



## Dwell and Asset Utilization Application, Powered by EdgeLINC

Enhance visibility into issues that slow rail operations—and automate responses to them.

For rail operators, utilization is key to efficiency and profitability. Identifying the causes of slowdowns can be a time-consuming challenge. Even with a modern, highly instrumented rail fleet, operators often lack visibility into the causes of unexpected delays in their operations.

Rail operators need automation tools to proactively identify and address root causes of delays, leverage opportunities for improvement, and use unavoidable dwell time to their advantage.

Enter the Wabtec Dwell and Asset Utilization Application, Powered by EdgeLINC. Built in collaboration with SAS, Wabtec Dwell and Asset Utilization Application delivers comprehensive, real-time insights into performance across rail operations. Rail operators can take full control of their trains, gaining new levels of efficiency.

The bottom line? Decreased costs and competitive advantage through optimized routing, fewer service stops, and faster provisioning—all contributing to higher utilization, and more hours spent in revenue-generating service.

**\$15.2M**

Annual waste from U.S. Class I main-line delays<sup>1</sup>

Transportation Research Record

**150K**

Data points per minute generated by a modern locomotive<sup>2</sup>

CNET

<sup>1</sup> Train Delay and Economic Impact of In-Service Failures of Railroad Rolling Stock, *Transportation Research Record Journal of the Transportation Research Board* No. 2261, 2011

<sup>2</sup> How GE Got on Track Toward the Smartest Locomotives Ever, *CNET*, June 2014

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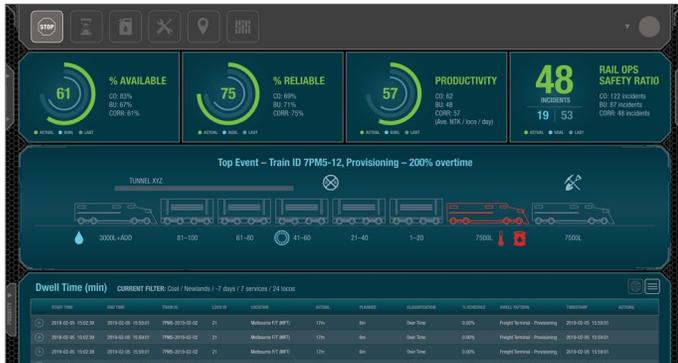
Results may vary and depend on the specific rail operation.

## Collect, analyze, and act on data in real time

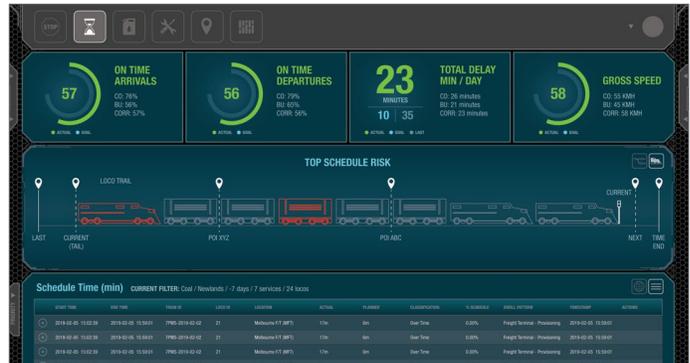
The Dwell and Asset Utilization Application consists of three layers that bring together the best in data collection, data analysis, and data-driven recommendations.

- GoLINC®**, powered by 6th-generation Intel® Core™ i7 processors, is a mobile data center for the locomotive. It provides robust processing, networking, and storage for the full spectrum of onboard systems. Together with EdgeLINC software, GoLINC has been certified as an Intel® Market Ready Solution, validating its suitability for rapid, large-scale deployments.
- EdgeLINC** has embedded SAS® Event Stream Processing to analyze volumes of continuously flowing events. Its robust enterprise architecture supports a diverse range of devices—like GPS and onboard sensors—and simplifies the deployment of IoT. Additionally, its direct integrations with back-office systems provide real-time visibility into train configurations, schedules, and other mission-critical data.
- Dwell and Asset Utilization Application, Powered by EdgeLINC** leverages advanced geospatial analytics inside the integrated SAS rules engine to deliver actionable insights—such as identifying facilities with the slowest responses and track segments with highest signal failures. This allows operators to pinpoint issues that reduce revenue, and take actions to address them.

**Figure 1.** The dwell time dashboard can help operators diagnose slowdowns.



**Figure 2.** The utilization dashboard can help predict and prevent disruptions.



### Paint a full picture of asset utilization

The Dwell and Asset Utilization Application tells you the *real* story of your asset utilization, revealing where locomotives are stopped, when loading and crew changes are causing longer-than-expected dwell times, and more. This data supports rail operators' decision-making process to help increase utilization. For example:

- During an unscheduled delay, the Dwell and Asset Utilization Application can recommend sending out a refueling truck so the train can skip a trip to the provisioning facility, proactively using time that would otherwise be spent idle.
- When a train is close to a maintenance facility, the staff can be automatically alerted to prepare for provisioning. This gets the train back into operation quickly.
- Patterns can be identified around routes that experience delays, leading to better optimized route planning by the railroad. And service stops can be synchronized with crew schedules, reducing the need for additional stops for crew changeovers.

To learn more about how the Dwell and Asset Utilization Application, Powered by EdgeLINC can help optimize your operation, visit [wabtec.com](http://wabtec.com)

To discover how Wabtec partners with SAS to deliver cutting-edge technologies, visit [sas.com/wabtec](http://sas.com/wabtec)