LEAVING TRODDEN PATHS TO SAFEGUARD TRACKS OF THE FUTURE

The Klang Valley Mass Rapid Transit, better known by its acronym "KVMRT", is a 3-line rail-based mass rapid transit system currently under construction in the Greater Kuala Lumpur region in Malaysia. This project is envisaged to radically improve and transform Kuala Lumpur's public transportation coverage and to propel the Malaysian capital into one of the top most livable cities in the world.

THE CHALLENGE

As part of the facilities for the envisioned suburban train line, the ambitious project plan put forth by the KVMRT planning company also includes the installation of a comprehensive video surveillance system that would cover the various facilities such as stations, tunnels and train depots as well as the trains themselves.

Safeguarding operations and protecting passengers – these are the main tasks for which the video management system Cayuga has already been successfully deployed by many public transportation providers all over the world.

However, the KVMRT project posed some additional challenges, since the tender required to monitor not only the train line periphery but also more than 50 trains that service the line. This was especially important, since the trains for this next generation infrastructure project are running autonomously without a driver or other personnel on board. And finally, it was required that the system could be fully integrated into a single system framework in order to monitor all operations and facilities.

THE SOLUTION

KVMRT decided to use Cayuga, the next generation of video management software, to implement one of the first installations worldwide where the supervision of the train stations and the other operational facilities has been realized on the same video management software platform as the surveillance within the trains.

In order to achieve the relevant level of security and to accommodate the number of camera channels necessary, the Malaysian train operator licensed the Cayuga Infinity X product package. The installation – as it has been realized now – utilizes more than 6,000 cameras.

Qognify

THE SOLUTION (cont.)

A central Operation Control Center, which is manned 24/7, handles all operational tasks. It is also here where it all comes together: the feeds of all the cameras as well as other relevant information from the line. The VMS is deeply integrated with many other systems: it communicates with the Train Management System to initiate automatic camera alerts and pop-ups upon various events captured by the TMS system within different parts of the train. For example, the cameras associated with the Passenger Emergency Communication device in the train or the intercom or telephone system in the station automatically delivers the video of associated cameras upon activation to help assess the situation. A dedicated Security Control Center monitors all stations and parking lots across the whole line. And finally, each station also has its own security and operational center to access all relevant security and operational info for the specific location.

Almost half of the camera channels are used for monitoring the trains The other channels are used to safeguard the two train depots, the 31 stations, and the surrounding facilities that make up the train line. Some cameras feeds run through the Cayuga Analytics Server 3D in order to automatically detect unwanted access. This includes, e.g., the protection of the portal areas and the night entrances at every station. Especially the system installation in the trains posed some challenges since real time, on-demand, on-line remote surveillance had to be ensured. The system had to be configured to transfer incident data automatically to the control room, too. For this task, all trains are connected via a shared WiFi (8 Mbit/s) that is used for video transmission and remote control tasks for the autonomous operation of the trains themselves.

THE RESULT

The open design, the fast and easy administration and the intuitive monitoring interface paired with a high level of flexibility and reliability ultimately tipped the scale and presented Cayuga as a very good fit for video-safeguarding the train infrastructure in Kuala Lumpur.

In a city where a modern public transportation system is a fairly new concept, using video technology from Qognify has shown to be pivotal. Especially in the public space, video surveillance effectively works as a deterrent, preventing damage and vandalism, optimizing

operations, safeguarding passengers and thus ultimately increasing customer satisfaction.

The comprehensive video solution from Qognify puts the train operating company into a unique position: an operator can follow a suspicious person with cameras - from the station entrance to the platform into the train and out again in one single application. To this end, the video stream from the trains gets transmitted over WiFi in low-res, while the stream is saved in high-res within the train to ease cooperation with authorities and to preserve evidence.

THE CUSTOMER

In order to ease traffic congestion and increase the public transport modal share from 18 % in 2009 to a planned 40 % in 2020, the Malaysian government approved the implementation of the MRT project in December 2010. Construction for a first line to be built, stretching roughly 60 km and comprising of 35 stations, commenced in July 2011 and was already fully operational by mid 2017. The line passes through the city center and serves densely populated suburban areas with a total catchment population of 1.2 million people.

Kaj Svenningson, Director of Sales for Middle East/Africa at Qognify, sums up the challenges: *"The schedule has been very tight and the prerequisites were also rather steep. But when the project came to a close and we could see the line in operation, I couldn't help feeling proud for what we were able to accomplish for KVMRT."* Thus he adds: *"The successful learning curve we went through when implementing Cayuga for the first train line will hopefully also influence any future decision on how to safeguard the planned two additional lines that should be operational by 2025."*

info@qognify.com
www.qognify.com