Case Study
Swarco A.G. - Riyadh City

'SMART' INTERSECTIONS FOR EFFICIENT TRAFFIC MANAGEMENT

Aitek video technology for traffic management has been integrated into Swarco’s OMNIA monitoring platform for the creation of an adaptive traffic and traffic-light control system in the centre of Riyadh to optimize travel times.
As with most major cities, Riyadh, the capital city of Saudi Arabia—a busy financial district in the Middle East featuring 6 million+ inhabitants—requires sustainable solutions for the daily management of large traffic flows. Swarco has presented to the Saudi Ministry of Interior an efficient solution for the monitoring of traffic in the city centre.

**The pilot**

Aitek’s AIVu platform for the management of video-stream from cameras placed along Riyadh’s road network has been integrated into a video-monitoring system that supervises intersections set along one of the city’s major traffic ‘corridors’. Intersections are equipped with a PTZ Axis Q-6045C camera, supplying HD footage under all lighting conditions. A traffic-monitoring centre acquires video-stream from cameras through an AIVu-NVR digital recording software integrated into Swarco’s OMNIA supervision suite. AIVu-NVR supplies all standard functionalities of advanced video-management systems, e.g. viewing live/recordings, alarm management, PTZ and crop commands that allow for maximum detection of details. In order to provide accurate traffic info, this software solution integrates with video-analytics from the AIVu-Smart AID suite for real-time detection of critical events affecting traffic flow. Sw modules running on AIVu-NVR video-recording devices process information from video-cameras placed at traffic intersections in order to detect accidents, stationary and/or wrong-way vehicles, spilled loads, queues and speed-drops. Video-analytics process images to detect moving objects. AIVu-NVR interface allows for the configuration of virtual sensors on images. Alarm signals are automatically sent to a supervisory system for notification to the control room.

**A major International project**

This successful partnership between Aitek and Swarco has led to a solution deploying state-of-the-art imaging technology for 24/7 control of extensive road networks even in extreme weather conditions such as those in Riyadh—often featuring heat waves, great brightness and sand-storms. A **20% reduction in travel times** in the first few months of the piloting phase has led to an extension of the system allowing for the monitoring of further **155 intersections** within Riyadh’s urban areas.

### Features

- Video-monitoring of 155 intersections within Riyadh’s urban areas.
- Video-management of live, recordings and alarms
- PTZ and crop functions for detailed viewing
- Video-analytics allow for real-time detection of accidents, stationary and/or wrong-way vehicles, spilled loads, queues and speed-drops
- <20% reduction in travel times

### About Aitek

Aitek is a leading company in the design and implementation of innovative technological solutions. It designs and implements intelligent systems for transportation and traffic, video surveillance for security, digital signage for communications. Since 1986 Aitek has consolidated its presence on national and international markets thanks to its continuing partnership with leading companies and its constant attention to technological evolution. Aitek is one of the few Italian companies to have been awarded by the European Union the prestigious IST Prize for technological production.

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