

Calix viaduct adopts Automatic Incident Detection with intelligent cameras.

Real-time video analysis for traffic management.



Organization:
CIGT Center for Traffic Engineering and Management

Location:
Caen, France

Industry segment:
Transportation

Application:
Automatic incident detection

In collaboration with
Axis: Citilog (an Axis company)

Mission

The Center for Traffic Engineering and Management (CIGT) in Caen is in charge of managing traffic and real-time information for the police, emergency services and users, and of maintaining the equipment on the highways of the Manche/Calvados district. One of its responsibilities is the Calix viaduct, one of the most heavily used parts of the Caen bypass, with traffic density of 83,000 vehicles a day.

Almost 2,500 incidents occur at this sensitive, strategic structure each year (traffic jams, accidents, wandering animals, etc.), and they require intervention. CIGT has a natural interest in AID – automatic incident detection – for optimizing its intervention procedures.

Solution

SmartTraffic-AID, from Citilog, is deployed in eight AXIS Q1635-E Network Cameras located to the north and south of the viaduct.

Real-time image analysis allows detection alarms to be sent automatically to the operators. The operators can immediately launch the right intervention procedure for each incident while informing users and public organizations of the situation.

Result

Since the system was installed, patrols' intervention time has been cut in half, precise information can be transmitted quickly to users and public organizations, and CIGT has been satisfied with the solution's reliability. Now the Calix viaduct is serving as a reference in France for applying AID to traffic management.

“The previous 40-minute average intervention times have been cut in half since our smart cameras were installed.”

Pierre Apicella, manager at CIGT.

The Center for Traffic Engineering and Management (CIGT) in Caen is an organization charged with developing and implementing highway management strategy on the national network in the Manche/Calvados district, which covers 367 km, including the Calix viaduct.

A sensitive point in metro Caen, traffic at the Calix viaduct can reach 110,000 vehicles, including 5,000 heavy trucks. That makes this section of the RN814 one of the 10 most frequented four-lane highways in France. The viaduct offers a four-lane highway but has no emergency lanes. Only a 1.10 m sidewalk allows pedestrians to access the Emergency Call Network. The viaduct is also a sensitive area because it is located above a costal oil depot with a total capacity of 63,000 m³ and classified as a SEVESO II high-threshold site. This situation complicates CIGT's job in securing the structure.

It is therefore essential that CIGT be able to monitor and detect incidents, so that they can quickly launch intervention procedures and send information to users and public organizations.

Interdepartmental Road Management Northwest therefore wanted to install an AID solution made up of eight AXIS Q1635-E Network Cameras offering optimal management and HDTV resolution even against a backlight. It was to include Citilog's SmartTraffic-AID application for real-time detection of incidents and data collection on traffic incidents using a video image processing algorithm.

The intelligent cameras are placed to the north and south of the viaduct, allowing real-time detection of stopped vehicles, accidents and traffic jams. The software then handles the alarms hierarchically to eliminate any redundancy and sends the operators the information necessary to make a decision and to precisely disseminate the information (type of vehicle, which lane, etc.).

The video clips can also be used after the fact for thorough analysis, such as identification of recurring incidents.

The four traffic regulation operators and maintenance technicians at Caen investigate 8 to 10 incidents this way each day and can apply different intervention procedures. "The operators have a lot of responsibilities and can't have their eye on all the monitors all day. AID is an intelligent tool that allows them to do their work more effectively. The previous 40-minute average intervention times have been cut in half since our smart cams were installed," explains Interdepartmental Road Management Northwest.

Besides the system's efficiency, CIGT appreciates the solution's interoperability. It can dialog with alert systems (panels with variable messages and light-up signals). They also like the image quality and reliability of detection.

As a pilot site financed by the Ministry of the Environment, Energy and Seas, CIGT Caen is one of the first places in France to be equipped with AID in intelligent cameras, and it receives regular visits from other interdepartmental road management agencies. It is now considering adding new equipment to its network and must first expand its fiber optic network coverage.

Citilog - www.citilog.fr

Citilog is a leader in traffic surveillance systems for industry and highways. Citilog designs and offers intelligent transport solutions that allow millions of drivers around the world to travel safely and more efficiently. Citilog is the first company to introduce Automatic Incident Detection. Its application and data collection sensors allow cities and highway managers to better plan expansion and maintenance. They provide highway users with real-time traffic information that contributes to better mobility. Citilog's mission: to put the intelligence of its applications and sensors in the service of highway users' Security, Safety and Mobility.



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