

## CASE STUDY – NORFOLK SOUTHERN

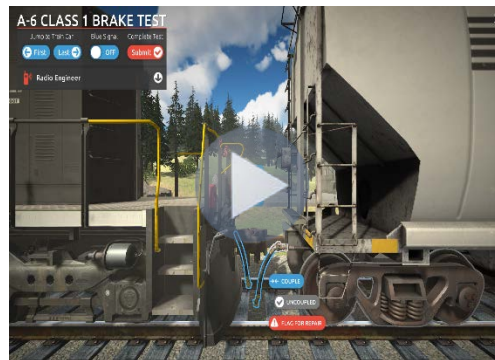
### BACKGROUND & PROBLEM

Inspecting and testing freight car air brakes, a common railroad task, is a fundamental part of a railroad's initial training for Conductors and Freight Car Mechanics. This inspection and testing, known as a **Class I Brake Test – Initial Terminal Inspection (A-6)**, requires Norfolk Southern to have multiple freight cars on-site and allocate a significant amount of training time for demonstration, practice and evaluation.

### SOLUTION

To alleviate physical space & time constraints, NS deployed simulation based training (built by Heartwood) covering the inspection process. The 3D sim allows a student to visually inspect randomized freight cars while manipulating brake components to properly configure the brake system.

The student determines correct brake pressure and inspects for brake application & release via an exam practice mode. This gives the student additional practice at their pace, from any device, with a record of their performance given at the end.



### RESULTS

1. Students loved it, they can do the task whenever they have time, as opposed to scheduled. An instructor observed conductors training with the 3D sim before class even started and asked to take it back with them.
2. This year alone, Norfolk Southern will train 50-100 freight-car-repair personnel and 1800 conductors using the simulation, with the possibility of even broader use soon (15,000 personnel).

### BENEFITS

1. Improved knowledge of air brake components and functions
2. Increased efficiency when performing the A-6 Brake Test
3. Increased proficiency when determining the condition of air brake equipment
4. A standardized training resource available to all. The 3D sim is also a formalized tool for refresher training for a given individual and part of a wider initiative for meeting FRA Part 243 training requirements.

*"Confidence and mastery demonstrated has noticeably improved! Whereas students seemed uncertain before, you can now see that person knows what they're doing."* - Manager Technical Training

### CONCLUSION

Norfolk Southern is identifying other key training areas to deploy a suite of 3D training simulations and partnering with Heartwood to make this technology available to other interested railroads.



### Customer Snapshot

#### About

Norfolk Southern Corp is one of the nation's premier transportation companies. Its Norfolk Southern Railway subsidiary operates approximately 19,500 route miles in 22 states and the District of Columbia, serves every major container port in the eastern US, and provides efficient connections to other rail carriers. Norfolk Southern operates the most extensive intermodal network in the East and is a major transporter of coal, automotive, and industrial products.

Founded: 1982

Location: HQ Norfolk, VA

Employee #: 30,943

Revenue: \$10.6 Billion

Website: <http://www.nscorp.com>

