

# RAIL SOLUTIONS

[www.cleverdevices.com](http://www.cleverdevices.com)





## Retrofit or New

### Our sophisticated solutions are a sound investment

Nearly 50% of the North American fleet has been in service for over 20 years. We design passenger system retrofits that meet today's passengers' expectations for information. Our new, modular and scalable solutions are BUY AMERICA COMPLIANT and maintained and serviced in North America. Moreover, our continued technology investment is our commitment to mitigate obsolescence ensuring you are making a sound investment when you choose Clever Devices technology.



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# RAIL SOLUTIONS

## Clever Devices: Where Visibility and Action Connect

As the leading provider of Intelligent Transportation System technology in North America, Clever Devices understands the important role safety and reliability plays in the lives of those who depend on your services. We are committed to delivering the solutions that provide the visibility you need to manage your operations more efficiently and the tools that let you react to situations as they occur so you can exceed your customer's expectations each and every day.



### Solutions for Street Car, Light Rail, Commuter & Heavy Rail

Passengers spend considerable time riding your trains. Seamless operations help them get to where they are going on-time. Our solutions increase reliability, enhance efficiency, support safety and give your passengers the information they need. Our on-board systems, wayside passenger information and centralized fleet management tools are designed specifically for rail.



**Street Car, Light Rail, Commuter and Heavy Rail Solutions**



**Retrofit or New – A sound technology investment**



**Support for Multi-Modal Applications Bus, Rail and Paratransit Solutions**



**Buy America Compliant**



**Rail Certified Technology**

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# TRAIN OPERATION SOLUTIONS

Reliable, safe, on-time operation, is always our top goal. Our solutions give you the information you need to manage your entire fleet. From the time the train pulls out of the yard, we help you track its location, monitor its schedule adherence and quickly address and remedy service disruptions.



## Yard Management Solution

Mapping vehicle location is often a labor intensive manual effort. Since your yard and storage track operations are dynamic, the changing yard inventory quickly makes this manual data obsolete. SmartYard provides Yard and Train Masters with up-to-date automated, consolidated and organized information of the train yard inventory.

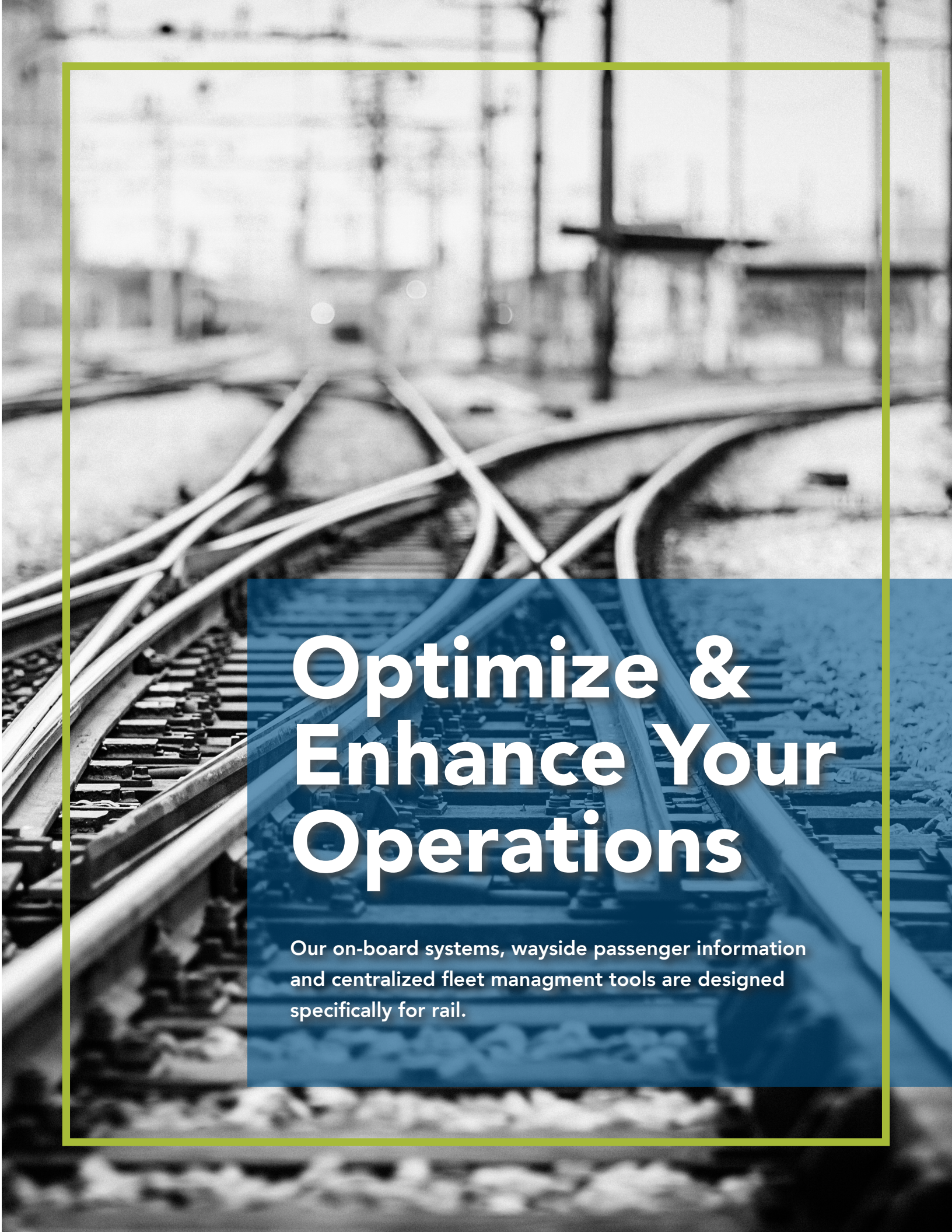
When integrated with systems such as scheduling, crew assignment and maintenance, you can easily see the vehicle health and maintenance status, train schedule assignment (planned or unplanned) and train departure time.



## Train Information System

CleverCAD Rail Module provides you with the information needed to ensure safe, reliable on-time operation. Real-time location of every train lets you track and monitor performance vs. schedule. Service disruptions can quickly be addressed. CleverCAD supports ad hoc and planned passenger information updates onboard and at stations. Standard and custom reports are available for process and service improvements.





# Optimize & Enhance Your Operations

Our on-board systems, wayside passenger information and centralized fleet management tools are designed specifically for rail.



# Exceed Your Rider's Expectations

Our solutions increase reliability, enhance efficiency, support safety and give your passengers the information they need.

## VEHICLE COMMUNICATIONS SYSTEMS (VCS)



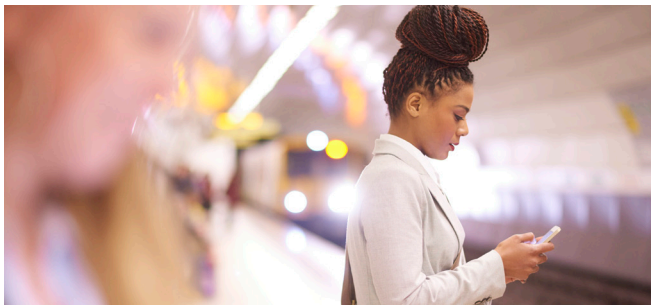
Our **Intelligent Vehicle Network for Rail (IVN-R)** is a "rail certified" vehicle logic unit. IVN-R has the capability to control and monitor not only Clever Devices systems, but other systems on the vehicle, along with, collecting and transmitting data in real time or uploading later when in the rail yard. Most important, this multi-purpose computer is the core of the Vehicle Communications System. The IVN-R is a robust and powerful unit that provides you with the following benefits:

- Automated Audio and Visual Announcements compliant with the Americans with Disability Act & Accessibility for Ontarians w/Disabilities Act
- Easily operated Passenger and Crew Intercoms
- Integration with closed circuit television for safety and security monitoring
- Integration with Automatic Passenger Counter (APC) systems to monitor passenger loads
- The ability to broadcast ad hoc announcements over the incorporated PA System
- The ability to manage Train to Wayside Communication
- Control of onboard infotainment systems



# PASSENGER INFORMATION SYSTEMS

Over the years, the demographics of your ridership have changed. Today, tech-savvy millennials and business travelers sit alongside tourists and students; all are using public transportation to get where they need to go. In a world where information is just a click away, public transportation customers demand that you provide them with information to help them plan their journey and manage their time. Our solutions enable you to deliver the information they need - whether they are at home, on the go, using social media, at a transit center or on the train platform.



**TAPS**

## **Train Arrival Prediction System (TAPS)**

Accurate train arrival predictions are the first step toward providing the information your customers demand. Our TAPS system incorporates data points from other rail systems such as track occupancy and planned operating schedule, travel restriction and service changes with real-time location information to provide accurate train arrival predictions at designated station stops and other control points. TAPS open architecture interfaces with Real-time passenger information and Public Address/Customer Information Systems (PA/CIS).



**CleverVision®**

## **CleverVision Onboard Digital Signage**

CleverVision delivers real-time information and public service announcements along with other video content to your riders throughout their trip. A true revenue-generating engine that can deliver local and national advertising, CleverVision can be implemented as a standalone, but when integrated with IVN-R it can deliver next stop announcements and location targeted information.



LET'S GET  
IN **TOUCH!**



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