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Progressive RAILROADING

The INTERNET *of* THINGS

Why it Matters in Rail Country

Profile:
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Product/Service
Update: Vegetation
Management

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RAILWAY EQUIPMENT CO. The RRAMAC Connected Systems remote monitoring and control technologies from Railway Equipment Co. helps rail customers reduce response time, diagnose and eliminate many failures, and reduce operating costs through remote connectivity. When a critical alarm occurs, maintenance personnel are automatically notified via a text or email with a detailed description of the issue. A link to the asset via a Web browser or smartphone app can provide root-cause information leading up to the failure, as well as a camera view of the site. This allows maintenance to bring the proper tools and replacement parts to fix the problem with a single site visit. In some cases, remote connectivity will allow the problem to be fixed remotely without a service trip.

WESTERMO The DDW-242 and DDW-242-485 industrial Ethernet extenders are used to establish long-distance, high-speed remote connections between simple or complex Ethernet networks using existing copper cables, thereby reducing installation time and cost. The extenders include a range of features that deliver secure and resilient networking, even in extreme environments, which makes them suitable for mission-critical rail industry applications. The units enable Ethernet networks to be connected over distances of up to 9.3 miles, at data rates up to 15.3 Mbit/s on a single twisted pair cable. Using two pairs bonded, the rate can be doubled to support applications requiring larger bandwidths. An integral switch allows two Ethernet devices to be attached, and a choice of either 232 or 485 serial port enables legacy equipment to be incorporated into the IP network. The devices include a built-in port-based firewall securing data between trusted and un-trusted networks.

PROGRESS RAIL/EMD EMD Uptime, powered by Uptake, is a next-generation predictive analytics platform for condition-based maintenance. Using data intelligence, the platform provides actionable insights to help railroads minimize or eliminate unplanned downtime, which can improve asset utilization, optimize efficiency and performance, and ultimately increase p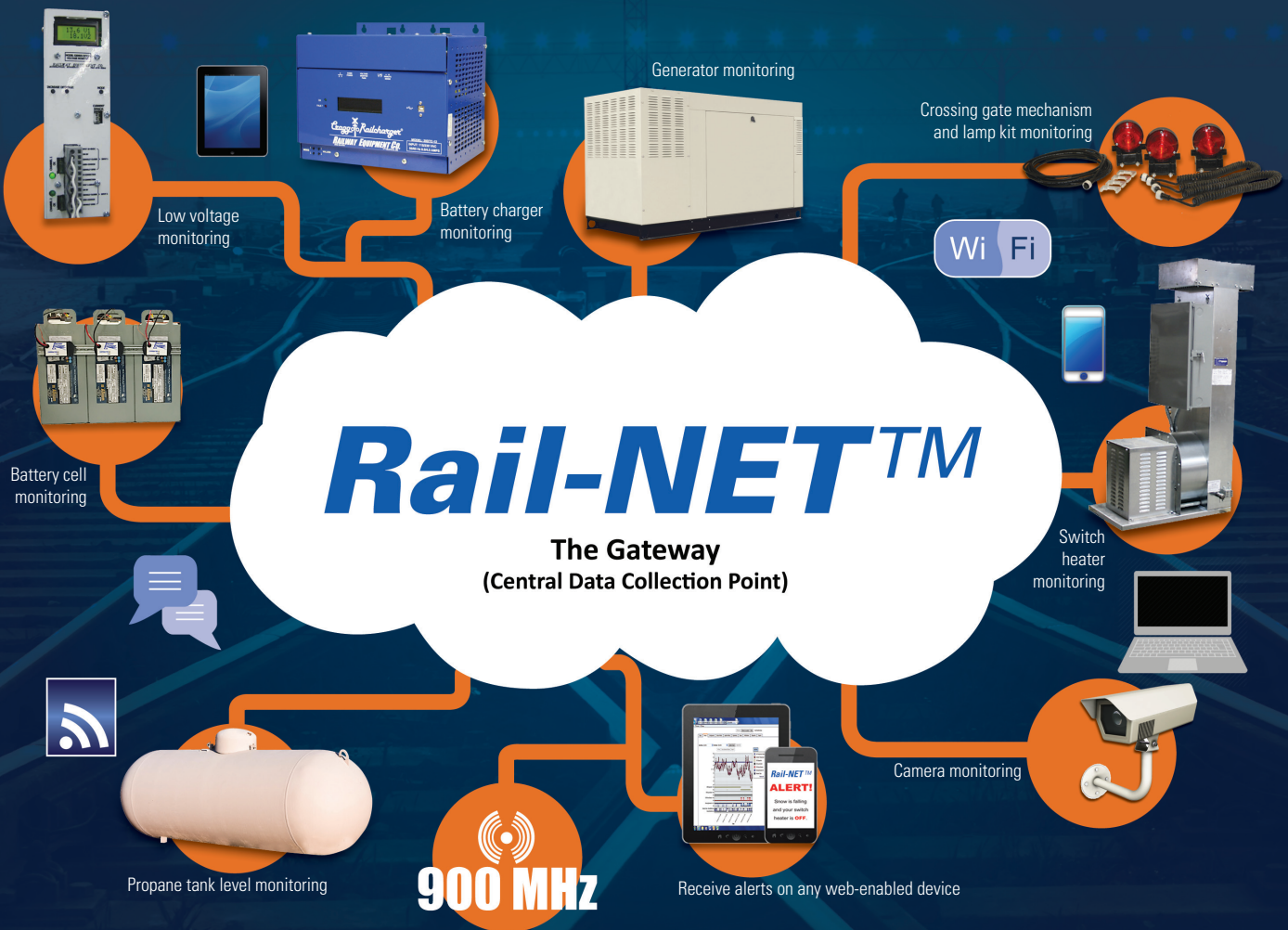rofitability. Progress Rail and EMD also use this data to continually improve their locomotives' reliability and performance. EMD Uptime uses a cloud-based portal to monitor locomotive faults and operating parameters in real time and provides diagnostics, prognostics and repair recommendations. The platform delivers scalable user access with mobility applications including metrics, key performance indicators and dashboards.

IEM CORP. Wheel Inspection System Environment (WISE™) installations are composed of one or more subsystems for advanced conditions-based monitoring of railway wheels, brakes, bearings and other components subjected to wear and tear. Subsystems include wheel profile, tread and disk brake measurement, wheel flaw detection and hot box bearing detection, among others. These systems collect measurements at the installation site, as well as store and transmit data within on-site networks or provide remote access through a secure Internet connection. The goal is to analyze this data in meaningful ways to optimize fleet efficiency and effectively manage operator resources. Proactive maintenance schedules are designed around the results. Worn components are identified and replaced before incidents occur.

RAILPROS FIELD SERVICES RailPros Field Services (RPFS) deploys a tablet-based field reporting system that provides clients with immediate access to daily information directly from jobsites. The system is aimed at delivering fast, accurate reporting and managing of remote jobsite workers on clients' projects. To deploy the system, RPFS purchased more than 180 tablets for their nationwide team of professionals. The reporting system includes project information and a signed daily work report. Additionally, the system allows jobsite personnel direct access to project related information, track charts, specific job details, maps and other information needed to support an assignment. The system also aids clients in monitoring project costs and streamlines project close-out activities.

GE RailConnect™ 360 provides railroads with data-driven insights to address velocity, fuel usage, reliability productivity and dwell. The RailDOCS Wayside Asset Management System, for example, plans, manages and optimizes the daily operations of railroad maintenance departments. RailDOCS is used to maintain and configure assets on location in the field, and to complete timely tests and inspections to comply with federal and railroad requirements.