UK.
- The UK government has been continuously investing in LPR technology for many reasons.
- Traffic Monitoring we all take for granted as part of our Sat Nav systems uses LPR technology to monitor and predict traffic delays, LPR cameras are on most bridges and almost every Motorway Entrance and Exit slip roads.



Hikvision Market Share

- **Market leader** in video surveillance globally for the last 5 years
- LPR being made available at the beginning of year 2015
- Hikvision has had great growth to help make Hikvision LPR solutions an easy choice
 - **Quality** of Video & Pictures
 - **Simple** Set Up
 - **Cost Effective** Solution
 - High **Performance**
- Hikvision LPR camera has supported recognition of more than 50 countries' license plates in 2017.
- A standard mid range camera and recorder can deliver LPR in the same video surveillance solution – **LICENCE FREE**

 Slovakia	SVK	 Portugal	PRT
 Italy	ITA	 Macedonia	MKD
 Spain	ESP	 Croatia	HRV
 France	FRA	 Finland	FIN
 Germany	DEU	 United Kingdom	GBR
 Poland	POL	 Romania	ROU
 Czech Republic	CZE	 Serbia	SRB
 Netherlands	NLD	 Bulgaria	BGR
 Belgium	BEL	 Norway	NOR
 Denmark	DNK	 Israel	ISR
 Luxembourg	LUX	 Hungary	HUN
 Greece	GRC	 Austria	AUT
 Albania	ALB	 Vatican city state	VAT
 Bosnia and herzegowina	BIH	 Cyprus	CYP
 Ireland	IRL	 Iceland	ISL
 Malta	MLT	 Slovenia	SVN
 Sweden	SWE	 Turkey	TUR
 Switzerland	CHE	 Armenia	ARM
 Azerbaijan	AZE	 Russian Federation	RUS
 Kazakhstan	KAZ	 Ukraine	UKR
 Lithuania	LTU	 Moldova	MDA
 Georgia	GEO	 Belarus	BLR
 Estonia	EST	 Turkmenistan	TKM
 Latvia	LVA	 Uzbekistan	UZB



LPR System Applications

- **Automation of Vehicle Site Entry**
- **Basic Vehicle Events – e.g. Petrol Forecourts**
- **Searchable database of vehicle events**
- **Car Park Time Management – e.g. overstays**
- **Marketing Tool**
- **Traffic Control**

LPR(License Plate Recognition)

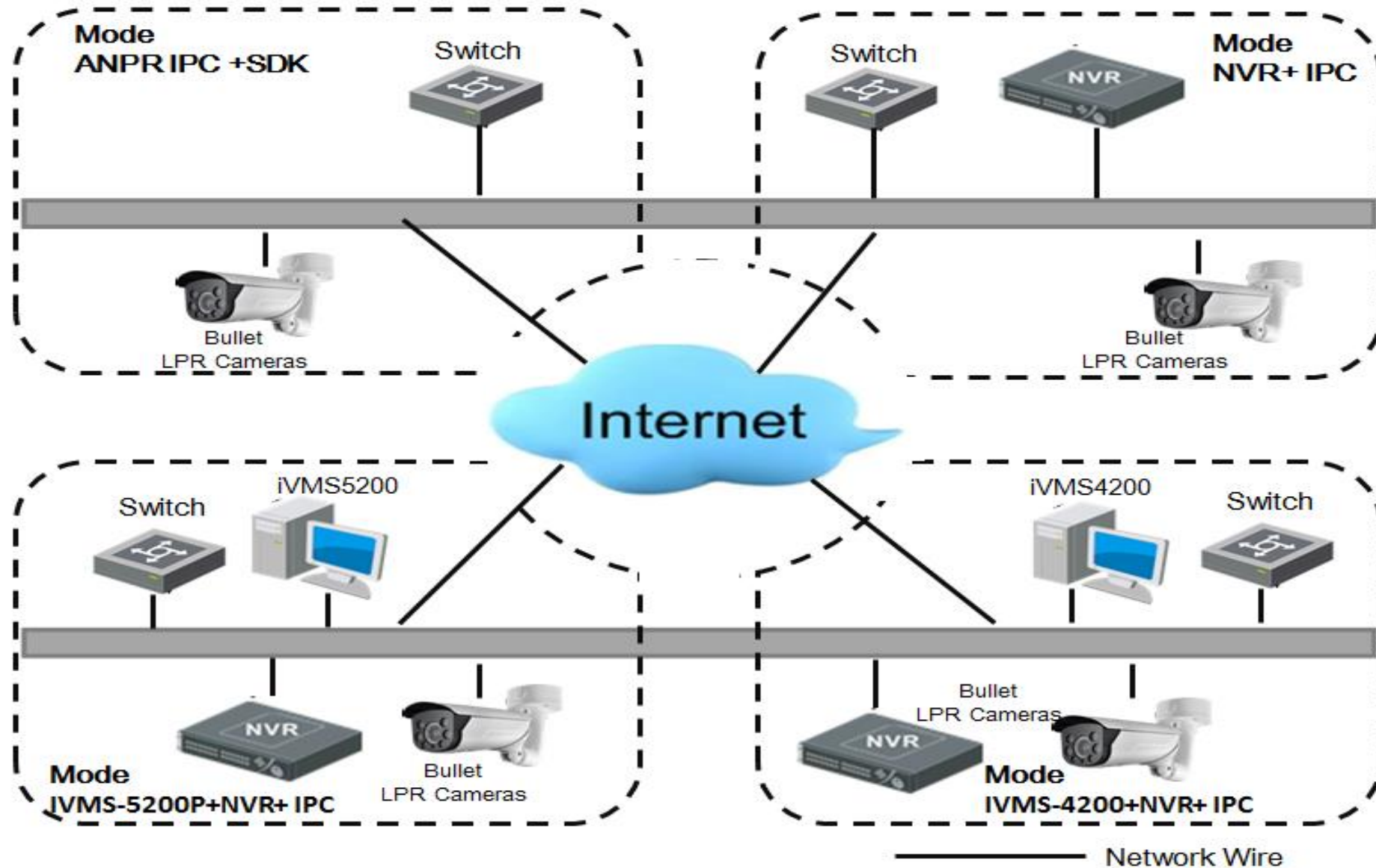
- LPR analytics allows to detect and recognize vehicle's license plate, Hikvision LPR algorithm is built-in camera, and the plate information will be uploaded to NVR/VMS once it has been captured and read.
- You can search and view the matched captured vehicle plate picture and related information according to the plate searching conditions including the start time/end time and plate No..



ANPR Camera

Database

System Deployment



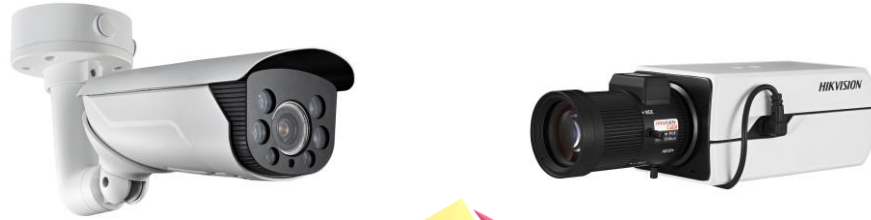


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Available models

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46 series

Wide angle models

DS-2CD4626FWD-IZ/P(2.8-12mm)
DS-2CD4626FWD-IZHS/P(2.8-12mm)

4A series

Long focus models

DS-2CD4A26FWD-IZ/P(8-32mm)
DS-2CD4A26FWD-IZS/P(8-32mm)
DS-2CD4A26FWD-IZHS/P(8-32mm)
DS-2CD4A26FWD-LZS/P(8-32mm)

Wide angle models

DS-2CD4A26FWD-IZ/P(2.8-12mm)
DS-2CD4A26FWD-IZS/P(2.8-12mm)
DS-2CD4A26FWD-IZHS/P(2.8-12mm)
DS-2CD4A26FWD-LZS/P(2.8-12mm)



40 series box model

DS-2CD4026FWD-A/P

40 series with housing

Long focus models

DS-2CD4026FWD/P-IRA(11-40mm)
DS-2CD4026FWD/P-INRA(11-40mm)

DS-2CD4026FWD/P-L(7-33mm)
DS-2CD4026FWD/P-L(11-40mm)

DS-2CD4026FWD/P-HIRA(11-40mm)

Wide angle models

DS-2CD4026FWD/P-IR5(3.8-16mm)
DS-2CD4026FWD/P-L(3.8-16mm)

Key Features

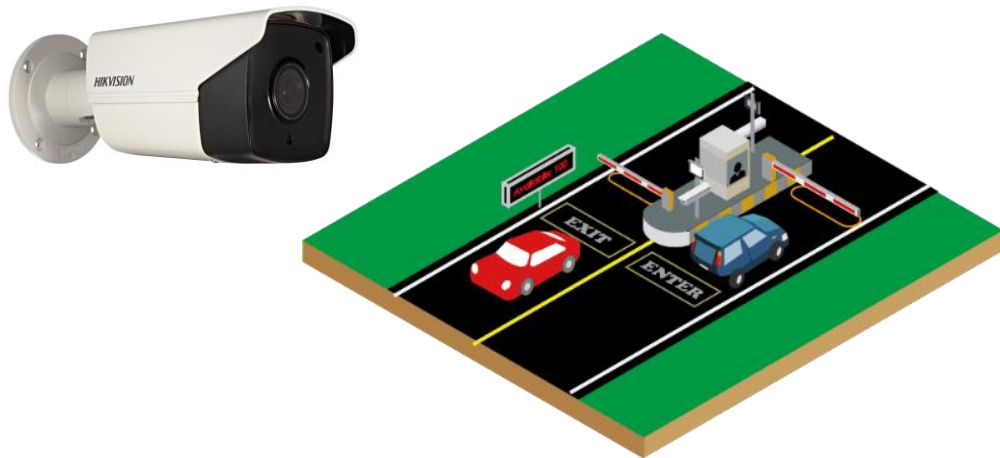
Wiegand output Models

DS-2CD4A26FWD-IZS/P-WG(2.8-12mm)

DS-2CD4A26FWD-IZS/P-WG(8-32mm)



- 1/1.8" Progressive Scan CMOS
- **Min illumination colour 0.002lux**
- Max resolution 1920 × 1080
- **120dB true WDR**
- **White light supplement (Optional on different model)**
- IP67 standard
- Up to 50m light supplement distance
- Support SDK, ISAPI, ONVIF, RS485 protocol
- **Support vehicle speed under 120 km/h**
- Capture Rate > 99%, Recognition Rate > 98% (European and Russian-Speaking Regions)



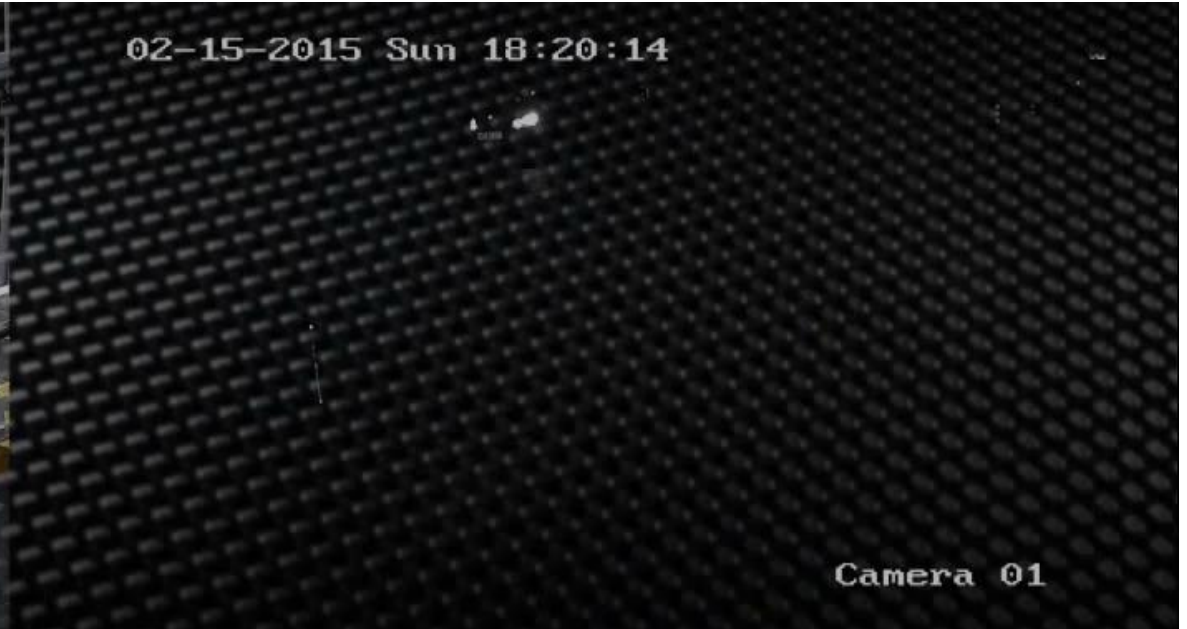
Integrated with Paxton Net2 System

Day/Night Capture Performance

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Daytime



Nighttime

Recommended Recorders

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I-SERIES NVR



9600NI-I8/I16

- RAID
- Channels IP: 32/64-ch
- Incoming Bandwidth.: 320/320Mbps
- Outgoing Bandwidth.: 256/256Mbps
- Decoding: 4-ch @4K



7700NI-I4(/xP)

- /P: PoE
- Channels IP: 16/32-ch
- Incoming Bandwidth.: 160/256Mbps
- Outgoing Bandwidth.: 256/256Mbps
- Decoding: 4-ch @4K

TURBO 3.0 DVR



7300HQHI-F4/N 7300HUHI-F4/N



8100HQHI--F8/N 8100HUHI--F8/N



9000HUHI--F8/N 9000HUHI—F16/N

TURBO 4.0 DVR



7300HQHI-K4 7300HUHI-K4



8100HQHI-K8 8100HUHI-K8

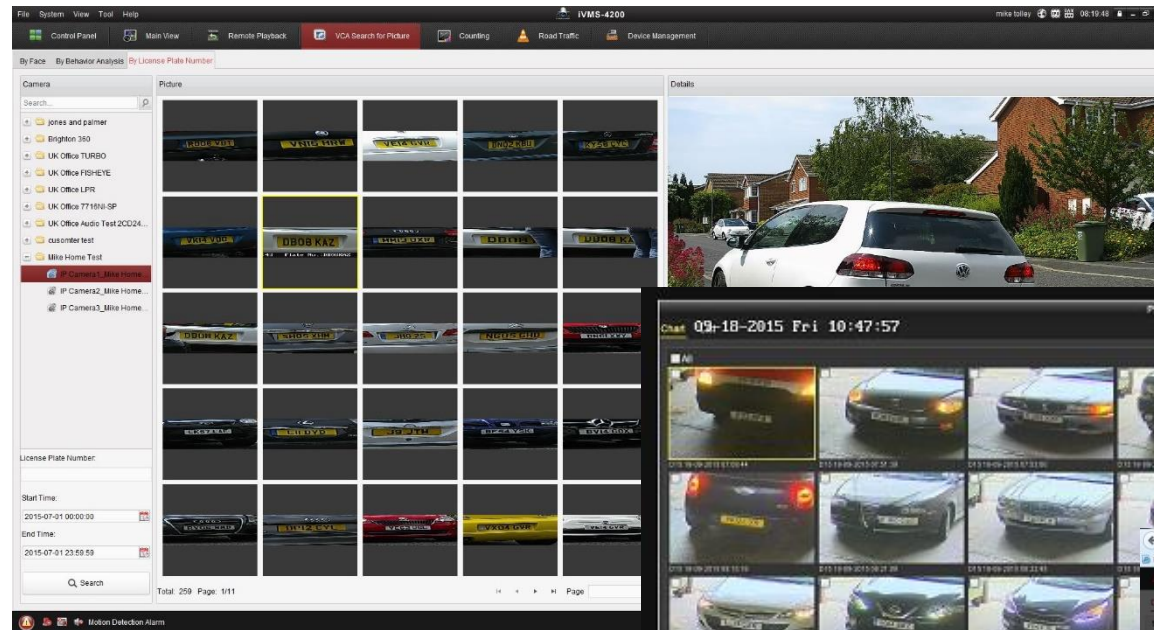


9000HUHI-K8

Simple Solutions

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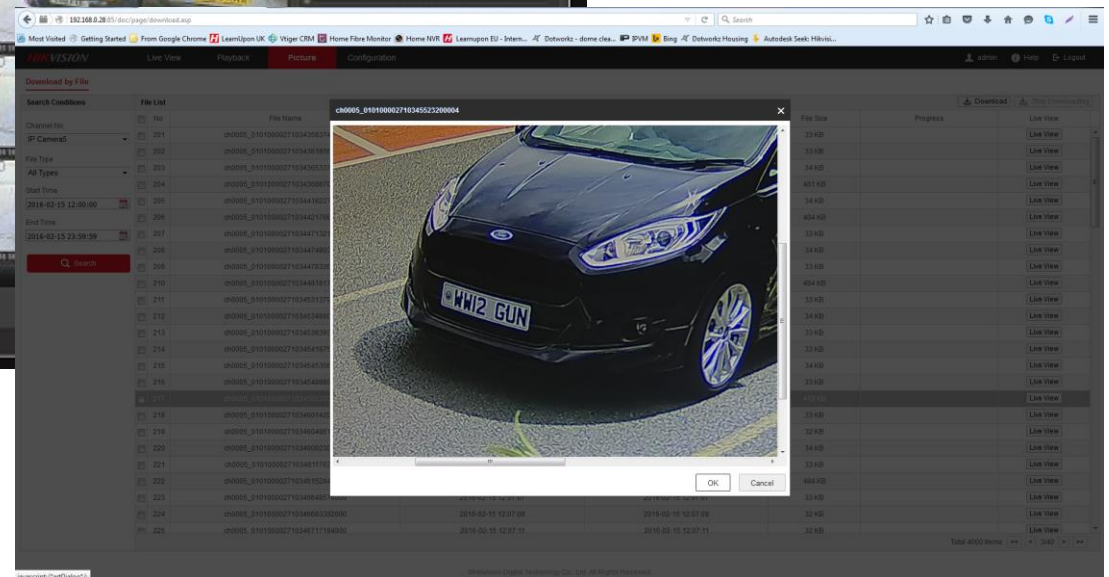
iVMS-4200



NVR GUI



NVR WEB PAGE





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Intuitive Control Client

- ✓ Show the picture or video of Entrance / Exit.
- ✓ Support barrier manual control
- ✓ Display the number of available parking spaces.
- ✓ Handle the parking events and search the logs.
- ✓ Only show Entrance or Exit, or show both of Entrance and Exit.

Parking Lot Entrance A Barrier Control Free Spaces 365/1000

Vehicle Tracking

Alarm

Vehicle Query

Alarm Query

Log Query

Settings

Entry Picture Video 2015/01/12 12:20:56

Exit Picture Video 2015/01/12 12:20:56

Entry Picture Search

TR-MS 917

TR-MS 917

TR-MS 917

Enter Time	2015/01/12 12:20:56
Exit Time	2015/01/12 12:20:56
Parking Duration	3h
Parking Type	Temporary Vehicle
Parking Fee Rule	Rule 1

Parking Fee (\$): 30.00 Reset

Allow(F11) Charge and Allow(F12)

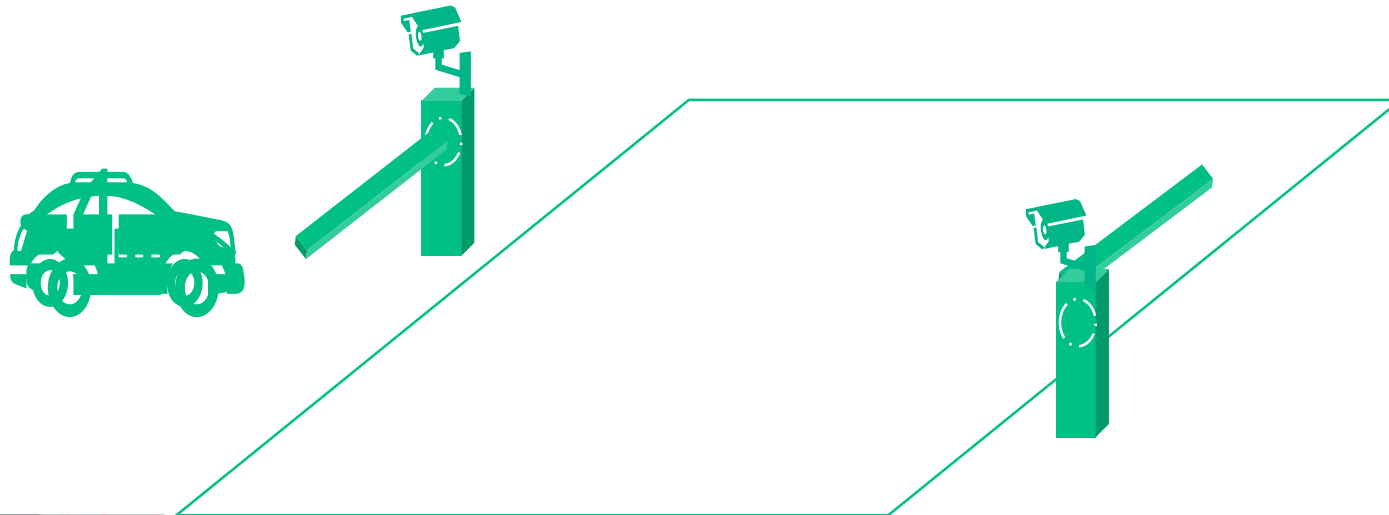
Enter Exit Enter Exit Exit Enter Exit

TR MS917 2015/01/12 12:20:56 TR MS917 2015/01/12 12:20:56 TR MS917 2015/01/12 12:20:56 TR MS917 2015/01/12 12:20:56 TR MS917 2015/01/12 12:20:56 TR MS917 2015/01/12 12:20:56 TR MS917 2015/01/12 12:20:56

iVMS-5200 Car Park Management Opportunities

Hikvision are working on Smart Parking systems to provide Car Parking Management, such as **Whitelist Alarm / Whitelist Expired Alarm / Blacklist Alarm / Parking After Closing Time Alarm / Parking Overstaying Alarm / Wrong Permit Period** and linkage modes, to help customers to manage single or multiple parking lots.

Wrong Permit Time Alarm





LPR Design/Install Requirement



Content

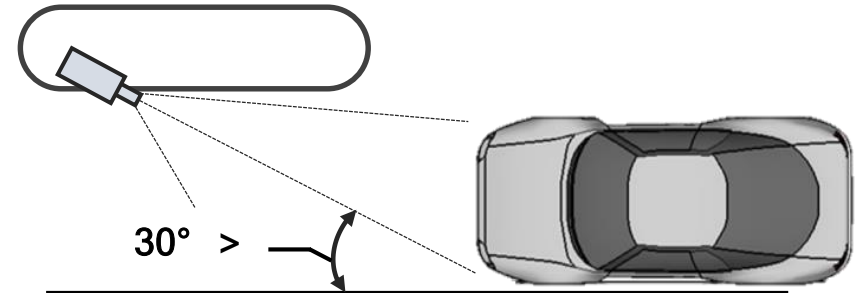
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Basic requirements of Entrance & Exit

Type I : Entrance & Exit

Horizontal angle demand

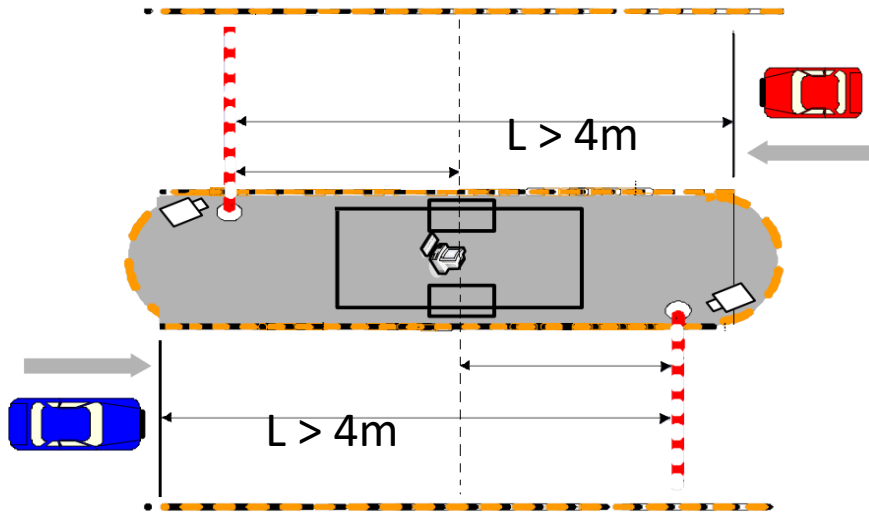
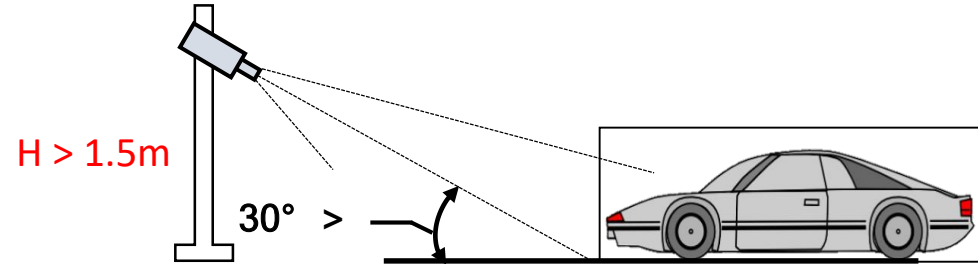
The angle between lens direction and the path of movement should be within 30 degrees.



Basic requirements of Entrance & Exit

Vertical angle

The angle between lens direction and horizontal should be less than 30 degrees.



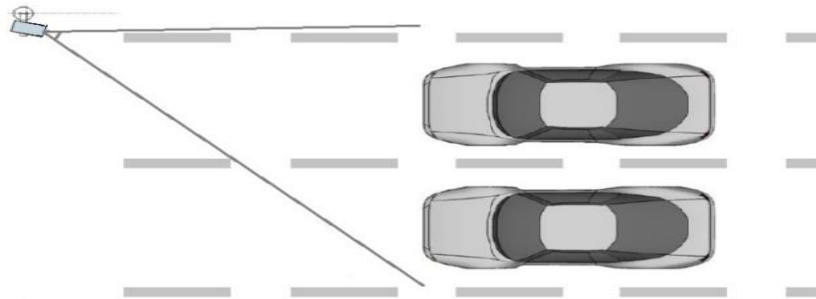
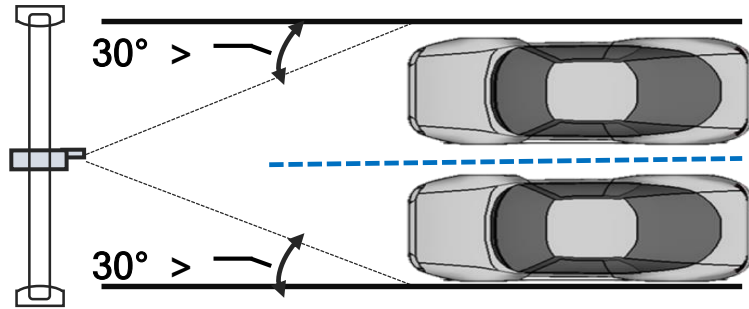
Note: Vehicles in the detection area should go as straight as possible instead of turning left or right.



Mount height too low

Basic requirements of Roads

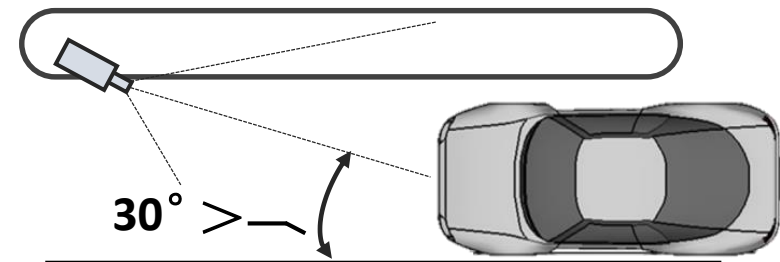
Type II : Road monitoring



Horizontal angle demand

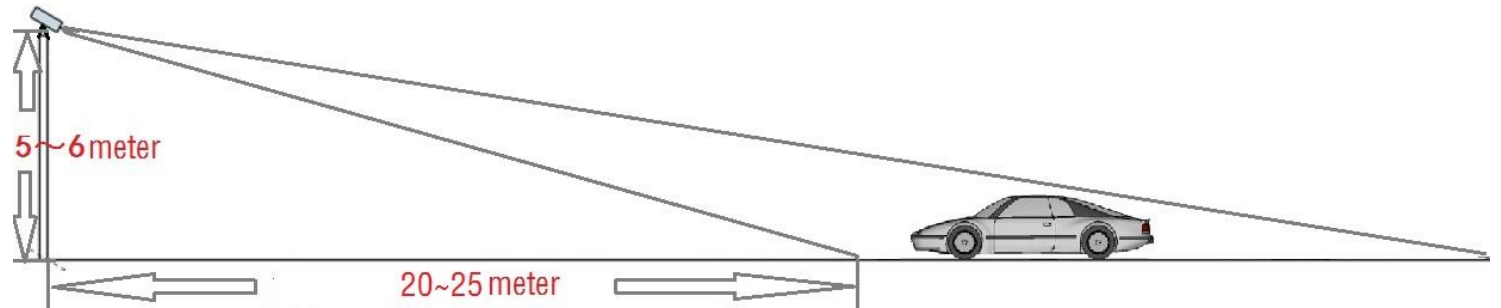
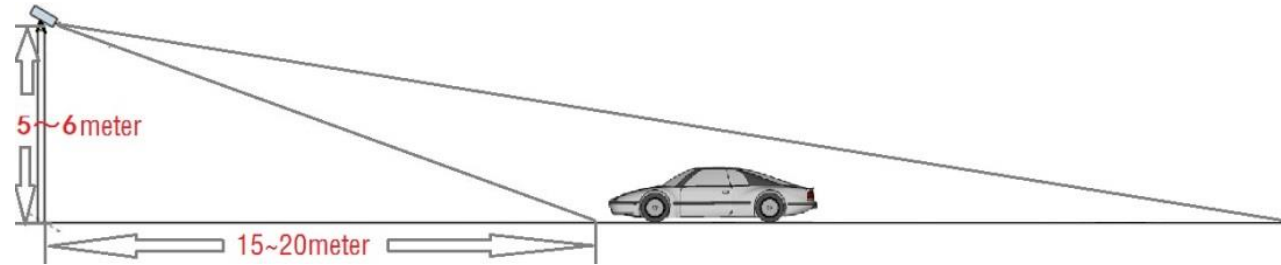
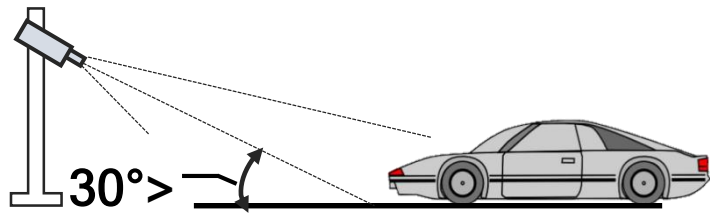
The view angle of the camera should be within 30 degrees to the path of movement.

- Car speed < 60km/h: Each camera cover two lanes.
- Car speed > 60km/h: Each camera one lane.



Note: Only one vehicle plate can be picked up at the same time.

Basic requirements of Roads



Vertical angle demand

The angle between lens direction and horizontal should be less than 30 degrees.

Different installation angle needs different lens (8-32/11-40/7-33 mm)

LPR Design / Set-Up Support

When ensuring the camera is set up correctly and the best field of view is set with the lens – use a simple graphics program such as Microsoft Paint to check the Pixel size of the number plate in a still image of the scene from the camera mounting position – ideally the plate size is between 150-250 pixels, these settings are also configured in the IP Camera set-up. This also prevents capturing signwriting on vehicles.

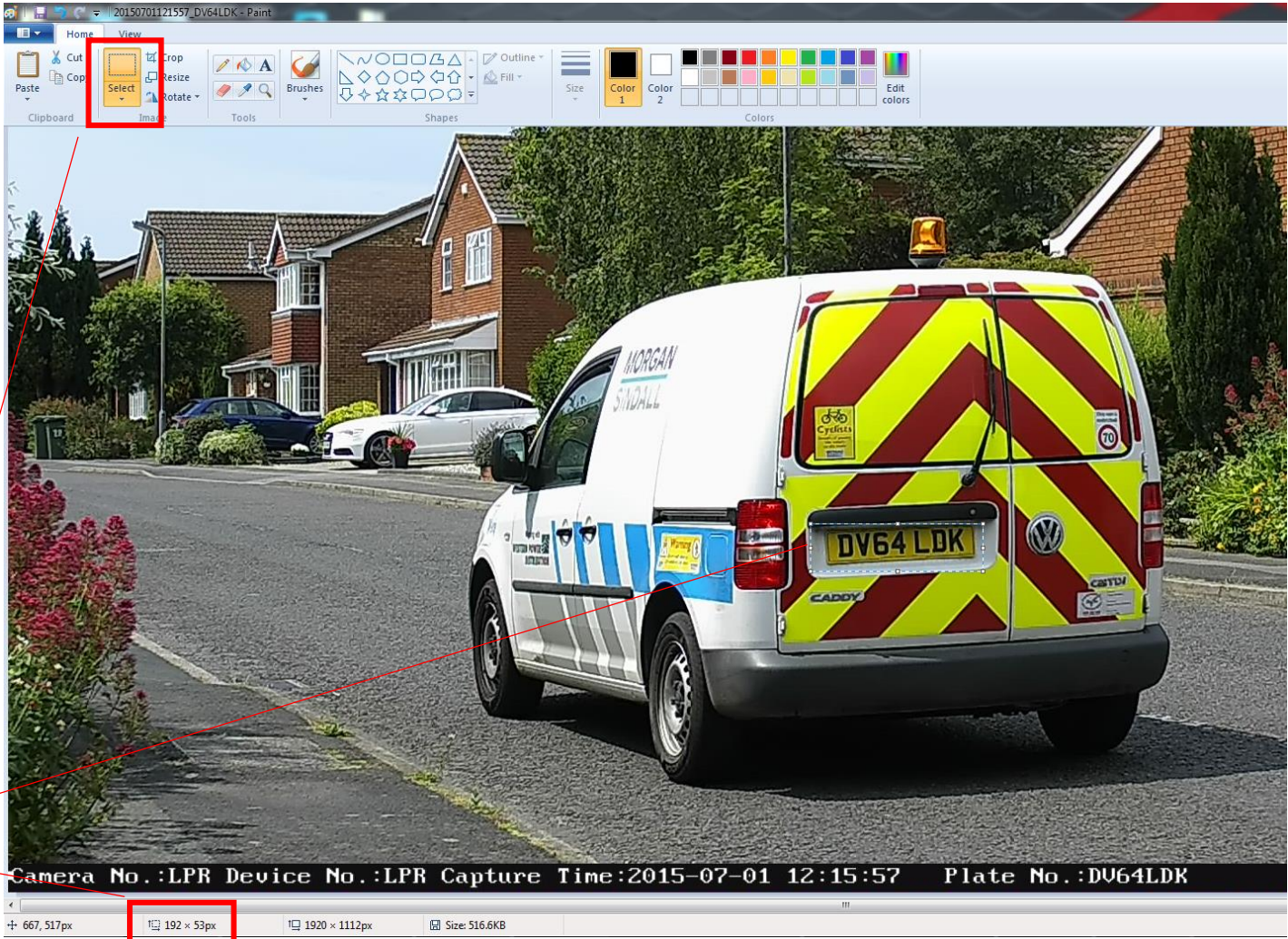
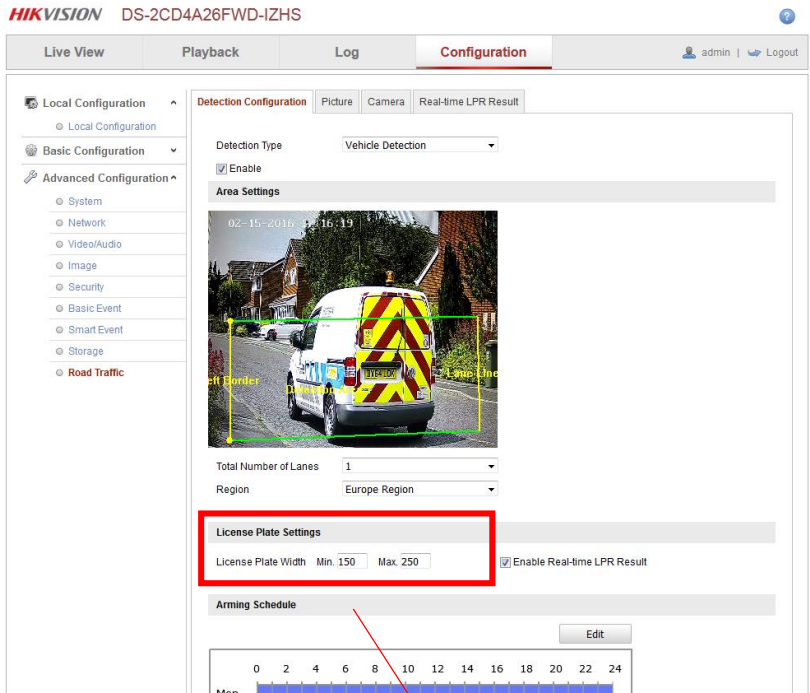


Plate sizes: 150-250pix

LPR Design / Set-Up Support

When ensuring the camera is set up correctly and the best field of view is set with the lens – make sure the tilt angle of the plate to the horizontal plane is not more than 5 degrees, otherwise you will get a poor or incorrect read's.

This road is uphill and with a adverse camber, which causes an offset of the plate to the horizontal plane – this plate still read perfectly well, but with anything more than this there could be problems so check your scene before hand.



Angle: +/-5°



The relationship between lens and recognition distance of **4X26 series bullet cameras** are listed below, just for your reference.

Focal length (mm)	Recognition distance (m)
2.8	2.5
12	10.8
8	7.2
32	28.9



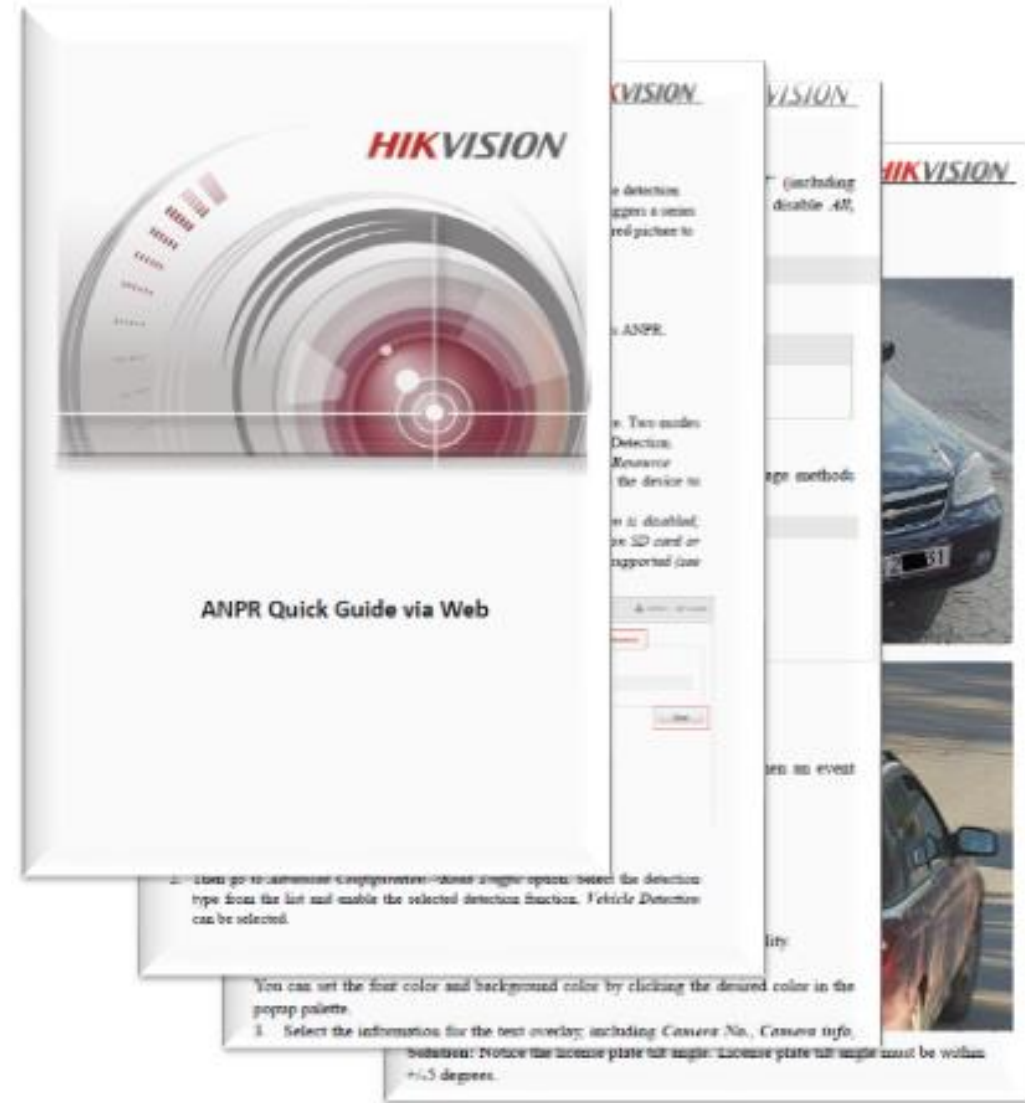
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LPR Design / Set-Up Support

Hikvision produces a Quick User Guide to support the design, set-up and running of an LPR system.

VASP Partners can gain additional advice from your local Pre-Sales Technical representatives and from your **Authorised Hikvision Distribution Partner**.





THANK YOU

Any Questions ?