

# TT SMART VISION

## Motorcycle License Plate Recognition



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Automatic motorcycle license plate recognition and reading system is the introduction of images, images, license plate images of motorbikes. Obtained from the LPR Camera (camera for license plate registration) to analyze and remove the data in the form of numbers and letters to facilitate the use of information that can be used in various areas That need to be easier, such as being used with traffic Security inspection work Or apply to parking management, condo buildings, other stores

**Smart-License Plate Recognition**

Live Update Setting

1กง-7939  
กรุงเทพมหานคร

ลำดับที่	ภาพทะเบียน	ทะเบียนรถ	จังหวัด	วัน-เวลา	ประเภทรถ	หมายเลข
4		1กง-7939	กรุงเทพมหานคร	2561-03-20 18:4...	จักรยานยนต์	cam01
3		กพพ-290	@	2561-03-20 18:4...	จักรยานยนต์	cam01

### System features (Software)

- Detecting only cars and license plates Do not catch people or animals
- 80% accuracy for numbers and letters on the label
- 70% accuracy for the province depends on the size and quality of the camera.

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- Can be used as a mobile license plate reading system
- Blacklist notification system
- Can work in Real Time Synchronize with external database
- There is a system to send image data via File transfer protocol.
- Support to capture license plates in Thai, Lao, English
- Supports all types of license plates certified by the Department of Land Transport.

\*\* The Department of Transportation requires the motorcycle license plate to have a width of 17.20 cm, length 22 cm.



There are 2 types of cameras for use in license plate capture.

- Analog Camera is a camera with an image resolution that is not very high. Installation is quite complicated. Due to the need to use the Capture Card device together to install the system
- Network Camera is a high resolution camera Helping the license plate information to be more accurate (\*\* Suggest the height of the license plate image with a resolution of 150 pixels or more). The thing to consider is that the lens must use the P-iris. That gives sharp images for both images And a set of infrared panel systems that help capture the sign at night with clarity The camera must support Auto Back Focus System to allow night images. Low light with the highest clarity Because the camera will



adjust the new focus point is different between day and night Even if there is a low-pass filter technology that helps filter the light Over-exposure for sharp images will result in more accurate registration of the license plate.

### Features of the camera used to detect (LPR Camera)

- High resolution (Network Camera)
- Is a camera that can change the distance of the lens To get the desired image distance The size of the lens is about 12-40mm or 8-50mm
- Low pass filter technology for cutting bright light for clear images
- There are infra-red sets. For shining images at night
- The camera supports standard IP66 applications in case of external installation.

### There are 2 types of car license plate capture types:

- Parking lot registration system Entrance - out of the building The characteristics of the vehicle that is detected will run at a relatively low speed. The camera used should be a camera that can change the lens size about 4-18mm.
- License plate capture system on the High Way road. The characteristics of the vehicle that is detected will run at a relatively high speed. The camera used should be a camera designed specifically for the license plate. And can change the lens to approximately 12-40mm or 8-50mm

### Equipment that requires installation

- High-definition surveillance cameras (IP Network Camera) and Housing
- Infrared Infrared set (in the case of low light areas and want to see night images)

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- Computer Set Specification Processor Corei7 Gen6 Speed 2.6GHz, 8GB RAM, 1 TB HDD Windows 7 professional or better or Windows 10 professional or better
- Uninterruptible power supplies for system
- Network Switch Webserver device set (in case of need to manage the central system)
- ADSL Router device (in case of need to link and view data from the center)

### System structure



#### อุปกรณ์สำหรับติดตั้ง 1 จุด

1. IP Camera 3 ตัว (LPR = 1, OV = 2)
2. Computer ประมวลผล 1 ชุด
3. Network Switch 1 ตัว
4. ADSL Router 1 ตัว
5. UPS 1 ชุด

หมายเหตุ : ข้อมูล ณ จุดติดตั้งจะถูกส่งไปเก็บยัง Server ส่วนกลางผ่านอินเทอร์เน็ต

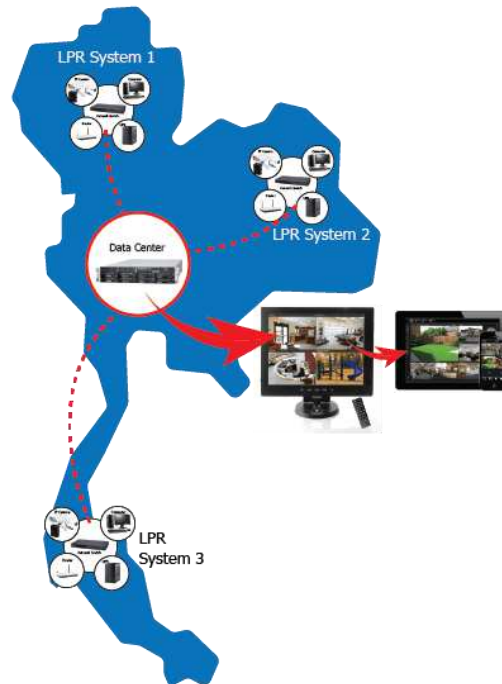
### Centralized Management License Plate Recognition Diagram

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*The central control system will have a central web server to store data obtained from the installation point of the camera in various sites. The data can be displayed through various devices such as computers, tablets and mobile phones.*

*\*\* If you want to make a Webserver for Access, request information at the central There will be a cost to install such software systems.*

### Limitations in the installation of automatic license plate recognition and reading systems

- Network Should choose a Network Camera type designed for use with LPR work, especially because it will help make the system work more accurate and accurate.
- Select the software system that has been tested, installed and used And have clear reference information
- Should check the equipment that is used to support the software system used or not. Prevent problems with compatibility of devices.

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- View and position in the camera installation Must be tested before actual installation. For the most accurate and accurate results
- The height of the license plate image that the camera can capture should be sharp from 150 pixels. It will help make the information more accurate and accurate.
- If you want to capture a red license plate And license plates that are graphic signs Set the camera to capture the image in Night Mode so that the image can be captured.
- Motorcycle plates that are damaged, unclear or modified Apart from the Department of Land Transport May result in reduced data accuracy



ตัวอย่างป้ายทะเบียนชำรุด

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Sample work of motorcycle license plate capture system

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13		1กท-4950	ชลบุรี	2561-03-20 18:4...	จักรยานยนต์	cam01
12		4กบ-9152	กรุงเทพมหานคร	2561-03-20 18:4...	จักรยานยนต์	cam01

(Live view)

localhost/lpr/bk/25610324/63657516564991\_1กท-172\_เชียงใหม่\_2561-03-24\_19-29-24\_cam01.jpg

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(Playback)

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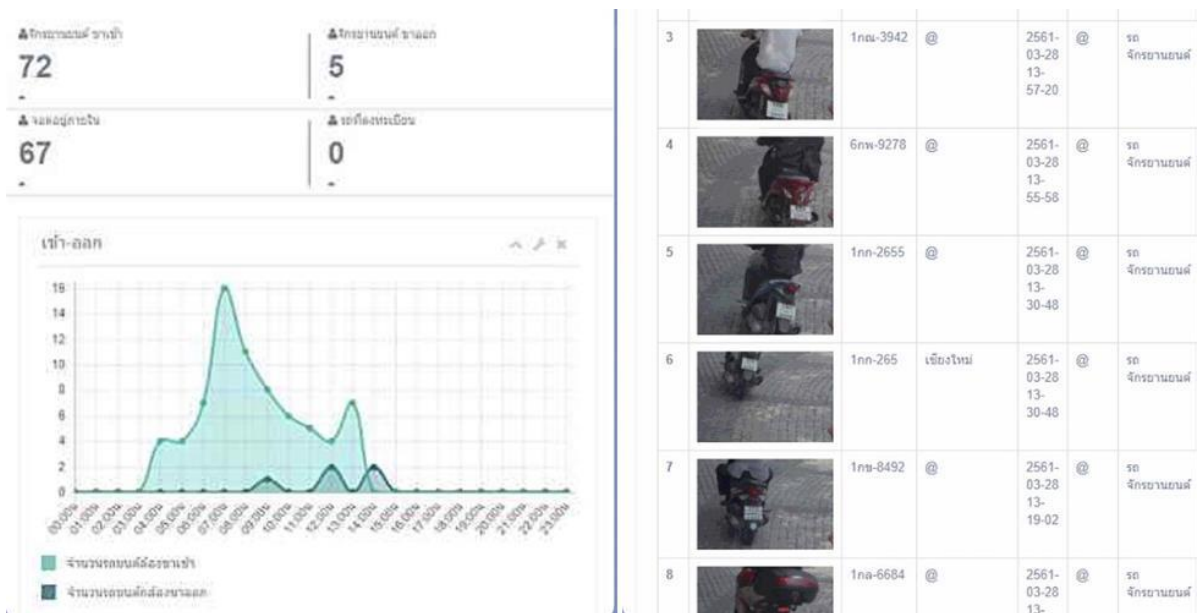
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(Playback)



Report



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### Highlights of automatic motorcycle license plate recognition and reading program

- The program can customize the program to suit the needs of customers..
  - Compatible with all brands of CCTV cameras via ONVIF or RTSP standards
  - able to notify various events to the Video Management Software program that the customer wants
- Currently supports VMS, NxWitness, VIVOTEK VAST, 3T SMART and others.

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