

vANPR



Vlatacom Automated Number Plate Recognition – vANPR

vANPR is an IP-based License Plate Recognition (LPR) system which delivers advanced digital video processing, superior plate reading performance, and industrial grade durability for applications including law enforcement, revenue control, surveillance, and parking. Available for both fixed and mobile installations, vANPR functions over an IP network and provides the advantages of having sophisticated analytics residing on the edge. This means all the processing and analytics are done inside the unit itself, making the solution compact and easy to install.

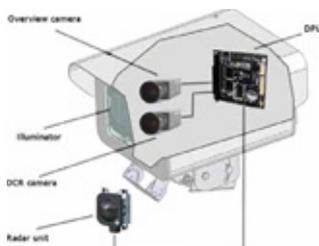
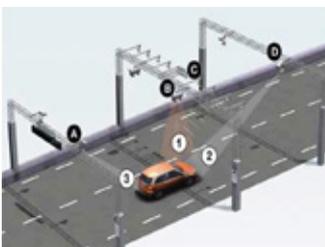
The system was designed and tested in accordance with the standards and recommendations of the International Organization of Legal Metrology (IOLM). System accuracy and its operation under extreme weather conditions have been tested and certified by the Serbian National Metrology Institute.

Vlatacom's system for Automatic Number Plate Recognition (vANPR) uses optical character recognition (OCR) technology for reading alpha-numeric characters from the license plates of moving or stationary vehicles.

vANPR system can detect more than 40 types of license plates which have a standard infrared reflecting layer from various countries around the world. Thanks to the use of an infrared illuminator, the system can recognize the license plates of vehicles moving at speeds of up to 180 km/h, in all weather conditions (rain, fog, snow, etc.), day and night.

vANPR system reads the number plate of every vehicle passing the system fields of view and create time, date and location files for each vehicle plus capturing a set of images of the vehicle and for ambient.

This data is sent to the control center and stored in the database. The data can also be saved locally, which is very useful in case the communication networks become unavailable. The obtained data are used for a variety of safety and security processes.



System Functionality

vANPR system is modular and scalable. The output data results are the recognition and reading of the characters on the vehicle's license plate, the pictures of this plate and several color pictures of the ambient. The data is stored in the SSD of the vANPR device along with precise information about the time of reading, reading location (street, lane), and the vANPR system identification tag. These data are also sent to the control center for further processing. Communication between the vANPR assembly installed at the control point and the data center can be achieved by the use of different communication media such as:

- Wireless transmission via GSM/3G
- Microwave wireless radio link
- Fiber Optic communications network.

Vlatacom recommends the optical telecommunication network as the most reliable transmission medium.

Solution Description

The field of application of the vANPR system ranges from vehicle identification and its follow-up, promotion of safety, traffic violation detection, and general surveillance.

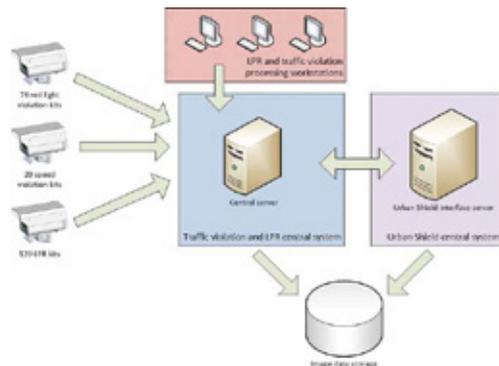
vANPR can use for law enforcement – detection and license number plate reading of vehicle which violates the traffic rules.

Using data from a traffic controller as trigger signal vANPR can detect a vehicle which pass “through red light” and automatically read it license number plate.

Using speed measurement device (Doppler Radar) connected to processor of vANPR it can be obtained reliable system for “speed limit” violation law enforcement. This system may be installed in the street near a school, hospital and other important institutions where speed of vehicle must be limited below safety level.

Using software algorithm vANPR can be used for access control at parking places, restrictive zone, “yellow” line in a street etc.

vANPR can be quickly implemented and extended to a user's desired number of control points. It provides a large set of data which can be used by local or governmental organizations in the planning of contemporary and modern transport infrastructures. The system also has a preventative role as it affects all road users and raises the general level of traffic safety culture and compliance. The system is very cost-effective and its operation can quickly and significantly contribute to an increase in budgetary revenue.



Additional Benefit

vANPR systems have a widespread use in modern transportation and security-related systems. Vlatacom's solution is modular and can be easily integrated into existing video surveillance or traffic control systems

Additional advantage

vANPR systems incorporate the functions of public order management by assisting the police and other agencies in identifying offenders' vehicles or security risk areas.



Additional Users

vANPR systems can additionally be useful:

- In traffic control systems for measuring the transit time of individual vehicles between characteristic points, as well as for measuring traffic density or the number of vehicles in certain areas of the city
- For controlling the collection and entry of vehicles in restricted areas of the city
- At border crossings, the registration of vehicles crossing the border
- At petrol stations, to identify vehicles that did not pay for the service
- To register vehicles improperly passing school buses
- In public or private parking lots for automated payment procedure

System Architecture

vANPR system is an all-in-one solution that provides a high level of quality, reliability, and accuracy.

The vANPR system consists of:

- vANPR hardware outdoor control set installed at the control point
- vANPR software and equipment at the data center

The vANPR outdoor control set has several electronic modules:

Black/white camera for OCR reading,

IR illuminator

Color "overview" day/night camera for capturing ambient pictures,

Processor unit ,

Communication unit,

Power supply and other auxiliary elements.

Power consumption is very small so vANPR outdoor control set can be powered from small solar system or other small source of electrical energy

vANPR also processes images and distinguishes license plates on vehicles, detects violations (if any), and stores the data on local SSD and sends them to the control center for further processing. The vANPR control set can be installed in a street, at parking lot entrances, at highway exits, and in other places of interest to the local authorities.

Control Center

The control center is a data center dedicated to video traffic control, surveillance, various traffic data collection, database formation, integration, and maintenance. Similar to a communications network, a control center can be used as is or upgraded in order to achieve a more cost-effective solution. It can increase the level of overall security, be used for sharing public information, and for handling accidents and unexpected situations. Its main applications are:

- To conveniently display all vANPR components belonging to a given system on a digital city map
- To view videos of vehicles, characters on license plates, and time and place of detection and recognition
- To analyze obtained video footage and characters on vehicles
- To store data in the appropriate database for future analysis and actions
- To search the database and compare it to the vehicle "watch" list (missing vehicles, stolen vehicles, etc.)

Vlatacom provides appropriate connectivity with the application software, allowing other users to implement third party software at the control center.

Key Benefit and Additional Applications

vANPR systems can be used in various elements of security:

- The main task of the vANPR system is the detection and recognition of license plates on various vehicles
- Registration and identification of traffic offenses, speed limit violations, detection of vehicles running a red light, bus lane misuse, and many others
- Identification of suspicious vehicles (including those tagged as stolen or lost)
- Detection of vehicles without license plates or with an expired registration

VLATACOM - A reliable partner

The choice of the Vlatacom ANPR concept provides a solution featuring the most modern and sophisticated hardware and software components on the market and that is able to provide 24/7 operations with a high level of information security. The system is easy to integrate into existing systems, making it possible to keep the entire solution always within reach and available to end users.

Vlatacom experience

Since its establishment in 1997, Vlatacom has delivered numerous solutions to a multitude of clients. Vlatacom's policy is to continuously improve the professional skills and knowledge of its employees. This provides Vlatacom with the ability to successfully and professionally integrate complex solutions in the areas of information and communication technologies, biometrics, security, and telecommunications.

Custom solutions

Vlatacom provides the essential strategies, technology, processes, and personnel to optimise solutions in accordance with your specific requirements and demands. Simple integration of our solutions into existing systems gives you the opportunity to always keep the entire solution under complete control. Provided solutions are customisable to features of local culture (language, alphabet).



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