FRAUSCHER

Track more with less.

Case Study | US

Class 1 Yard Project

Scenario

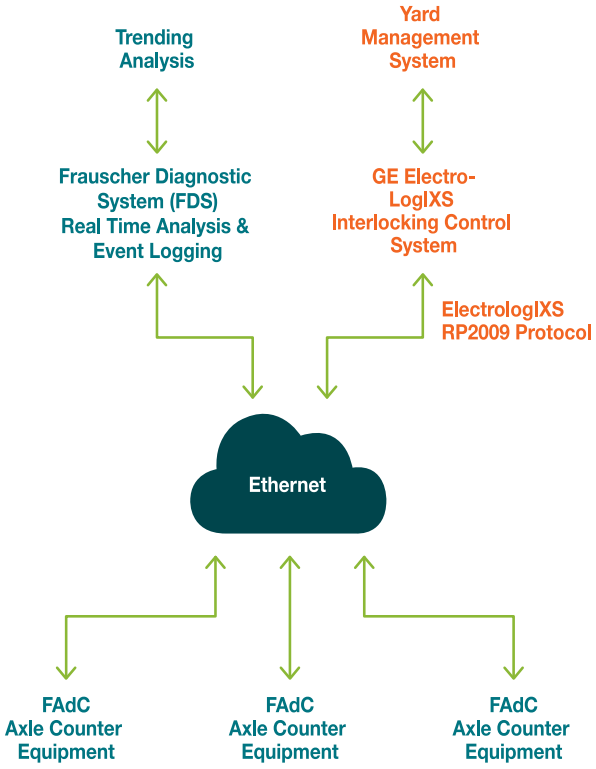
Frauscher was approached by a North American Class 1 Railroad planning a major expansion of one of its yards. The scope of the expansion was to build an operational multi-track flat yard on vacant land within 6 weeks. The solution for this project would protect switches during operations. Switching maneuvers would need to be controlled via an operator control panel in the dispatch office.

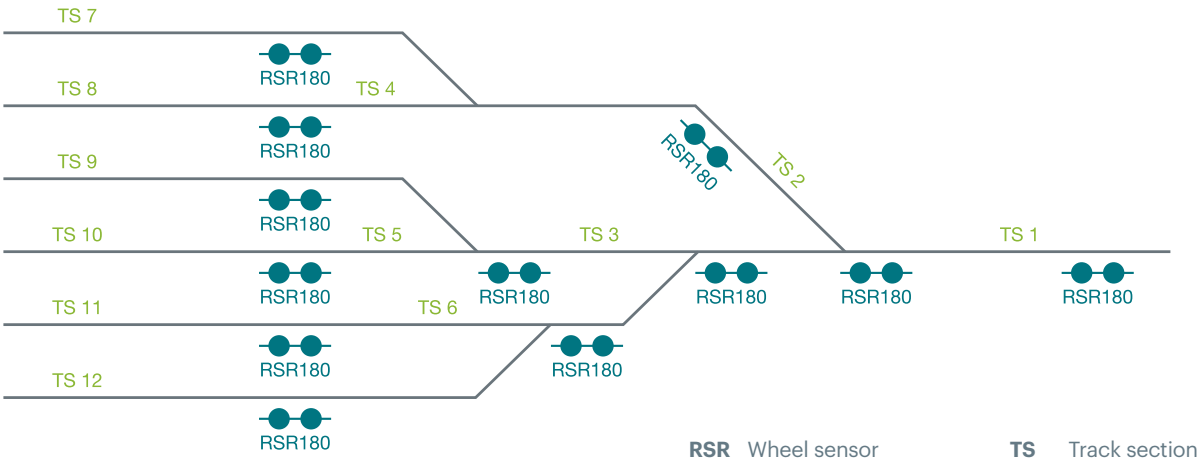
A difficult environment

This Class 1 yard's location experiences challenging environmental conditions. Installation of the cabling, sensors and axle counter equipment occurred in early winter, with snow already on the ground. Cold weather conditions would only intensify as winter progressed. Personnel welcomed the unique capability for sensors to be calibrated remotely, avoiding the need for manual calibration on track.

Requirement to integrate with customer's equipment

The customer benefits from certified, proven interface capabilities between the FAdC and the GE ElectroLogIXS interlocking. The RP2009 communications protocol allows efficient, reliable and fail-safe access to track section status, and provides a full suite of reset features. The FAdC is designed for flexibility with minimal components, reducing space requirements and the number of required spare parts. This central control system takes outputs from all sensors and controls the entire yard by activating switches and signals. In addition to the RP2009 protocol, Frauscher has communication protocols compatible with products of all the major interlocking manufacturers.





Installation challenges

The short time allotted to complete the project, as well as the space constraints that exist in yard layouts, posed a challenge. Railroad personnel pre-wired the yard prior to the arrival of our easy-to- install sensors and axle counter equipment. Frauscher engineers trained railroad personnel on site, demonstrating the ease of sensor installation with the Frauscher rail claw. Each sensor requires approximately 5 minutes to install, and can be relocated, adjusted or removed with ease. The space required for sensors is minimal, ideal in tight yard applications.

Solution

The solution was designed by creating an interface between the GE ElectroLogIXS interlocking system and the Frauscher Advanced Counter FAdC, utilizing an Ethernet connection to provide occupancy status for the entire yard. Seventy-six Frauscher Wheel Sensors RSR180 were installed to provide inputs to the FAdC. The Ethernet interface between the axle counter and the interlocking system utilizes the RP2009 protocol, allowing seamless integration between the two systems.

Benefits

The close collaboration between Frauscher engineers and the Class 1 railroad personnel resulted in the project being completed a day in advance of the 6-week timeline that had been set. The Frauscher system is based on a modular design, allowing for staged installations. It provides flexibility by allowing changes to be made as needed without disruption or delay. The FAdC is extremely reliable, provides high availability, operates in harsh environmental conditions, and provides zero speed capability. Prior to the arrival of the equipment, Frauscher engineers were able to train the railroad employees to install and manage all components of the system. This training will provide significant cost savings to the railroad over time, reducing downtime during future operations.

Diagnostics

In addition, the Frauscher Diagnostic System FDS was deployed to provide powerful maintenance tools. Historical performance data is stored for easy retrieval, including data feed that provides trending analysis, either locally or remotely. The GUI interface provides real-time system health data, enabling straightforward maintenance and ease of troubleshooting.

Conclusion

A significant advantage of the Frauscher system is the flexible design of the FAdC, allowing efficient data transfer to the ElectroLogIXS interlocking. This project features a centralized system architecture, which can be easily expanded as needed. Frauscher's robust and resilient wheel sensors ensure safe and reliable switch point protection through tough weather conditions and harsh EMI influences.

Frauscher's ability to react quickly and deliver fully configured equipment on a tight deadline enabled the customer to proceed with confidence, knowing the vital project would be completed on time. Installation was quick and efficient, thanks to Frauscher's easy-to-install sensors and rack-mounted FAdC equipment. Equally important to the railroad was the fact that our engineers were on site during the installation, offering valuable support and training, which is still available to them, even though the project is complete. The railroad can independently manage the system, reduce costs and increase uptime.