Axis video surveillance for traffic monitoring in Yamal.

Axis IP cameras for law enforcement serve to increase the transport system safety in Tarko-Sale.

Organization:
Tarko-Sale

Location:
Tarko-Sale, Russia

Industry segment:
Transportation

Application:
Traffic management

Axis partner:
ISS

Mission

Tarko-Sale is an administrative center of Purovskiy District in Yamalo-Nenets autonomous region, with a population of over 20,000. While building the "Safe city", local authorities faced an issue of creating an automated system for detecting traffic violations, taking into consideration the climate conditions of the extreme north: subzero temperatures (up to -30º) prevail from October till April.

Solution

The system deployment was entrusted to Axis partner, ISS, who implemented their dedicated solution, Auto-Cam-IP, with AXIS P1365 Network Cameras as a backbone to automatically take snapshots or record video of traffic violations on the highway. Cameras integrated with a traffic light controller detect driving through red lights and failure to obey stop signs at crossroads. The cameras installed along the city roads record license plates that are further compared to the database of the State Traffic Safety Inspectorate.

The videos and metadata are processed in SecurOS servers. The traffic violation data is also sent to the Center of automated registration for administrative violations, where an operator views each event and decides whether any penalty is appropriate.

Result

During the summer of 2014, the traffic safety systems in Tarko-Sale were deployed. Eventually, the precise automatic registration of traffic violations simplified the documentation management and contributed to crime prevention. In 2015, members of Yamalo-Nenets autonomous region administration stated that the system would be deployed throughout the entire region.

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"The customer feedback witnesses that the system turned into an effective tool for solving day-to-day and specific issues of public and infrastructure safety. The lessons learned give us a chance to offer effective solutions to specific problems peculiar to any site, and install equipment bringing the real benefit at the places where traffic violations are common."

Yevgeny Malikov, ISS Business Development Director.

Solution features

The AutoCam-IP solution ISS deployed in Tarko-Sale is a classic comprehensive video management and video analysis system, which serves to increase traffic safety and allows the following violations to be detected: driving through red lights, failure to observe road markings and signs, and speeding. AXIS P1365 Network Cameras feature the dedicated SecurOS software that offers a wide functionality range in this project.

The integration of a high-definition video camera with a narrow beam traffic safety radar allows capturing a clear image of any vehicle license plate and the ability to identify it in the database and compare it with the radar data. Due to the advanced capturing technologies, one camera can be used to monitor three traffic lanes at the same time.

Axis IP cameras with integrated SecurOS TrafficScanner software that analyzes the data from traffic light controller are used to record the stop-line crossing events depending on the traffic light signal.

All recorded license plates are also compared with the database of the State Traffic Safety Inspectorate in order to search for stolen vehicles.

Thus, when the incident information enters the Center of automated registration for administrative violations located in Selekhard, it is already processed and can be displayed on the video wall or a PC monitor. Operators only need to make a final decision on setting a penalty.

Axis technologies

AXIS P1365 Network Camera featuring P-Iris offers HDTV 1080p image with 50/60 fps in H.264 and Motion JPEG formats. The enclosure protects the camera against wind, rain, snow, hail, etc., while the Arctic Temperature Control function enables its efficient operation even at temperatures from - 40 to + 50°C. In addition, the camera sends an alarm signal in case of tampering attempts, which have also occurred in Tarko-Sale.

Challenging light conditions in the areas under video surveillance are neutralized due to Axis Lightfinder technology (guarantees true color rendering even in poor light conditions) and WDR – Forensic Capture technologies (reduces the noise level and increases the image gain to enable exceptional detail, removes distortions caused by different light levels in various image zones) with a quick automatic switching between these two modes.

Axis Zipstream technology, fully compatible with H.264 standards, optimizes the camera video stream and saves storage space. This is particularly important for simultaneous streaming and centralized processing of large data volumes, which is the case with the "Safe city" project deployed in Tarko-Sale.

ISS

NTELLIGENT SECURITY SYSTEMS

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