

# Successful Collaboration

## Enhancing railway safety & efficiency

Network Rail has embarked on a plan aimed at fostering enhanced collaboration, designed to increase safety, performance, efficiency, and asset sustainability across its operations. The initiative underscores Network Rail's commitment to not only advancing its infrastructure, but also ensuring the safety and reliability of its services for passengers.



### The Challenge

The railway sector faces a constant challenge to maintain and improve the safety and efficiency of its operations while minimising on-ground personnel exposure to hazards. Network Rail identified two critical issues: the need to reduce "boots on ballast," thereby enhancing trackside safety, and the need for advanced warning of power system faults to prevent disruptions. Addressing these challenges required an innovative approach to system monitoring and fault detection.

### The Solution

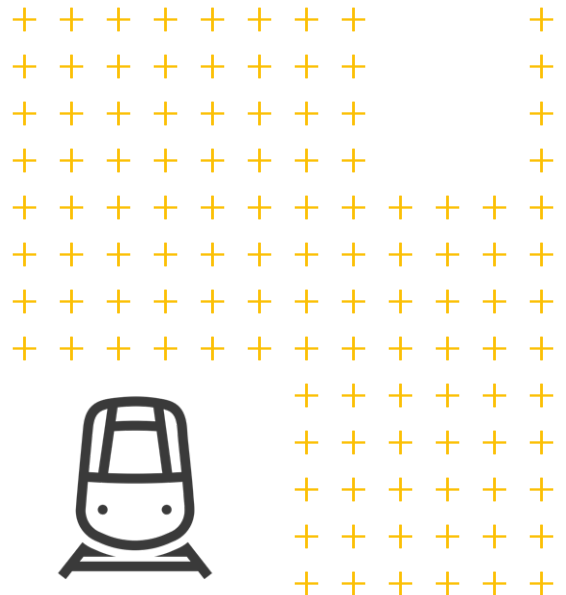
In response, Network Rail committed to a significant upgrade of hundreds of systems to Tier 2 technology across most routes utilising Bender technology.

This cutting-edge solution from Bender allows for continuous monitoring of each circuit, serving as a viable alternative to traditional trackside cable testing.

The system can be installed without disrupting railway operations, eliminating the risk of power failures and subsequent train delays, whilst the capacity to reconfigure power systems without trackside intervention, streamlines operations and reduces the need for onsite adjustments. Both provide a significant advantage for trackside safety and passenger service continuity.

Precise location of core to earth faults, makes it the only system capable of such accuracy, with the unique ability to monitor switchgear and cables separately in Tier 1 installations, enhancing diagnostic capabilities.

This was demonstrated at Wantage, where the Tier 2 system successfully pinpointed a feeder issue, prompting a swift repair. The system's fault location mode was remotely managed by Bender, highlighting the system's efficiency in preventing recurrent site visits.



# Headline Figures

- A track record of 20 years in monitoring success, demonstrating the reliability and effectiveness of the adopted technology.
- Installation of over 1500 systems, highlighting the scalability and widespread acceptance of the solution within Network Rail's infrastructure.
- The initial phase of the rollout encompassed a £40 million project that achieved cost recovery within 18 months - before the full implementation of all sites and without remote condition monitoring. This financial efficiency underscores the significant return on investment and operational benefits of Bender technology.

Network Rail's proactive strategy and partnership with Bender in adopting Tier 2 technology represents a substantial leap forward in railway safety and efficiency and highlights how strategic collaborations and technological advancements can revolutionise infrastructure management, setting new benchmarks for the railway industry.



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