



SMART CROSSINGS

Next generation intelligent crossings

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.

500,000

Estimated grade crossings
in the world¹

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

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

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.

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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