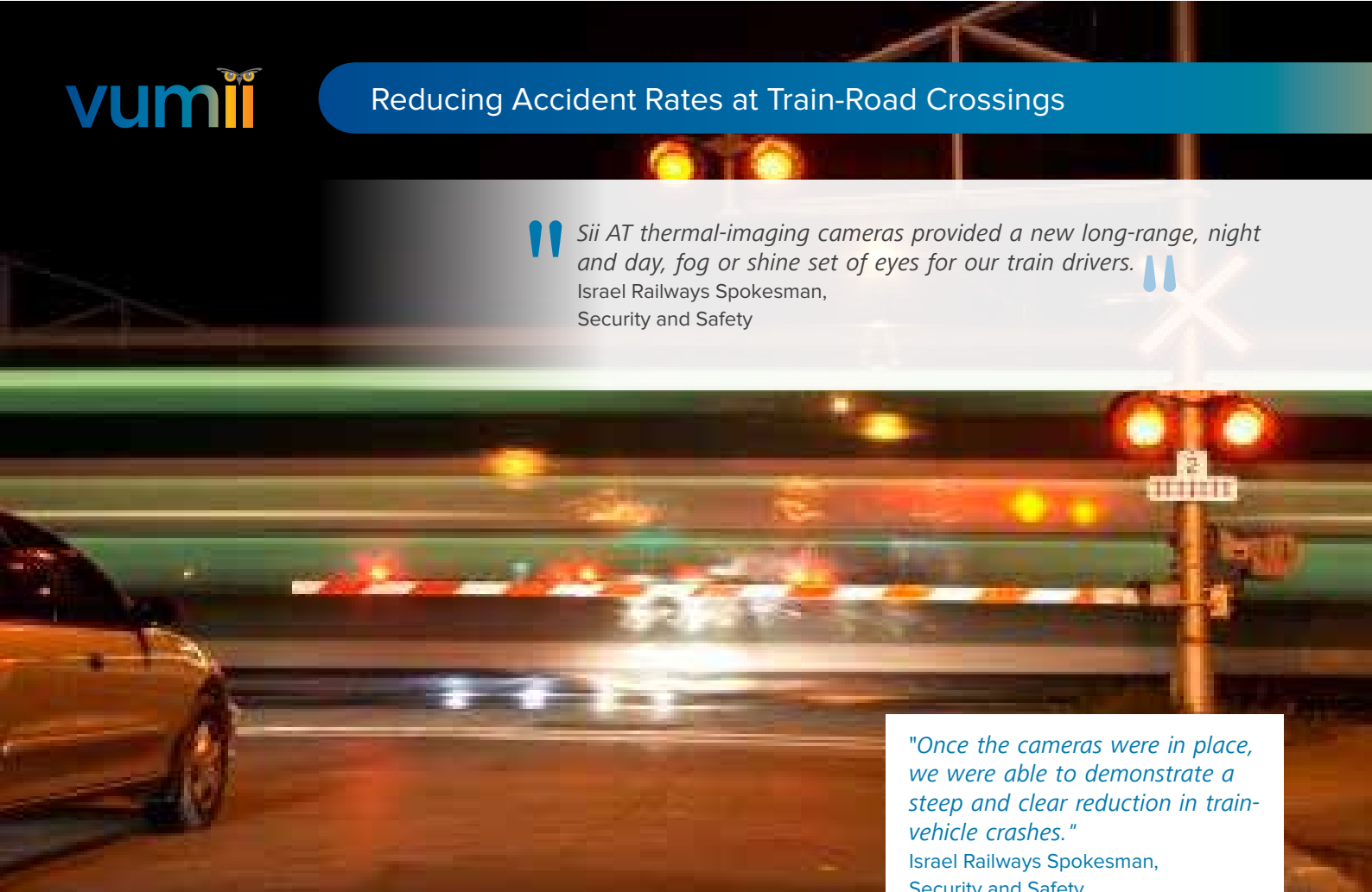


“Sii AT thermal-imaging cameras provided a new long-range, night and day, fog or shine set of eyes for our train drivers.”  
 Israel Railways Spokesman,  
 Security and Safety



*"Once the cameras were in place, we were able to demonstrate a steep and clear reduction in train-vehicle crashes."*

Israel Railways Spokesman,  
 Security and Safety

## Thermal-Imaging Technology Helps Avoid Train-Motor Vehicle Crashes at Rail Crossings.

### SCENARIO

In today's traffic-congested areas, rail crossings are a major safety concern. Simple train-crossing gates don't provide sufficient protection. In the United States alone, a vehicle and train collide every 90 minutes. Because an eight-car passenger train traveling at 130 km per hour takes 2 km to stop, safety systems must be in place to provide train drivers with advanced warning of problems at nearby crossings.

In an effort to improve safety and reduce crashes, Israel Railways embarked on a major project to identify threats and provide alerts in real time, enabling the railway Safety Control Room's operator to monitor train-road crossings at all times and in any weather conditions, while maintaining low project costs and total cost of ownership (TCO).



Sii AT is an outdoor thermal security camera used for observing and monitoring sensitive sites.



Fixed thermal cameras are ideal for 24/7 wide area threat detection tasks, especially when combined with video analytics.

## SOLUTION

Israel Railways adopted a number of measures including live guards, a new radar system, CCTV cameras, and thermal imagers in some locations. Once the new measures had been in place for some time, it became clear that thermal-imaging cameras are one of the best methods to identify vehicles, people, stray animals or other objects, night and day and in adverse visibility such as fog or smoke.

Vumii's thermal imaging technology offers very clear and crisp pictures that provide operators with an accurate scene, night and day, and in all weather or visibility conditions. Depending on the thermal sensor used, it is possible to detect a vehicle or person from 100 meters to 2 km away.

Vumii's Sii AT thermal imaging camera was selected for deployment at train-road crossing. This small form factor, low power camera delivers a crisp 384x288 image that enables control-room personnel to identify any unusual object on the tracks.

Equipped with video analytics, an online video system records and delivers the cameras' video streams to control-room operators. Both motion and non-motion are identified in the "secure zone" – if a motor vehicle remains on the tracks for a predefined amount of time (in seconds), the system alerts the control-room operator who can decide on how to respond with the situation.

## SUCCESS

The solution deployed offers full visibility of any disturbances on the tracks, enabling operators sufficient time to alert train conductors to stop the train if needed, and substantially increasing the safety level of Israel Railway's track system. Dangerous areas are now constantly monitored, allowing for rapid response to possible risks.

Israel Railways has achieved a measurable reduction in train-motor vehicle crashes. The company is now considering other applications where thermal imaging may be used to increase passengers' security and safety.

Vumii's Sii AT is a 24/7 outdoor security thermal camera used for observing and monitoring sensitive sites. The camera provides a crisp, clear thermal image in total darkness, light fog or smoke. Sii AT features a wide range of thermal engines and lens options using Vumii's state-of-the-art uncooled thermal technology. ▶

