

# VIVOTEK Cameras for License Plate Recognition Are Adopted for Parking Garage Access Control System

## Background

Building an efficient and safe transportation system has been the top issue among governments. The application of License Plate Recognition (LPR) solutions has been taken as one of the key to realize the system. LPR can not only enhance the security, but also support the management. With LPR, parking lots can monitor the parking status and the vehicle in motion, which can effectively secure a safer environment. However, License Plate Recognition (LPR) is one of the most challenging applications for surveillance cameras, as it not only demands exceptional video quality, but also require the ability to capture clear footage even when a vehicle is in motion. The recent project, which involved the implementation of an access control system for a private parking garage, has been successfully completed by system integrator Nanosegundos in Bogota, Colombia demonstrated that VIVOTEK cameras are up to the challenge. In this project, a high level of security was needed, and to this end, the system included both fingerprint-based biometric sensors to identify drivers and ensure they were authorized to use the garage, and LPR to confirm that vehicles entering and exiting the garage were likewise authorized. An added complicating factor was that the cameras for the LPR component needed to perform adequately under existing lighting conditions, as no further illumination in the garage was planned.

## Solution

Nanosegundos selected the IP7142 and IP8133 from VIVOTEK distributor Innovatronic. Both cameras deliver the clear video necessary for LPR applications; The former providing 720 x 480 resolution, and the latter incorporating a one-megapixel sensor capable of 1280 x 800 resolution. The two cameras also provide high frame rates—up to 30 fps—to ensure that crisp images of license plates can be captured even if a vehicle is moving.

The IP7142 was chosen for monitoring incoming vehicles due to the outdoor location. The camera's IP66-rated housing means its sensitive internals are protected from dust and water. The built-in IR-cut filter and 15m IR illuminators enable the IP7142 to provide high quality video day or night. In addition, the camera's Wide Dynamic Range technology enables it to handle even the most challenging light conditions—when both brightly and poorly lit areas are present in the field of view, such as at sunrise or sunset, or when strong artificial light is present.

For the garage's exit area, the IP8133 was selected for LPR. In addition to its high resolution one-megapixel sensor, a white LED built into the front panel of the IP8133 has proved to be a useful feature, signaling to the driver when LPR has successfully verified that the vehicle is authorized. The driver can then proceed to a



kiosk with a fingerprint sensor to confirm his or her identity before the garage's gate is opened.

### **Customer Feedback**

According to Carlos Alejandro Rivera Cuartas, an engineer at Nanosegundos, "VIVOTEK cameras have performed extremely well, enabling vehicle license plates to be recognized quickly and reliably. The system is working very well not only for the parking garage's operators, but also for the users."