



Siemens Mobility Keeps Transportation Systems on Track

SIEMENS

30%

Reduction in lifecycle cost of a typical train

150,000

Data points collected and analyzed per second, turned into actionable insights

2,000

Components analyzed per train, mostly via IoT sensors on trains worldwide

Business Challenge

To prevent delays due to equipment failures, Siemens Mobility needed to provide fast, accurate insights to customers through its app. The company needed real-time analytics for both IoT and legacy data.

Transformation

To reach its ambitious 100% train availability-to-schedule goal, Siemens Mobility partnered with TIBCO. Customers get insights via Railigent, the Siemens Mobility app built with TIBCO Spotfire software. Spotfire analytics allows for automated corrective action and quick decision-making.



We use TIBCO Spotfire software for advanced analytics and data cleansing, and with Railigent and Spotfire software, customers have seen a decrease in unplanned downtime by 30-50%.

—Gerhard Kress, Vice President, Data Services, Siemens Mobility

A 2019 TIBCO Trailblazer award winner, Siemens Mobility provides transportation systems for passenger and cargo transport. The company manufactures mobile assets for road and rail, and provides management and maintenance services of these assets for the duration of their lifecycle.

Benefits

Identify the Problem, Provide the Solution

To achieve its goal of 100% asset availability for its transport provider customers, Siemens Mobility deployed a robust analytics solution that would help anticipate failures and breakdowns.

“We want to react before something happens, so we can get ahead of the problem. That also helps make the passengers feel safer,” explained Gerhard Kress, VP of data services at Siemens Mobility. “We’re not just telling our customers there is a problem — we tell them exactly what is going on, what actions to take, and we assign a technician group to be there when the train comes in.”



Data Analysis at the Edge

Predicting failures before they occur is possible with data analysis at the edge. Siemens collects every piece of data it can — most of which is collected via sensors at the edge — then cleans and prepares it for analysis. Some trains have nearly 2,000 components that must be monitored while they are traveling; for example, to detect vibration patterns of train bearings. Older trains pose difficult data challenges, but the company still needs to be able to monitor and measure their performance and make improvements.

“We analyze all the train data in Spotfire software to understand the condition of each component. Vibration sensors transmit a lot of data, but we have to analyze it at the edge. If we see a different degradation pattern, we immediately alarm the train operator while it is in transit and schedule maintenance without affecting travel activity,” Kress explained.

Better Together: The Value of Partnerships

Siemens Mobility is one of many customers who have found that TIBCO technology works better together with complementing technologies, such as Amazon Web Services (AWS). The Siemens Mobility's data asset management platform, Railigent, is built on AWS and is fully cloud-native. "We believe it is more important to be fast to market than to keep assets and own everything yourself," Kress stated.

The company also shares Railigent with 16 partners. "We've opened Railigent up as an open ecosystem, including to some competitors. Anybody who wants to join us and help provide value to the customer is more than welcome," said Kress.



Siemens' intent with opening Railigent was to increase visibility and innovation for customers in the field. "We provide some of our data insights to our partners because we want to ensure great outcomes for all customers. It's not about the technology in itself, it's about whether or not we are making something better for our end users; that's where TIBCO comes in."



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05Aug2020