



Application Solution

Unique Yard Solutions with Wheel Sensors and Axle Counters

Axle counters have been considered the gold standard for train detection in much of the world for decades. In North America, the shift to this more modern and reliable technology has been slower. However, since entering the North American market in 2015, Frauscher has successfully demonstrated to operators, engineering firms and OEMs how our highly reliable wheel sensors and axle counters can improve their operations, and have worked closely with them to develop unique wheel detection and axle counting solutions designed for their custom applications.



Frauscher engineers can work with you to customize a safe and efficient system for your unique requirements and applications with our state-of-the-art wheel sensors and axle counting systems.

Coal Capacity Project

- A Class 1 faced challenges with its unreliable legacy system and the inability to acquire spare parts
- Frauscher worked with the operator's engineers to upgrade the system, without changing the logic programming or third party equipment
- Wheel sensor outputs are transmitted to the wheel signal converter, which is directly connected to the programmable logic controller (PLC) via optocouplers
- The wheel sensor outputs are used to determine when the rail car is in the correct position, then the PLC will trigger the dumper to release coal into the car





Petroleum Spill Prevention

- Operator wished to automate the process of loading petroleum into rail cars
- Objective was to prevent movement of the tanker car while being filled to avoid dangerous spills
- Wheel sensors are connected to the Frauscher Advanced Counter FAdC to detect car movement and direction, in a vital and failsafe manner.
- If improper movement is detected, the loading arm is automatically shut down to prevent a spill

Rolling Resistance Class 1 Hump Yard

- 47 classification tracks, 900-1600 cars humped/day
- Existing sensors required frequent calibration
- After two years of testing, the operator deemed the RSR110 sensors more reliable than existing sensors, proactively retrofitting them with WSC in critical areas
- Systems are compatible with existing equipment, allowing gradual replacement and quick hot spot fixes
- Frauscher system used to calculate rolling resistance and speed, and to automate switches
- The railroad's integrated solution is able to achieve an accuracy level of +/- 0.001 mph based on the optocoupler outputs provided by the WSC



Full Yard Automation & Switch Point Protection – Class 1 Yard

- 22-track flat yard expansion in early winter conditions with a six-week completion deadline
- Frauscher engineers trained personnel on site to install, operate and maintain the system
- 77 wheel sensors connected to the Frauscher axle counter provide inputs; the axle counter is interfaced with the interlocking to vitally provide occupancy status for the entire yard via Ethernet
- System not affected by the harsh environment
- Remote diagnostics and maintenance capabilities

Grade Crossing – Class 1 Yard

- A grade crossing in a Class 1 yard was experiencing availability issues, causing significant downtime
- In addition to availability issues, spare parts were no longer available for the legacy magnetic sensors
- Frauscher wheel sensors were quickly clamped to the rail without drilling. The axle counter was easily integrated with the existing crossing controller
- Frauscher sensors are not affected by snow, floods or deteriorated track and ballast
- The Frauscher system provides remote diagnostic, calibration and preventative maintenance capabilities

