Rail Solutions

LIGHT RAIL, COMMUTER, HEAVY RAIL, STREETCAR, MULTI-MODAL

Clever Devices
Where Mobility Matters

ABOUT CLEVER DEVICES

Clever Devices is the leading provider of ITS solutions for public transportation in North America. Headquartered in New York, the company has 250+ customers around the world with offices in the North American, South America and Europe. In addition to our CAD/AVL solutions, we have a complete fleet management and operations control solutions and our robust portfolio also includes solutions for transit scheduling, real-time passenger information, safety and security, business intelligence and communications.

475+ Employees
across US, Canada, Latin America, Europe

230+
Station Systems Installed

Multi-Modal Solutions
Bus, Rail and Paratransit

1800+
Equipped Rail Cars

35+ Years of Experience
Transit is all we do

Agencies Trust Clever Devices

COMMITTED TO INNOVATION

Dedicated to developing ITS solutions that create efficiencies and improve the transit experience

Over 65% of our employees are dedicated to product development and project delivery

Over 15% of our yearly revenue dedicated to research and development

OUR **SOLUTIONS**

We make it our business to understand yours. We know an off-the-shelf solution won't help you deliver the services your riders demand. Whether you have 50 vehicles or 5000, for over thirty years public transportation providers like you have chosen Clever Devices to help them create efficiencies and improve the customer experience.

ONBOARD COMMUNICATIONS

TRAIN ARRIVAL PREDICTIONS

REAL TIME PASSENGER INFO

CAD/AVL

CAR TO CAR NETWORK INTEGRATION

AUTOMATIC PASSENGER COUNTING

PA/VIS STATION SYSTEMS

SIGNAGE AND SIGN INTEGRATION

SCHEDULING

WORKING WITH CLEVER DEVICES

01. **Mitigate obsolescence with modern and scalable solutions**

02. **Improve the state of good repair**

03. **Enhance passenger information and vehicle communications**

04. **Rail-Certified Technology**

05. **Multi-modal integration capabilities**

06. **All solutions are Buy America compliant**

NEW CAR BUILDS

We partner with car builders to develop solutions that integrate into the overall car design and provides state of the art features and functions that meet the needs of today's transit agencies.

RETROFITS

We design retrofit systems that meet the needs of public transportation agencies for modern vehicle communications and your passenger's expectations for real-time information.

850
MAIN SWITCH
BEFORE OPENING, OPEN ALL
SWITCHES ON PANEL BOARDS
DANGER
HIGH VOLTAGE

IVN-R - *The brains inside the vehicle.*

VEHICLE & OPERATOR **COMMUNICATIONS**

Control and manage your onboard systems from one central system. With **IVN-R**, you get rail-certified, advanced technology that connects all your systems together allowing you to communicate with customers and collect and analyze the data needed to operate at peak efficiency.

- Automated Audio and Visual Announcements
- Passenger and Crew Intercom Support
- Closed Circuit TV Integration
- Integrate with APC Systems
- Control Wayside and Onboard Communications

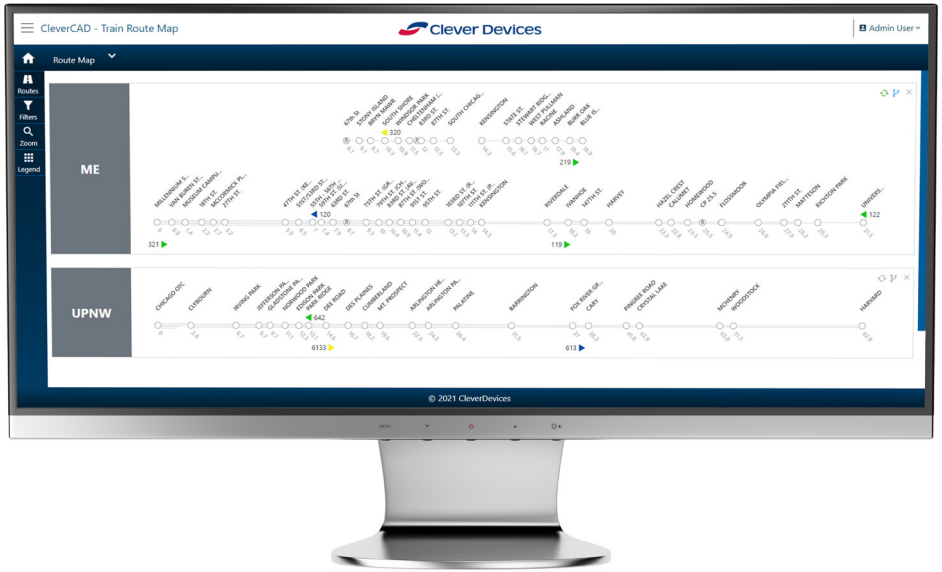
The **Transit Control Head – TCH** is your rail-certified onboard interface to IVN-R to log in, perform technical maintenance and diagnostic testing.

TCH – Transit Control Head *- A Mobile data terminal that interfaces with IVN-R..*

OPERATIONS CONTROL

With **CleverCAD** your traffic controllers and console operators can communicate directly with trains and vehicles to effectively manage trips.

- Real-time view of every train's location and status
- Line maps visualizes track alignment, cross overs, stations, and trains
- Vehicle status monitoring for route and schedule adherence
- Voice and Text communications
- End to End Event and Incident Management
- Emergency Alarm Handling
- Advanced real-time recovery tactics to dynamically improve service
- Scheduled and Ad-hoc digital and audio messaging



CleverCAD – *Comprehensive Situational Awareness*

TAPS- *Real-time arrival predictions reduce frustrating wait times and make riding transit more convenient for riders.*

TRAIN ARRIVAL **PREDICTIONS**

Using data from multiple sources, **TAPS** lets you communicate arrival predictions to passengers via mobile apps, social media, and your website. TAPS interfaces with your onboard and wayside signage and audio announcement systems to ensure that passengers have all the information they need while onboard or waiting for a train.

- Mixed or multiple data sources with AVL and/or signal based-input
- Day of operation changes are easily incorporated into the predictions
- Communicate with many systems, including SCADA, PA/VIS, mobile, web, and social channels

CleverVision *– Onboard Digital Signage Solutions*

MULTIMEDIA **PASSENGER INFORMATION**

CleverVision™ delivers real-time information and public service announcements along with other video content to riders while providing an opportunity for the agency to generate additional revenue from national, local or hyper-local advertising opportunities.

- Flexible content triggering provides content that's timely and targeted
- Easy to use Content Management System to schedule static and dynamic content
- Purpose built rugged, vandal-proof displays
- Intelligent power managements reduced power consumption
- Partner with businesses to deliver targeted advertising and generate revenue

Ridecheck Plus- *Automate reporting to make data-driven decisions about your service*

AUTOMATED PASSENGER COUNTING & RIDERSHIP REPORTING

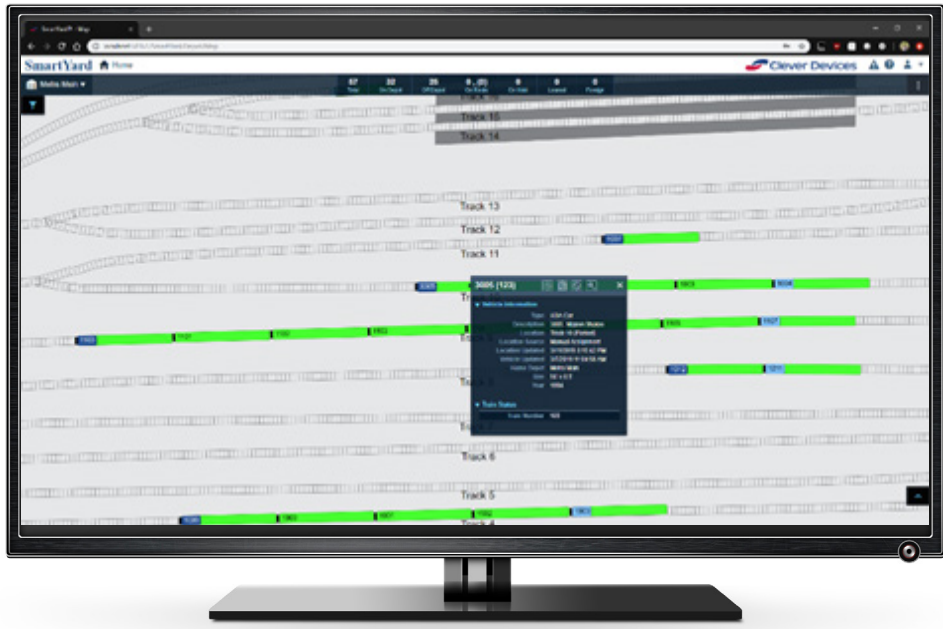
We can provide the sensors or integrate with those you already have on board for a complete ridership reporting solution that lets you accurately collect, analyze and report ridership data retrieved from various sources. **Ridecheck Plus®** automates your reporting to help you make data-driven decisions to improve service and reduce inefficiencies.

- Automate manual processes that waste time and money
- Over 200 standard dashboards and reports available
- Create your own reports, customized to your specific needs, including NTD reporting

YARD **MANAGEMENT**

SmartYard® lets you locate vehicles anywhere in the yard, schedule vehicle maintenance assignments, and run performance and inventory reports from an intuitive, user-friendly display that makes vehicle assignment more efficient & ensures the right vehicle is assigned to the proper work.

- Eliminate manual reporting to save time and money
- Optimize your Pull-In and Pull-Out pull-outs
- Real-time location for improved workflow
- Makes assigning railcars more efficient



SmartYard *automates yard management and improves on-time performance.*

VOICE OVER IP COMMUNICATIONS

***Celrado** can be a cost-efficient alternative to an expensive to deploy and costly to maintain Land Mobile Radio Network.*

Our IP-based communication platform, **Celrado**, leverages the public broadband network to provide LMR radio-like features and functionality at a fraction of the cost of a traditional land mobile radio system.

- Secure and scalable – seamless integrates with Wi-FI, Satellite, LMR, FirstNet and Frontline to ensure no fixed end single point failures
- Radio-like features including agency separation, role based separation, talk groups, private calls and priority scanning.
- Affordable and cost-effective alternative or complement to an existing LMR.

MAIOR- *Powerful, modular suite of scheduling tools designed to optimize your service and reduce your costs.*

PLANNING & **SCHEDULING**

The MAIOR Scheduling suite is a modular solution that lets you plan, optimize and enhance your planning and scheduling.

- Powerful algorithms take the guesswork out of your planning and scheduling processes.
- Supports multiple modes of transit, including Light rail, Streetcar, and Heavy Rail.
- Scenario modeling tools let you model your changes before putting them into action.
- User-friendly, browser-based solution with flexible user-profiles and easy access.
- Timetable optimization (specifically to manage rail parametyers, rules, and constraints)
- Vehicle blocking and run-cutting optimization, to account for all rail specific rules, vehicles' parameters, driver credentials, ecc
- Crew assignment optimization, to allow schedulers to plan crew members' jobs, allowing to optimize operations with more than 1 driver on-board

RAIL SOLUTIONS

STREETCAR, LIGHT RAIL, COMMUTER, HEAVY RAIL, MULTI-MODAL

Let us show you the breadth and expertise of Clever Devices' rail solutions, designed specifically with public transit in mind.

Schedule a demo today

Clever Devices
Where Mobility Matters

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