FOR TODAY’S CHALLENGES

Improving safety at railroad crossings is a global imperative. In the EU and USA alone, with over 300,000 grade crossings, accidents at crossings represent almost a third of all railway incidents¹. And yet, today, challenges persist: intermittent long waits for gates, maintenance of detection circuits, track circuit degradation, and manual processes to troubleshoot, are just a few of the challenges impacting railroads and the public.

Wabtec’s Smart Crossings System combines a wireless communication control system that integrates directly with the train protection system with powerful real time analytics and monitoring – for optimized crossing activations and insights.

APPLICATIONS

Optimize Crossing Activations
Utilize robust wireless activation
Increase accuracy of warning times through locomotive feedback loop
Integrate crossing activation with Wabtec’s I-ETMS® train control system
Eliminate pre-activation on predictive circuits
Remove reliance on traditional track circuits

Enhance Crossing Maintenance
Remotely monitor, troubleshoot, and test with a rich set of data
Proactively identify issues before they become problems
Fine tune crossing systems for better overall performance

Gain Real Time Insights
Get a holistic view of every crossing on the network
Analyze, compare, and demonstrate crossing performance
Receive automatic alarms for conditions out of tolerance

500,000
Estimated grade crossings in the world¹

¹: International Level Crossing Awareness Day press release, 9 June 2022

SMART CROSSINGS
Next generation intelligent crossings
WIRELESS CROSSINGS

Wabtec’s Wireless Crossing System is designed to improve safety while increasing average train speeds and optimizing crossing-activation time.

How it works

Wireless Crossings utilizes data from the locomotive to determine when the train will arrive at a crossing. This estimated time of arrival is sent via the back office and directed to the specific wayside crossing controller.

The wayside crossing controller determines when to activate the crossing based upon this estimated time of arrival for the required warning time and preemption time.

As the train approaches the crossing, the status is updated to the crossing controller which activates the crossing at the appropriate time.

CONTACT

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ANALYTICS & MONITORING

Analytics and Monitoring provides real time data to back office systems for analysis of crossing performance and to aid in making efficient decisions for dispatching personnel.

How it works

Data on every crossing activation and train movement across the network is captured automatically and made available in one convenient location

Railroads can use real-time data to get insights into how crossings are performing and facilitate fine tuning for improved operation

Configurable alarms provide crossing exception notification

BENEFITS & OUTCOMES

Improve Safety Performance
Optimized crossing activation, higher accuracy warning times, eliminates need to disable crossings for maintenance, ensures the train follows speed limits through crossings

Increase Reliability
Integrates with automatic train protection system and provides direct feedback from the crossing to the locomotive

Increase Efficiency and Reduce Costs
Remote monitoring, automated testing

Enhance Maintenance
Remotely monitor and troubleshoot crossings without sending work crews. Shift from reactive maintenance to proactive maintenance

Reduce Emissions
Optimize wait times for cars at crossings

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