

# case study



## Gondola Car Inspection System (gcis™)

A major U.S. railroad performs a daily inspection of gondola rail cars at a rail yard in the northeastern United States (exact location cannot be disclosed). The railroad employs manual inspection techniques to check gondola cars.

**Gondola Car Inspection System,  
Northastern United States**



### CHALLENGE

These particular gondola cars transport steel ingots, three to a car. Each ingot weighs many tons and over time will beat a gondola car to pieces. As such, an average of 65-75 rail cars on a single train must be visually inspected once each day, every day to avoid stress failure. Previously, railroad personnel were dispatched to inspect the train while it was in the rail yard regardless of the weather. Northeast winters often compromised the safety and accuracy of this effort.

### SOLUTION

Installation of a turn-key Duos **Gondola Car Remote Digital Video Inspection System (gcis™)** - robust, fully scalable and using an IP-based architecture with real-time, intelligent video capability, **gcis™** provides archived video images of gondola rail car condition. As trains pass the **gcis™** inspection station, fixed cameras and IR illuminators positioned on opposite sides of the track capture and archive the interior and both sides of the exterior of each gondola car. High resolution digital images are transmitted to the **rvspro™** digital server, time stamped, and stored in an SQL database for later retrieval. A powerful video search engine (searchable by time, date, and camera number) allows easy retrieval of stored video files. The system processes inspection information into a user-friendly Graphical User Interface (GUI). Authorized railroad personnel at any location connected to the LAN/WAN can view the live streaming and/or archived video, assess the situation, and take appropriate action. This interface enables real time viewing from the cameras, and allows operators to retrieve archived video from the server and play it back with the same Internet Explorer browser window. Rule based data management software provides multilevel management tools ranging from simply observing scenes from the video cameras in real time, to operative interaction with system security features and real time and archived video forensics, to complete system administration including setting rules, adding and removing users and user credentials.

### BENEFIT

**gcis™** eliminates the need for routine manual gondola car inspection, greatly enhancing maintenance operations and control and minimizing the possibility of unplanned down time.

