



A Connected IoT for Rail Eco-System

Combining Edge and Cloud Computing enables railway operators to consolidate and analyze multiple data streams, paving the way for automated train operation.

Wi-Tronix Edge and Cloud solutions combine to provide a complete view of your operation including comprehensive replay and review of events for safety and risk analysis.

A Single Sustainable IoT Platform

The Wi-Tronix Connected Rail Ecosystem incorporates a combination of Edge and Cloud computing technologies to support.



Fuel Savings and Operational Efficiency

Real-time locomotive operation, crew and fuel usage monitoring and reporting. (Engine Idle, Throttle Brake, Engineer Initiated Emergencies, AESS Monitoring, Penalty/Alerts, Locomotive Utilization, Trip Reports, Fuel Performance by Engineer, Asset, Train).



Operations, Safety Alerts and Reports

Powerful tools reduce at-risk behavior and manage compliance—providing immediate access to train data and video for efficient investigation when incidents occur.



Maintenance

Locomotive engine and vehicle control systems data, alerts, reports, shop scorecard, and configuration management tracking of connected devices.



Incident Reporting

Automated downloads of Event Recorder and DVR files triggered by alerts and On Demand requests by users.



Distinctly Rugged, Modular Hardware

Connect to locomotives regardless of age or manufacturer, in one central place.



Why Wi-Tronix?

As the preferred connected solutions provider to over one-third of all locomotives in North America, Wi-Tronix is committed to innovating the future of rail systems.

We combine edge processing with advanced systems like Visual Intelligence (VI), Artificial Intelligence (AI), and Machine Learning (ML) to detect and interpret actionable information.

To date, over 2,000 Wi-Tronix Violet Edge IoT platforms have been ordered and over 12,000 rail vehicles from all types of manufacturers have Wi-Tronix systems installed.

- Data Acquisition, Normalization and Fusion
- Data Security
- Integrated Alerts
- Geospatial Asset Location Tracking
- Asset health and information
- Data Storage, Access Management
- 3rd party device remote update capability

Questions? Contact your sales representative or reach us at sales@wi-tronix.com to learn more about IoT for Rail Packages available to help you keep an eye on your operations.

Edge Hardware, Software and Cloud Computing Solutions

Wi-Tronix Connected Ecosystem Solutions record locomotive and video data, take inputs from different sources and devices, providing you a comprehensive, single-source remote monitoring solution.



We leverage edge computing to give you actionable real-time alerts and meaningful reports. Increase overall safety, reliability, and operational efficiency when you see, hear, and experience what's happening to your fleet.

Violet Edge Hardware

Our Edge Devices provide reliable, cost-effective access to data, enabling better decision making, safety, and operational efficiency.

- A self-monitoring ER, DVR, CHM
- Connected Edge AI & ML processor (reporting, alerting)
- Cameras with IR/VR capability and Visual Intelligence enabling a See, Hear, Feel, Experience
- Energy Management:
 - Fuel sensor, fuel displays, and battery monitoring
 - Operator assisted systems

Comms Wireless Data Transfer

A multi-mode communication solution that includes the use of commercial cellular networks and client Wi-Fi infrastructure, with optional satellite capability.

- Data is continuously synced to the Cloud either
- Efficient 2-way wireless communication designed for mobile assets using standard IP protocol stack
- Tower routing and wireless switching for seamless and reliable communications

Violet Edge Software

Our advanced software solutions process on the edge to provide business insights and analytics in real time. Dynamic data processing integrates asset, train, configuration, GIS and other specified data sources, to improve planning and operational safety.

As a Connected Solution, data is continuously synced to the Cloud either automatically or on-demand, eliminating the need to physically connect to the Event Recorder on the vehicle.

Cloud Computing

Wi-Tronix hosted Software as a Service (SaaS) suite of software services securely store, analyze, and retrieve information from anywhere, anytime and any device to provide valuable insights that maximize the utilization of your locomotives.

- Common User Experience for diverse data sets
- Data Visualization Tools
- SOC 2 Type 2 Compliant:
 - Ensures that we have and follow controls that provide security, availability, processing integrity, confidentiality and privacy



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