

## Arecont Vision Megapixel Cameras Monitor License Plates On LKSA Highway In Malaysia



*The LKSA highway project installation in Malaysia includes Arecont Vision AV3100M cameras at each toll lane*

### **Customer**

The newly constructed highway from Lebuhraya Kemuning to Shah Alam (LKSA) in Malaysia simplifies access to the Southeast Asia country's Federal Highway System for residents of Kota Kemuning, a self-contained township centered on a resort and golf course. The new four-lane, 14.7 kilometer (9-mile) expressway provides a smooth ride and enables commuters to avoid traffic bottlenecks. The toll collection system provides Touch 'n Go lanes in which drivers pay using pre-paid smart cards and Smart-TAG lanes where infrared transceivers mounted on the ceiling of the toll plaza enable collection of tolls as the vehicle passes through.

### **Challenge**

Eight hundred vehicles per hour can pass through the Touch 'n Go lanes, and 1,200 vehicles per hour can pass through Smart-TAG lanes. If a driver doesn't pay or doesn't have an active account, enforcement procedures depend on the capture of a clear and legible video image of the vehicle's license plate. Mohd Azhar Ariffin, engineering manager for Projek Lintasan Shah Alam Sendirian Berhad, broadly oversaw the LKSA highway project, which began in 2007. Toll collection is a dependable technology used throughout Malaysia, but standard resolution cameras can be a weak link if they fail to provide readable numbers as license plates pass by.

### **Megapixel Solution:**

Arecont Vision megapixel cameras with outdoor housings are used in conjunction with a vehicle monitoring system to clearly view each license plate. The LKSA highway project installation in Malaysia includes Arecont Vision AV3100M cameras at each toll lane. The Arecont Vision 3 megapixel cameras

capture video and snapshots of vehicles passing through the Vehicle Monitoring and Capturing System (VMCS) that also incorporates network video recorders (NVRs) integrated with the toll collection system. Each toll plaza is monitored locally in a plaza control center and centrally by an administration office that oversees both plazas.

The Arecont Vision AV3100M cameras are JPEG color cameras that provide 2048x1536-pixel images using 1/2-in. CMOS sensor and image processing that incorporates Arecont Vision's massively-parallel MegaVideo® architecture, which is capable of sustaining billions of operations per second. Camera features include superior picture quality, low light sensitivity and fast frame rates. Each camera provides many custom-programmable features such as resolution, compression quality, brightness, saturation, gamma, sharpness and tint.

The network video recorders installed in the Malaysia highway project include two GVD M630 NVRs and two GVD M320 NVRs from Genius Vision Digital, Inc., which are fully interoperable with Arecont Vision megapixel cameras. TERAS Teknologi, provider of the toll collection system and creator, developer, and leading system integrator of Touch 'n Go and SmartTAG, worked with GVD and CQR to integrate the Vehicle Monitoring and Capturing System.

*“GVD offers its unique integration platform to complete IP surveillance solutions with Malaysia Highway Tollgate systems, through the seamless integration with Arecont Vision megapixel cameras, GVD can provide the most scalable and flexible system for any mission critical projects in IP surveillance markets.”* said Steve Chu, CEO, Genius Vision Digital, Inc.

Additional Arecont Vision megapixel cameras in dome housings are installed in an administration building as part of a networked video system watching over the entire operation. CQR Digital Solutions designed the video system for the administration building using Arecont Vision AV1300M camera. Hard disk drives from Seagate provide a total of 15 Terabytes of storage, 1.5 Terabytes for each DVR used in the LKSA system.

#### **Megapixel Benefit:**

Arecont Vision's megapixel cameras provide the superior image quality needed to capture passing license plates. Most importantly for the price-sensitive application at the LKSA highway project, the Arecont Vision JPEG cameras offer great value for a price comparable to standard-resolution cameras.



*Arecont Vision 3 megapixel cameras capture video and snapshots of vehicles passing through the VMCS*

As vehicles drive through the new highway's toll plaza, the image clarity of Arecont Vision megapixel cameras dependably provides a useable image. Each clearly legible image translates into more recovered toll revenue and contributes to system Return on Investment (ROI).

Arecont Vision cameras were previously used with the Ampang-Kuala Lumpur Elevated Highway (AKLEH) project, the first elevated highway in Malaysia, opened in 2001. The Arecont Vision cameras had been in place since an upgrade was completed on the AKLEH project, and the users were happy with the performance and output quality, which led to use of the cameras on the LKSA project. The Arecont Vision cameras on the AKLEH upgrade project proved their ability to produce impeccable images that boosted fare enforcement and yielded a convincing ROI. These results were confirmed when the new LKSA project made a similar investment in megapixel image capture.

The Arecont Vision 1.3 megapixel cameras' ability to zoom in on a region-of-interest in a larger frame was especially helpful to the customer, and multi-streaming functionality allows efficient usage of bandwidth. Both work together to reduce overall storage needs without compromising image quality.

The system in the administration building has also been successful in providing overall surveillance and additional security. The Arecont Vision AV1300M color camera provides full motion progressive scan 1280x1024 video at 32 frames per second, four times the resolution of IP VGA or analog cameras at a comparable cost.

*"Arecont Vision has been very responsive to our needs,"* said Norisham Abdul Majid of CQR Digital Solutions, integrator of the video components of the highway project. *"We selected Arecont Vision cameras because of their proven performance for the last year and a half on another Malaysian highway application."*

*"The superior performance of our cameras in highway applications in Malaysia are typical of the many ways that users all over the world are benefiting from Arecont Vision's unparalleled image quality and resolution,"* said Becky Zhou, Director of Asia Pacific Sales, Arecont Vision. *"Our cameras provide flexibility for a variety of applications, whether indoors or out, and provide interoperability with industry-leading companies to function as a critical component in a mission critical system solution."*