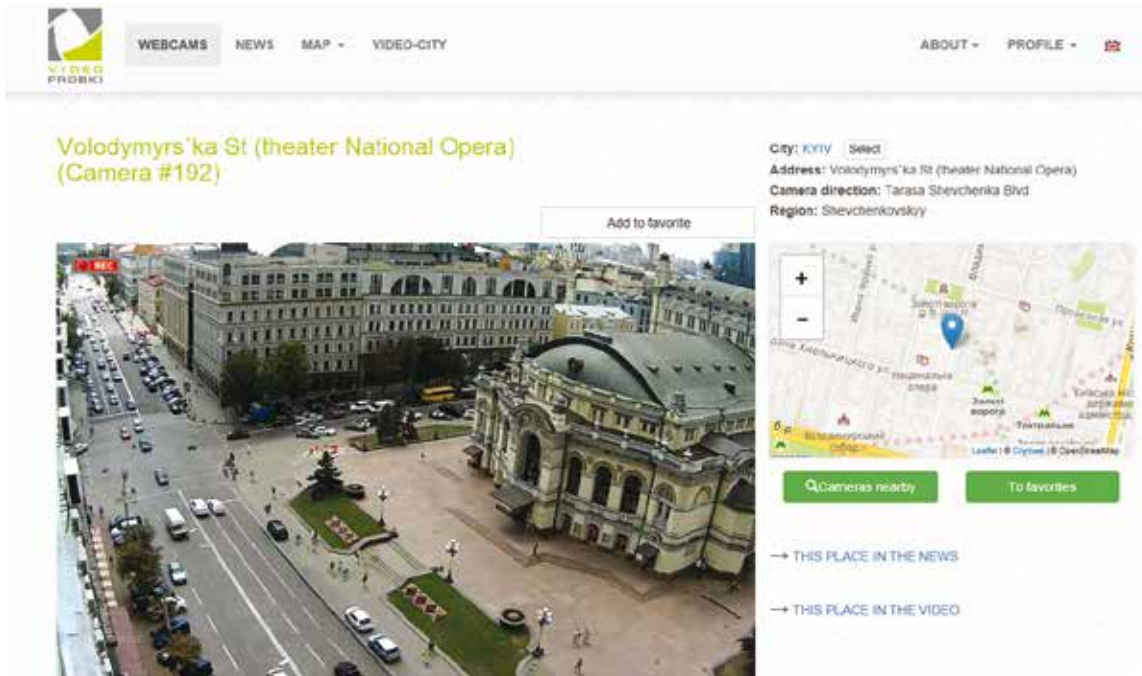


Interactive highways: Axis network cameras to assist car drivers.

Traffic video surveillance in Ukraine.



Organization:
Videoprobki.ua project

Location:
Kiev, Ukraine

Industry segment:
Transportation

Application:
Monitoring traffic congestion

Axis partner:
JSC OLLI TRANS,
Milestone, Agent VI

Mission

"Videoprobki" (www.videoprobki.ua) is a private project for traffic video surveillance aimed at a wide range of stakeholders: drivers, police, municipal services as well as virtual trip enthusiasts. The core of the project is a software+hardware solution featuring standalone devices (network video cameras, sensors) connected to a common server platform with integrated complex systems for traffic code monitoring and safety management. Video content is available in public network both online and in archive at the web site videoprobki.ua, as well as in custom-tailored "situation rooms" (personal accounts).

Solution

Today about 350 cameras are installed in 11 cities of Ukraine at the most critical highways and crossroads. More than a half of this number is AXIS P-1354 light sensitive fixed network cameras. These models that are

also involved in other projects arranged by the telecommunication company, were selected for high visibility of details, perfect assembly, reliability, high-quality sharable video and compatibility with customer platform.

Result

24/7 live stream from cameras allows car drivers to choose the better route, avoid traffic jams or roadblocks and save time. Municipal services and police receive the information about various traffic accidents, which is stored in the archive for 5 days giving an opportunity to investigate accidents and see the big picture. Apart from this, project managers also striving to improve the environmental situation in the country by reducing CO2 emissions.

“We were planning to use IP cameras for “Videoprobki” project since its very beginning. Our choice was driven by such advantages as detailed close-up images and video analytics capabilities. Today with Axis cameras forming the backbone of video analytics solution we have a chance to acquire up-to-date information about the traffic in Kiev and other cities of Ukraine as well as response to any accidents and emergency situations.”

Ignatovskiy Alexandr Valerevich, chief executive officer of JSC “OLLI TRANS”

Project Features

When planning “Videoprobki” in 2008, the experts of “OLLI TRANS” company were determined to use network cameras since even at that time their advantages against the analogue cameras were obvious in terms of close-up images and video analytics capabilities. Considering the specific features of the service, high image quality and data transfer via fiber-optic communication line were the priorities for video surveillance devices. Thus, AXIS P1354 Network Camera suits perfectly for 24/7 outdoor surveillance: being dust-, rain-, snow- and sun-proof it remains functional in an extremely wide temperature range. The video with resolution 1 MP / HDTV 720p is sent via multiple independent video streams in H.264 and Motion JPEG formats (progressive scanning technology).

The cameras mounted along the highways are operating in 24/7 mode, often in the most severe weather conditions (temperature varies from -25 to 50 °C), while “OLLI TRANS” proprietary platform solution for video data processing and analytics allows simultaneous streaming from more than 100,000 cameras and storing the video archive within 72–120 hours. This is sufficient for real-time accident investigation.

Axis network cameras remain efficient even at night-time. With their Lightfinder technology and light sensitive sensor these cameras provide clear color image in challenging light conditions.

Service operating principle

The video stream from each camera is transmitted via RTSP protocol to “Videoprobki” network platform where content post-production is performed for various applications: TV channels, first responders, public access. In most cases video data is processed in AXIS Camera Station software. In certain cases Axis cameras are used together with solutions developed by Milestone Systems and Agent Vi.

The project features various video analytics capabilities. To ensure safety of the equipment such capabilities as blurry image and “black screen” detection are used. Overcrowding detection at the given area, cross line detection, abandoned object detection, car counting on the highway are used for event record.

Apart from this, “Videoprobki” project features its own monitoring center for keeping track of the city traffic using the data received from cameras. The monitoring center operators view the stream from each camera in a dedicated interface that also displays analytical reporting. Based on the data received from cameras the platform defines the traffic intensity at a certain highway section, while the monitoring center operators compare this data with the actual video stream and make the final judgment about the traffic intensity.

