



C2M System

COMPONENT CONDITION MONITORING



Condition based maintenance for optimal efficiency

Trimble® C2M system provides full condition monitoring of key components, such as wheels and brakes, reporting on defect identification, wear detection, and automating maintenance planning.

COMPLETE OVERVIEW FACILITATES OPTIMAL FLEETS PERFORMANCE

Trimble C2M proactively analyses and detects anomalies with particular component behavior and uses this information to identify the impact on maintenance and service for the entire fleet. It provides a combination of both shore-based software and interfaces to trackside and depot equipment such as wheel lathes, measuring devices, on-train devices. Up-to-date condition monitoring and fault detection is managed by C2M through the definition of rules and alarms.

MULTIPLE INPUT AND COMPONENT TYPE COMPATIBLE

The system provides a comprehensive view of a component condition across an entire fleet for vehicle components including wheelsets, axle, brakes, shoe/gear, pantographs etc. and identifies immediate problem areas.

PRE-EMPT ISSUES BEFORE THEY HAPPEN AND PLAN MAINTENANCE

C2M's comprehensive condition monitoring capability identifies and reports on specific defects, wear detection, and automates maintenance planning. A procurement plan can be generated for each component type based on the typical replacement life of the component.

BENEFITS

▶ Reduce costs

Trimble C2M helps reduce maintenance costs through improved maintenance diagnosis. It also improves component life by monitoring rogue behavior and determining proactive maintenance actions.

▶ Management efficiency

Plan efficient component maintenance with C2M to improve fleet availability by minimizing time out of service. Optimize procurement planning with C2M with a better understanding of on-going condition status and utilization of components. Interface to asset maintenance management systems for automatic inspection and repair scheduling.

▶ Improve safety

Improve safety with constant monitoring of key safety related component condition to pre-empt issues before they happen.

FEATURES

- ▶ Integrates with trackside and depot equipment including wheel lathes, trackside measuring devices, handheld measuring devices, and on-train devices
- ▶ Provides a fleet summary view of the entire fleet identifying immediate problem areas (e.g. wheelsets, axles, brakes, shoe-gear, and pantographs etc.)
- ▶ Interactive and up-to-date condition monitoring and detection through the definition of rules and alarms using an intuitive graphical user interface
- ▶ Warning and danger level thresholds are specified for key measurements and the system automatically identifies and generates alerts when these thresholds are exceeded
- ▶ A procurement plan can be generated for each component type based on the typical replacement life of the component calculated by the system
- ▶ Interfaces to asset maintenance management systems for automatic inspections and repair scheduling

Trimble with our solution partners provide a number of trackside solutions for collecting data

- ▶ Trimble Beena Vision (WheelView)—Trackside wheel profile
- ▶ NextSense (Calipri)—Handheld wheel profile
- ▶ Lloyds Register (Gotcha)—Trackside wheel impact detection
- ▶ Lloyds Register (Gotcha APMS)—Pantograph condition
- ▶ Track-IQ (RailBAM)—Trackside hot axle box detection
- ▶ Greenwood Engineering (Miniprof)—Handheld wheel profile
- ▶ Hegenscheidt (Lathe)—Wheel turning machine
- ▶ Sculfort (Lathe)—Wheel turning machine
- ▶ Talgo (Lathe)—Wheel turning machine

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