



gcis™

Gondola Car Inspection System



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Duos Technologies Gondola Car Inspection System (**gcis™**) expedites the safe and systematic loading of railroad gondola cars by eliminating the need for on-site manual load inspections. **gcis™** can also automate the routine inspection of gondola car condition to reduce maintenance costs and mitigate the risk of derailment.

Gondola cars are the workhorses of the rail industry, transporting heavy loads in an open-top railcar. Since an improperly loaded gondola car may shift its load during transport and potentially derail a train, all loads must be inspected before a consist leaves the yard. The standard inspection procedure is labor-intensive and subject to weather interruptions that may allow some cars to leave the yard without inspection.

Heavy loads also take a toll on the condition of a gondola car, and regular inspection is essential to its continued operation.

gcis™ improves inspection accuracy and reduces labor costs. High-resolution video cameras are strategically installed to monitor and record the railcar loading process, which can be remotely observed by authorized railroad personnel located anywhere on its network. Not only does this eliminate the need for an on-site inspector, it also improves accountability in the event of an incident and can be counted on to operate reliably in all weather conditions.

To routinely monitor the physical condition of gondola cars, **gcis™** can automate the inspection process by capturing and recording detailed video images of passing gondola cars, making the images available for visual inspection by any authorized user on the railroad's network.

- High-resolution fixed cameras and infrared (IR) illuminators form a trackside inspection checkpoint
- As trains pass the checkpoint, camera capture and record multi-angle images of each gondola car
- **gcis™** stores the time-stamped images in a searchable database
- Authorized railroad personnel can visually inspect the images in a network browser window connected to the railroad's LAN/WAN

An optional add-on to **gcis™** uses video analytics to automatically examine the gondola car images for defects such as bends, cracks, or breaks. This feature compares captured video images to archived images of "good" gondola cars, flagging any images that indicate the need for follow-up manual inspection and repair.

Why **gcis™** ?

- Eliminates pre-departure manual inspections of loaded gondola cars
- Reduces the time and expense of routine physical inspections of gondola car condition
- Mitigates the risk and expense of derailment
- Minimizes unplanned downtime
- Controls maintenance costs
- Establishes an archival record of a gondola car's condition on a given date
- Video analytics option recognizes gondola car defects and flags the car for manual inspection

With **centraco™** Command and Control

Like all of Duos' intelligent solutions, **gcis™** is command and control ready. Duos' state-of-the-art intelligent command and control platform, **centraco™** provides a scalable information delivery and response solution that is designed to address operational and management challenges. Designed with years of "real life" situational input, the **centraco™** platform is designed to perform in the most challenging and dynamic environments.

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