



## Case Study

# Israel Railways

### Business Need

In 2003, Israel Railways, the national company with responsibility for all passenger and freight railway traffic in the country, was looking for a new security system to protect train stations and railways against terrorist attacks. Specifically, the goal was to protect the stations against terrorists approaching from the train tracks and the area adjacent to the tracks.

Railway tracks are a very difficult environment for image processing. The challenge was to detect intruders from any direction at any time and in any weather, while ignoring trains, shadows, light reflections, vegetation, animals, and other objects. In fact, all previously tested video motion detection (VMD) systems failed their evaluations because they could not differentiate between train motion and intruder motion, resulting in unacceptable false alarm and nuisance alarm rates (FAR/NAR).

### Solution

Israel Railways needed the video intelligence and analytics of the Agent Vi System, which automates the security process, using proprietary detectors to analyze suspicious activity and generate real-time security alerts.

For this specific application, the Agent Vi VMD solution was installed to detect any suspicious movement on, near, or around the railway tracks and stations. The VMD automatically detects and tracks specific objects—people and vehicles—to generate alerts about suspicious activities and to relay these alerts to the command/control center where the system operator can initiate the appropriate response to the threat. For added security, Israel Railway's Agent Vi System was configured so that any system operator on the network could review and analyze suspicious activity.

The strength of the Agent Vi System comes from its patented IPoIP™ (image processing over IP) technology which automatically extracts threat-specific data from any number of simultaneous image (video or still) input devices connected to an IP network.

Agent Vi video analytics automate the surveillance process by using proprietary algorithms, or detectors, to automatically detect, track and analyze specific objects—such as people, vehicles, or packages—in an indoor or outdoor environment. And Agent Vi generates real-time alerts—with amazingly low FAR/NAR—whenever any suspicious activity or threat is detected.

### Results

For 18 months, Israel Railways thoroughly tested the Agent Vi System with attempted penetrations by various types of intruders, in daylight and the dark of night, and under adverse weather conditions. Agent Vi passed the test where all others had failed, detecting the attempted threats with minimal FAR/NAR.

In 2004, following field trials and an extensive operational assessment, Israel Railways officially selected Agent Vi to protect the country's train stations and railroad tracks. The test array of cameras was easily ramped-up from the few dozen used in the trial to a nationwide deployment of hundreds. In 2006, Israel Railways placed an order for the installation of Agent Vi Systems at another six train stations.

