

case study



Tunnel Security System

Rail tunnels employ little capability to detect the ingress of suspicious persons and materials. This particular tunnel in New York (location cannot be divulged) was identified for hardening in that it is immediately adjacent to a federal security-sensitive facility.

**Tunnel Security System,
New York**

CHALLENGE

Rail tunnels are particularly vulnerable to attack by explosives and chemical/biological agents. In addition, approximately 1.7 million rail cars carrying hazardous material (including ordinance) move annually through the United States and Canada. Terrorists undoubtedly regard shipments of hazardous/nuclear materials and military equipment as target opportunities. The consequences of an attack could be significant.

SOLUTION

The **Tunnel Security System** is designed to automatically detect intruders and suspicious objects left behind (or removed) within a user defined video security zone. A combination of intelligent technologies was used to develop the system. This system is typical of Duos' approach to critical high-risk bridge security.

A network of fixed and PTZ day/night color and black and white digital video cameras are connected to a operations communication center (OCC) hosting Duos' proprietary **rvspro™** video servers. Each **rvspro™** includes **praesidium®** vision suite intelligent software that processes the live video feed and creates a video digital archive. The rule-based **praesidium®** discriminates between authorized vehicle traffic (trains, high rails, etc.) and intruders, and automatically deploys audio and visual alarms locally as well as at the OCC, or to any user connected via virtual private network to the system. A customized, intuitive Graphic User Interface (GUI) allows simultaneous viewing of live video, operation of PTZ cameras, and monitoring of the entire security system by operators located variously within the organization. In addition to the automated intrusion alarm functions, the system includes visual and multi-language audio annunciations upon perimeter breach, multiple sensing technologies, advanced heat detection, high capacity lights, IR illuminators, amplified speakers, and strobe lights.

Events are automatically digitally recorded, time stamped, and stored for later retrieval. A powerful video search engine (searched by several criteria including, time, date, camera number, and location) allows for easy retrieval of stored video files.

This comprehensive automated system is monitored 24/7/365. Duos provides like on-site maintenance and technical support as well as remote technical support. All system updates and security patches to the operating systems are provided remotely as soon as published.

BENEFIT

The **Tunnel Security System** detects threats and significantly decreases vulnerability within and surrounding the tunnel portals, including but not limited to suspicious persons, explosives, nuclear and hazardous materials and chemical/biological agents.

