Trimble Rail Asset Lifecycle Management Solutions

TRIMBLE. INTELLIGENCE IN RAIL.
Delivering intelligent asset data to improve utilization and reliability

Passenger and freight rolling stock operators understand the implications of asset failures. When components fail unexpectedly or maintenance is poorly managed, operational issues arise resulting in poor asset utilization. Not identifying failures in a timely manner, preferably before they happen, can mean increased delays or even cancellation of services, resulting in possible penalties, extra costs and loss of revenue. And failures can also lead to safety issues, a major concern.

Trimble is working with the rail industry to meet these challenges by delivering solutions that significantly improve work practices within operations and maintenance.

**Trimble Nexala Solutions**

**REMOTE DIAGNOSTICS, IN-SERVICE PERFORMANCE, & ASSET MAINTENANCE MANAGEMENT**

Utilize on-train equipment and cloud-based software to deliver real-time fleet-wide remote diagnostic information

The Trimble Nexala range of solutions are used by engineering, maintenance, and fleet operators of train operating companies to optimize maintenance programs, increase asset utilization, and improve fleet management. Trimble R2M real-time remote diagnostics solution reduces maintenance costs by decreasing staffing time to address faults. Trimble R2M’s powerful rules engine with customizable rules provides fully configurable technical and operational warnings and alerts which drives reliability growth and mitigates failures.

Enterprise-wide systems that facilitate efficient asset maintenance management

Trimble E2M unified system for asset maintenance management consolidates engineering workshop management and defect reporting, enabling the effective planning of maintenance across engineering depots, resources, and material requirements. This improves work utilization and resource planning while reducing an organization’s operating costs.

In-service planning and performance management system for operational excellence

Trimble P2M performance planning and management system utilizes timetable, actual vehicle location, and real-time in-service diagnostic information to identify the root cause of delays and to plan journeys for optimum timetable adherence and fuel usage.

**Trimble Beena Vision Solutions**

**WAYSIDE CONDITION MONITORING OF ROLLING STOCK**

Automatically capture and analyze rolling stock condition to flag potential issues before they happen

The Trimble Beena Vision™ range of wayside mounted non-contact measurement and inspection technologies allows the automated, proactive monitoring of rolling stock condition, providing data feeds that can be processed to effectively assess rolling stock condition from component level to full train inspection.

These solutions maximize the life of expensive components like wheelsets, enable maintenance cost savings, prevent costly incidences of derailment, decrease operational delays, and increase the predictability of long term maintenance scheduling.

Achieve maintenance improvement and minimize derailment events using wayside condition monitoring data

Trimble WISE™ software is a condition monitoring data management platform which provides a comprehensive unified interface to data gathered by wayside condition monitoring systems. Data from various types of wayside detectors including systems provided by Beena Vision and from other suppliers can be seamlessly integrated within WISE™ to rapidly assess rolling stock component condition.

Trimble TrainWatch software is a virtual train inspection portal developed to provide a comprehensive train inspection environment where the train inspector is able to inspect a full train using data gathered by wayside equipment.

**Delivering Intelligent Asset Data to Rolling Stock Passenger & Freight Operators**

Increase the value of rail data and act on insights

Trimble’s rail asset lifecycle management products manage the lifecycle of rail transport assets from operations through to maintenance and repair. Using this comprehensive portfolio of on-board and wayside condition monitoring solutions, rail companies can improve operational efficiencies, increase safety, manage service levels, and reduce costs.

Trimble rail solutions are relied on by rail operators worldwide to deliver actionable insight from data. Implementing Trimble’s end-to-end rail asset lifecycle solutions to maintain rolling stock assets, from remote diagnostics and condition monitoring, to predictive analytics and engineering asset management, improves operational efficiencies and performance.

**Trimble R2M System**

**REAL-TIME REMOTE DIAGNOSTIC MONITORING**

Trimble R2M system provides a comprehensive view of fleet status including specific on-train faults, recommended actions, and it identifies potential faults that may arise in the future.

**Trimble E2M System**

**ASSET MAINTENANCE MANAGEMENT**

Trimble E2M rolling stock asset maintenance management system, manages and tracks rail assets and components, streamlines parts and materials usage, optimizes resources, and procurement.

**Trimble D2M System**

**WAYSIDE WHEEL PROFILE MEASUREMENT**

Trimble D2M system uses high-definition images to inspect undercarriage structural components of railcars (wagons) and locomotives at mainline speeds.

**Trimble CAS Cab Advisory**

**IN-CAB ADVISORY**

The Trimble CAB cab advisory system is an on-board solution that informs drivers about train performance, adherence to timetable, energy efficiency, and advises of in-service corrective actions for improved operations.

**Trimble WheelView System**

**WAYSIDE WHEEL PROFILE MEASUREMENT**

Trimble WheelView™ wayside system measures wheel profiles of moving trains for derailment prevention, preventative maintenance and scheduling, and to reduce track/rail damage caused by worn wheels.

**Trimble TreadView System**

**WAYSIDE WHEEL TREAD & SURFACE INSPECTION**

Trimble TreadView™ system is a sophisticated automatic non-contact optical wheel surface inspection product that inspects wheel tread surface, flanges, and plate areas at mainline speeds.

**Trimble BrakeView System**

**WAYSIDE BRAKE MEASUREMENT**

Trimble BrakeView™ automatic wayside vision-based systems measure and inspect brake shoes (blocks), pads, or disc profiles at mainline speeds using high-speed digital imaging.

**Trimble TrainView System**

**FULL SCALE TRAIN IMAGING & INSPECTION**

Trimble TrainView™ full scale train imaging and inspection system consists of multiple line and area scan cameras that provide images of the train at mainline speeds with high resolution.

**Trimble CSCView System**

**WAYSIDE UNDERRAILAGE INSPECTION**

Trimble CSCView™ underrail imaging and automated inspection system produces high quality images to inspect underrail structural components of railcars (wagons) and locomotives at mainline speeds.

**Trimble TreadView System**

**WAYSIDE WHEEL PROFILES ALLOCATION**

Trimble TreadView™ wayside system uses high-resolution for automatic wheel tread profile and surface inspection, providing data feeds that can be processed and utilized to effectively assess rolling stock condition from component level to full train inspection.

**Trimble BrakeView System**

**WAYSIDE BRAKE MEASUREMENT**

Trimble BrakeView™ automatic wayside vision-based systems measure and inspect brake shoes (blocks), pads, or disc profiles at mainline speeds using high-speed digital imaging.
About Trimble

Trimble’s rail solutions combine the latest in sensors and monitoring technologies with customized software and wireless communications to quickly and accurately capture the data needed to maintain and construct rail infrastructure or to manage rail transport assets.

Trimble’s rail asset lifecycle management products manage the lifecycle of rail transport assets from operation through maintenance and repair. In 2014, Trimble acquired Nexala of Dublin, Ireland, providers of data aggregation and analytics tools for engineering and operations of rolling stock. In 2017, Trimble acquired Beena Vision of Atlanta, Georgia, a manufacturer of vision-based automatic wayside rail inspection systems. Using this comprehensive portfolio of on-board and wayside condition monitoring solutions, rail companies can improve operational efficiencies, manage service levels and reduce costs, while ensuring that service is maintained to the highest level. Customers using Trimble solutions include major freight operators such as BNSF, Aurizon, Norfolk Southern, and Canadian National as well as many passenger operators such as South Western Railway, Eurostar, SNCF, Irish Rail, the Go-Ahead group, Arriva, and Greater Anglia among others.

For more information, visit:
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