



## *News Release*

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***Photo Included***

### **KB SIGNALING EC6™ TRACK CIRCUIT REACHES 800-UNIT MILESTONE**

*Freight Railroads Accelerate Shift to Plug-and-Play Digital Track Circuit Systems that Support  
Modern Signal Control While Preserving Legacy Infrastructure*

**GRAIN VALLEY, Mo. – July 7, 2025** – Two years after entering revenue service, KB Signaling Inc.'s Electro Code™ 6 (EC6™) track circuit has reached a major milestone: more than 800 VTI-2E™ modules sold and installed throughout North America. That translates to more than 4,800 miles of signaled track – roughly the distance from Pittsburgh to Los Angeles and back. The milestone reflects growing industry demand for resilient, low-maintenance digital signaling technologies capable of performing in challenging rail environments.

The EC6 track circuit provides two-way safety-critical digital communications through the rails, supporting train detection, signal aspect transmission, broken rail identification, and data integrity verification. Designed to integrate with the company's EC5™ and ElectroLogIXS® systems, the EC6 track circuit offers a drop-in upgrade that requires no disarrangement of wiring or changes to application logic.

"The rate of adoption is picking up," said Aric Weingartner, director of products at KB Signaling. "We've already sold more units in the first half of 2025 than we did in the two previous years combined. That tells us railroads are turning to the EC6 track circuit as a solution for long-standing challenges with track circuit performance."

### **Field-Proven Results**

Several Class I railroads and transit authorities across North America are using the EC6 track circuit to help streamline signaling infrastructure, reduce maintenance demands, and resolve long-standing circuit reliability issues.

Customers have reported significant service enhancement and reduced service disruptions, along with opportunities to minimize complexities and to advance digitalization. The uniform success highlights the EC6™ track circuit's ability to outperform legacy systems – especially in areas affected by saltwater exposure, unstable ballast, or contaminated subgrade.

### **Digital Signal Intelligence Drives Greater Efficiency**

Unlike older analog track circuits, which rely on fixed pulses and limited data exchange, the EC6 solution uses digital communications to transmit a larger volume of information – approximately 100 bits per second – across each rail segment. The system shares information between both ends of a circuit, enabling precise assessment of ballast conditions, which is highly valuable data for both the signaling and track departments as well.

“With legacy systems, railroads had to manually adjust circuits to compensate for seasonal changes or poor ballast,” said Jeff Fries, chief technologist at KB Signaling. “The EC6 track circuit doesn’t need those adjustments. The data it provides makes the circuit more stable – even in areas with inconsistent conditions.”

The ability to operate over longer distances also allows railroads to reduce the number of track circuit segments, cutting the need for enclosures, power drops, insulated joints, and other support infrastructure. This capability has meant cost avoidance that approaches \$250,000 in some locations for every track circuit that is eliminated.

### **Simple Installation and Long-Term Flexibility**

Installing the EC6 track circuit is straightforward. Upgrades typically involve swapping a module and updating software – often completed in less than 30 minutes. That ease of deployment has helped accelerate adoption among Class I railroads.

“Most of the underlying system stays the same,” said Greg Hann, KB Signaling senior product manager. “We’ve designed the EC6 track circuit to be a plug-and-play upgrade that doesn’t require signal engineers to redesign existing logic. It’s a fast path to better performance.”

As a digitized platform, the EC6 track circuit adds functionality not available in earlier systems. Its built-in data channel enables secure communication between rail endpoints, with message authentication and integrity verification to protect against signal spoofing or configuration errors. These enhancements represent a step forward in safety assurance – even as the system remains simple to deploy.

“Because we know how much energy is put in and received at each end of the rail, we can evaluate loss across the track – and understand the condition of the track structure itself,” Fries said. “That’s incredibly valuable when you’re trying to stay ahead of problems.”

## **Software Upgrades and New Applications**

Because the EC6™ track circuit is software-defined, it can be enhanced over time without changes to hardware – extending its value and adaptability as railroad needs evolve. Railroads can configure the system to transmit application-specific messages through the rails, such as alerts for high water, falling rock, or other infrastructure threats. The EC6 track circuit can also interface with asset health analytics platforms to assess track structure condition, ballast resistance, and rail integrity in real time.

Looking ahead, future upgrades may allow the EC6 track circuit to send messages directly to onboard train systems – laying the groundwork for smarter interaction between wayside and vehicle-based technologies. This capability positions the EC6 track circuit as a building block for more responsive and data-rich rail operations.

These advantages underpin KB Signaling's development of new software tools like RailTempEst™, a forthcoming application that leverages track circuit information from products such as the EC6 track circuit to estimate the temperature of the rails. This real-time knowledge of rail temperature (not reliant on weather forecast data) will help railroads proactively identify risks, optimize maintenance, and improve overall system capacity.

## **Strategic Context and Market Expansion**

The EC6 solution builds on a product line that dates back to the 1970s. Its success follows the August 2024 acquisition of Alstom Signaling North America by Munich, Germany-based Knorr-Bremse, which brought KB Signaling into a global portfolio of rail safety and control technologies. The acquisition was a significant step as Knorr-Bremse's global and North American rail divisions drive to transform from a vehicle system supplier to a supplier of mission-critical systems for the entire rail ecosystem.

With operations across six North American sites and a workforce of more than 700 employees, KB Signaling is positioned to grow its presence in digital rail control, command, and signaling. The EC6 track circuit's market adoption reflects the company's broader strategy to provide scalable, software-enabled solutions for all railroads.

"No other track circuit offers EC6's combination of plug-and-play installation, environmental resilience, and digital data throughput," Hann said. "The product addresses long-standing issues – such as false occupancies and costly maintenance cycles due to changing track conditions for weather or contamination. And as we continue to build out supporting applications, the value will only increase."

To learn more about the EC6 track circuit and its capabilities, talk to a KB Signaling account manager or call 1-800-825-7090.

## **About KB Signaling**

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KB Signaling develops and supplies unparalleled end-to-end wayside and onboard conventional signaling Control, Command, and Signaling (CCS) platforms and solutions. A trailblazer, we are driven to provide the best solutions for improved safety, performance, and lower overall operating cost for today's transit and freight railway systems and operators in North America and beyond. Our 700 team members have a deep customer commitment that fuels us to deliver solutions for improved rail performance, safety, and overall operating cost. KB Signaling is a member of the Munich, Germany-based Knorr-Bremse, the global market leader in braking systems and a leading supplier of other safety-critical rail and commercial vehicle systems. Follow us on LinkedIn at <https://www.linkedin.com/company/kb-signaling>.

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