

solutions

*for* **RAILROAD**



**duostech**

# RAIL

Duos Technologies offers a range of rapid ROI solutions for the railroad industry that are based on our flagship **praesidium**® technology. These technology-based applications enable railroad operators to reduce liability, assure on-time performance, and improve rail yard operations without adding personnel.

Duos' solutions can substitute technology for an inefficient manual process and allow remote monitoring of isolated areas or assets that are hard to observe. We can combine a group of sensors into an integrated system that meets multiple objectives, improving operations while adding security.



Our systems can monitor a passing train to detect an illegal rider, unauthorized cargo, or an open/missing hatch. A Duos solution will monitor a remote bridge to observe and document a marine collision and enable a claim for damages, while securing the site against trespass. Similar monitoring systems at multiple sites can be remotely monitored from a single location, with automatic intrusion alerts sent to authorized personnel, no matter where they are located.

A sensor-based Duos system allows the remote operation of a moveable bridge from a central location, reducing the need for on-site personnel in low-traffic areas, and enables remote inspection of the rail car loading process at multiple sites.

Duos' railroad solutions work year-round, in all weather conditions, day or night.



## Technologies for the Railroad Industry

	<b>3D Immersive Surveillance (3DiS™)</b> Real-time, immersive 3D visualization system enabling virtual fly-through. <b>Application:</b> Airports, Railroads, Petrochem, Border Security.		<b>Intermodal Container Exit System (ices®)</b> Tracks and records intermodal container rail yard/terminal entry and exit. <b>Application:</b> Railroad, Maritime Security.
	<b>Automated Pantograph Inspection System (apis™)</b> Intelligent video analytics capture, inspect and process real time images from trains passing inspection points. The system automatically detects obvious pantograph defects such as bends, chips and cracks and flags those records for manual inspection. <b>Application:</b> Railroads.		<b>Mobile Advanced Surveillance Trailer (mast™)</b> Mobile Advanced Surveillance Trailer incorporates video analytics in a "ready to go" mobile package. <b>Application:</b> Security and Surveillance.
	<b>Collision Alert Monitoring and Impact Analysis (camia™)</b> Records, measures and documents maritime vessel/fixed structure collision. <b>Application:</b> Maritime.		<b>praesidium®</b> Artificial intelligence-based security and surveillance sensor detection suite processes and analyzes incoming video and sensor feeds to detect user-defined activities and events. <b>Application:</b> Security and Surveillance.
	<b>Collision Alert Monitoring and Impact Analysis (camia™ mobile)</b> A self-contained, fully integrated impact detection and measurement system for marine bridges and structures. <b>Application:</b> Maritime.		<b>Remote 2 praesidium (R2P™)</b> Web-based thin client accesses and controls <b>praesidium®</b> components and sensors. <b>Application:</b> Security and Surveillance.
	<b>centraco™</b> <b>Integrated Smart Command and Control Platform</b> Intelligent command and control platform that consolidates multiple data sources and alarm events into a single user interface. <b>Application:</b> All.		<b>Railroad Crossing Video Monitoring System (rcvms™)</b> Intelligent video monitoring and surveillance system deployed at highway-rail intersections to enhance safety at rail grade crossings. <b>Application:</b> Railroads.
	<b>Digital Optical Reading Agent (dora™)</b> Video Optical Character Recognition (VOCR) system scans, tracks, and records activity of inbound and outbound rail cars. <b>Application:</b> Airports, Railroads, Petrochem, Border Security.		<b>Remote Video Server Programmable (rvspro™)</b> High-performance digital video recorder, multiplexer and transmission server. <b>Application:</b> Security and Surveillance.
	<b>Gondola Car Inspection System (gcis™)</b> Intelligent video analytics capture, inspect and archive real time images from both sides and the interior of gondola cars passing inspection points to evaluate car condition. <b>Application:</b> Railroads.		<b>Train Rider Detection System (trids™)</b> Detects unauthorized riders and container breaches on trains traveling at speeds up to 70mph. <b>Application:</b> Railroads, Border Security.
	<b>Linear Panorama™</b> A self-contained, intelligent video equipment platform that captures a sequence of images from a passing object and stitches them together into a panoramic image format. <b>Application:</b> Railroad, Homeland Security, Border Security		<b>Train Rider Detection System (trids™ mobile)</b> A fully integrated, trackside surveillance solution that inspects a moving freight train for the presence of illegal riders or unauthorized cargo. <b>Application:</b> Railroads, Border Security.

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