

Norfolk Southern AI Train Inspection Portal

Leetonia, Ohio



We are a safe railroad, and we are going above and beyond to become even safer.

The process includes hardware, software, and people. The Digital Train Inspection Portals are equipped with 24-megapixel track side cameras and stadium lighting. The Machine Inspection technology captures ultra-high resolution, 360-degree images of the passing rail cars at speeds up to 70 MPH detecting things (brakes, leaks, bearings) which are difficult to detect with the human eye while the train is stationary. The in-house data science AI team has developed 38 algorithms and deployed them across heavily trafficked lanes. The field proven algorithms have demonstrated very high accuracy levels, while having very low false positives. Critical defects are flagged for immediate handling.



As a result of the recent East Palestine, Ohio train derailment catastrophe, Norfolk Southern Corporation has developed and is deploying Digital Train Inspection Portals to enhance rail safety across the company's 22-state network. The portals feature cutting-edge Machine Vision Inspection Technology developed in part with (GTRI), who engineered the hardware, and Norfolk Southern's Data Science/Artificial Intelligence (AI) and Mechanical Teams, who built the brains behind the program. The project aims to supercharge Norfolk Southern's safety infrastructure and inspection processes with 15 portals to be installed by the end of 2024, potentially more to follow.

The galvanizer worked closely with the BSE Welding & Fabricating, located in Vickery, Ohio. The project consisted of galvanizing material for five Inspection Portals which are already in use, the sixth portal is galvanized and will be shipped January 2024. The galvanizing team communicated with the fabricator on a timely galvanizing schedule to meet their project timelines. As a value-added service to our fabricator the inside sales team coordinated and arranged freight to each job site. The galvanized project will stand the test of time, coating durability, corrosion performance, sustainability for many years to come.

The first portal was installed on busy tracks in Leetonia, Ohio, less than 15 miles from where the train derailed in East Palestine in February. ■

Galvanizer
V&S Columbus Galvanizing
Fabricator
BSE Welding & Fabrication
Owner
Norfolk Southern

Transportation