

Railway Solutions

- BUILD GEOSPATIAL INFRASTRUCTURES
- IDENTIFY OBSTACLES & HAZARDS
- ANALYZE TRACK BALLAST PROFILES



*“Having a spatially accurate geospatial 3d inventory of the entire railroad, all **20,000+ miles** of it - that’s been a game-changer for us.”*

TONY FOISY, SENIOR PROJECT
MANAGER - FIELD SERVICES
TEAM

| **COMPANY:** CSX TRANSPORTATION

| **WEBSITE:** CSX.COM

CHALLENGE

CSX is one of the nation’s leading transportation suppliers of rail-based freight and intermodal containers, operating and managing over 21,000 miles of track spanning 23 states, DC, Ontario and Quebec. Nearly two-thirds of Americans live within CSX’s service territory.

In 2008, the Rail Safety Improvement Act mandated the implementation of Positive Train Control (PTC) systems - technologies designed to automatically stop a train before certain accidents related to human error can occur. PTC mandated CSX to survey the entire railroad at an unprecedented level of accuracy and maintain those assets in an industry data model. The project required maintenance of all changes - quickly becoming a daunting task of change management throughout their operation network with the added challenge of railroaders’ hesitancy to do anything that interrupts the flow of train traffic.

RECOMMENDED PRODUCTS



SCOUT-16



SCOUT-32



SCOUT-ULTRA



SOLUTION

Previously, CSX sent teams out with GNSS survey equipment to walk the track, taking shots every 50 feet to update their asset inventory and change inventory for validation. Fast forward to today, CSX utilizes the Phoenix LiDAR SCOUT systems to deploy their high-rail trucks and geometry cars to continuously collect data for 200+ mile corridors - a massive savings in time and more importantly a huge improvement in safety.

APPLICATION

The transportation side of CSX moves multi-million dollar equipment, from oversized generators to military equipment. **To ensure the expensive cargo arrives safely to its destination, CSX first scans the planned route to extract cross-sections of bridges, tunnels, and other overhead obstructions from the LiDAR in order to identify clearance hazards prior to transport.**

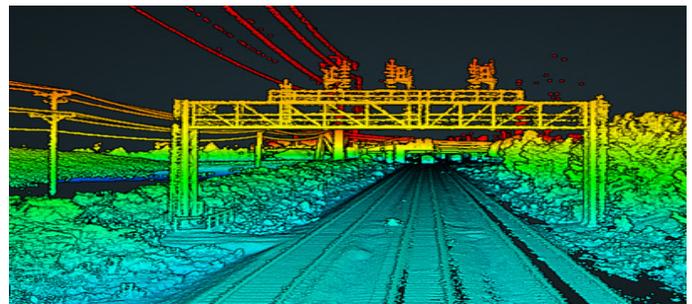


PARAMETERS

- **Site:** Rail Corridor
- **Solution:** SCOUT-16 & SCOUT-32
- **AGL:** 4m
- **Ground Speed:** 25-40mph
- **Point Density:** 800+ ppsm

RESULTS

CSX now owns and operates seven Phoenix LiDAR systems. (4) SCOUT-16 systems mounted on high-rail trucks with Ladybug cameras and (3) SCOUT-32 systems permanently installed on the backs of rolling rail cars. The high-rail trucks can travel on both road and railroad with this flexibility enabling them to go anywhere at any time to support immediate business requests. The rail-based geometry cars are designated to travel and cover the entire 21,000+ mile network at least one time per year as part of their safety protection protocol, with LiDAR continuously collecting data.



LiDAR utilized for overhead obstruction clearance analysis prior to transporting multi-million dollar oversized equipment.