

Axis network camera mounted inside traffic signal unit. Innovative Modular Traffic light features built-in surveillance system to monitor busy intersection.



Organization:
MTLS

Location:
Sandton, Johannesburg,
South Africa

Industry segment:
Transportation

Application:
Customer/traffic flow
measurement

Axis partner:
TVMS, Visec

Mission

The Johannesburg Roads Agency (Pty) Ltd has recently kicked off a pilot project to evaluate the inherent safety features and benefits of a ground-breaking addition to the traffic light industry. This light-weight, modular traffic light, designed to collapse on impact, drastically reduces the level of damage to a motor vehicle, thereby increasing the safety of its occupants. The Modular Traffic Light System (MTLS) erected at the busy intersection of Grayston and Sandton Drives, Sandton, Johannesburg, contains an Axis network camera specifically installed for general monitoring and live Automatic Number Plate Recognition (ANPR).

Solution

The high performance AXIS 223M Network Camera, fitted with an infra-red lamp and filter, was selected to capture images of vehicles travelling through this particular intersection to be utilized for ANPR and provide information regarding traffic volumes and other relevant data. The megapixel, day/night AXIS 223M is mounted securely inside the signal head unit of the sophisticated, modular traffic light.

Result

As part of the JRA's project to investigate the feasibility of streaming real-time video from cameras mounted in traffic lights, the system provides valuable information for various crime prevention initiatives and analysis purposes. The applications of the data gleaned from this surveillance are proving to be endless. The eradication of hijackings, smash-and-grabs, targeted policing of regular traffic offenders and various other intersection crimes may soon become a welcome reality.

"The Modular Traffic Light System is a revolutionary concept offering increased safety, decreased expenditure and round-the-clock surveillance."

Chris Bruyns, Manager, Traffic Signals, Johannesburg Roads Agency (Pty) Ltd.

Saving lives while reducing costs

The Modular traffic Light System is an entirely South African invention that was conceived and developed in response to the high number of serious injuries and fatalities sustained during traffic accidents resulting from motor vehicles colliding with street poles or traffic lights. Research has shown that this type of collision accounts for a colossal 30% of all motor accidents worldwide.

MTLS utilizes the latest polymers and cutting-edge design technology to create a traffic light that is not only significantly more cost-effective than traditional systems but also considerably quicker and easier to assemble and install.

The pre-cast concrete foundation of the MTLS houses the uniquely designed breakaway unit, tension assembly as well as electrical and electronic plug points, ensuring that all critical components are safely tucked away and less vulnerable during high speed impacts.

Nowhere to run

While crime-fighting remains a high priority in South Africa, an increasing number of individuals and organizations are turning to high-tech surveillance for peace of mind. The City of Johannesburg is no exception; this particular pilot project enables the JRA to closely monitor the volume of traffic making use of the Sandton/Grayston intersection and the type of incidents and activities that take place on a daily basis, without the risk or inconvenience of exposed surveillance equipment.

If a crime takes place in the vicinity, details of the fleeing vehicle and its occupants will be captured by the Axis network camera as it passes through the intersection; this footage is currently transmitted via a wireless link to TVMS's control center where it is analyzed using Visec® License Plate Technology (LPR) software. This information will become extremely valuable as the number of modular traffic lights installed throughout the city increases and it becomes possible to provide live video footage of the vehicle in question as it attempts to evade detection.

A strategically placed AXIS 221 Network Camera has also been installed to provide additional general surveillance of the intersection and its immediate surroundings. "With its ability to offer high quality images under all lighting conditions, the AXIS 221 is the ideal day and night network camera for this specific site," remarks Jayson Gouws of MTLS, "The collaboration of the award winning MTLS and Axis' extensive product range guarantees a perfect fit: the right camera for the right application."

A local concept with a global application

Although the Modular Traffic Light System was developed in South Africa by a wholly South African-owned company for a South African market, it is rapidly gaining international popularity. MTLS has recently been invited to display the system at the Smithsonian Museum in New York as part of the triennial 'why design now' exhibition. There is a global requirement for and commitment to a safer and "greener" alternative to traditional steel traffic lights/poles and a growing worldwide awareness of the benefits of discreet video surveillance.



TVMS