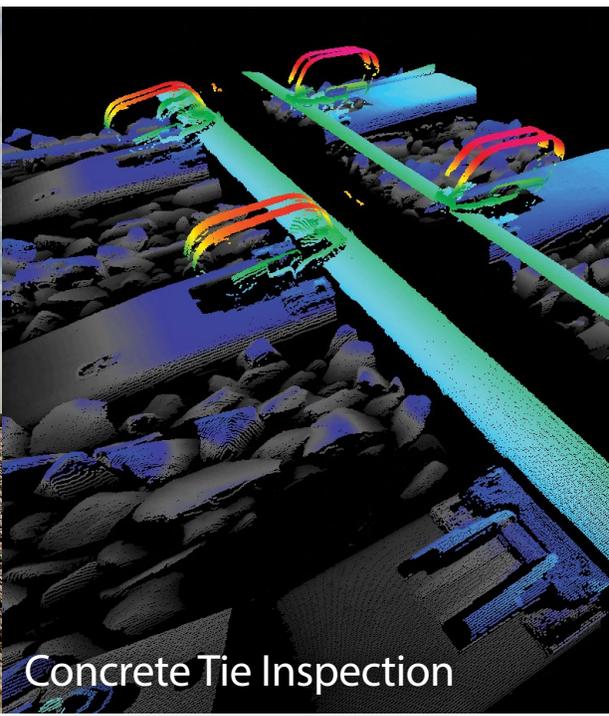


Aurora®



Tie Inspection
Technology



Concrete Tie Inspection

Turn tie inspection into savings and safety.

Using state-of-the-art imaging technology, Aurora® scans your tracks to reveal the exact condition of every tie along the way. It pinpoints any potential problems and marks their exact location so you can plan ahead to repair them in the most efficient way possible.

Aurora finds flaws manual detection methods may not, and does it in a far faster way while mounted on a hi-rail vehicle. It can often find issues that inspectors would likely miss, like the size and severity of cracks in wood ties, as well as rail seat deterioration, rail base corrosion and more.

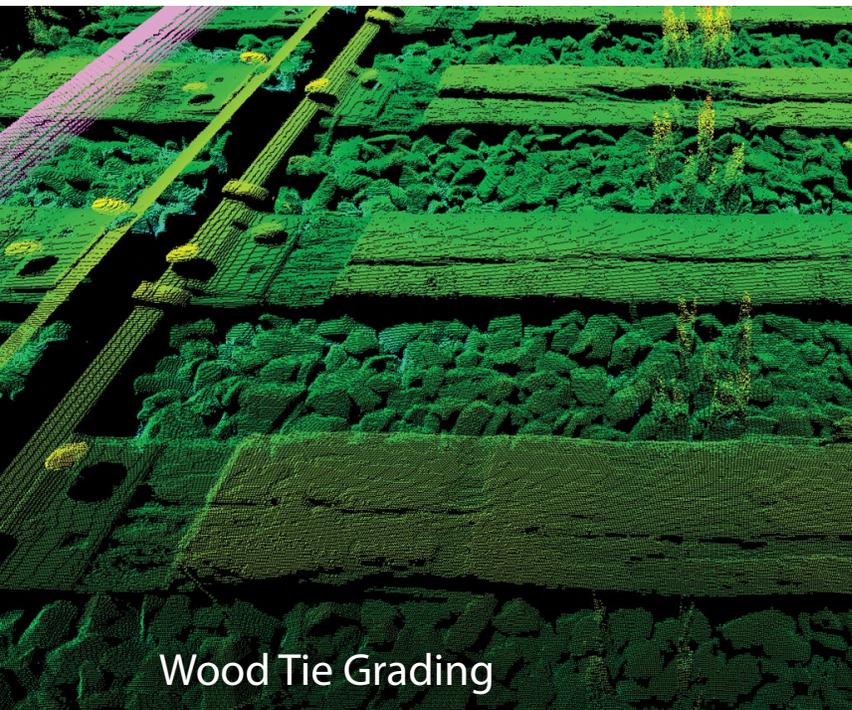
The detailed reports you receive after an Aurora survey allow you to streamline your capital maintenance programs by planning out and estimating repairs in advance. They'll let you know when ties degrade, when fasteners have failed, where rail base corrosion is occurring and many other factors that can impact the safety and efficiency of your ties.

Aurora can also help ensure you're in line with industry regulations. Compliance reports will confirm that you have at least the minimum number of effective concrete ties in a segment, uncover defective ties under rail joints and check for rail seat deterioration exception in concrete ties.

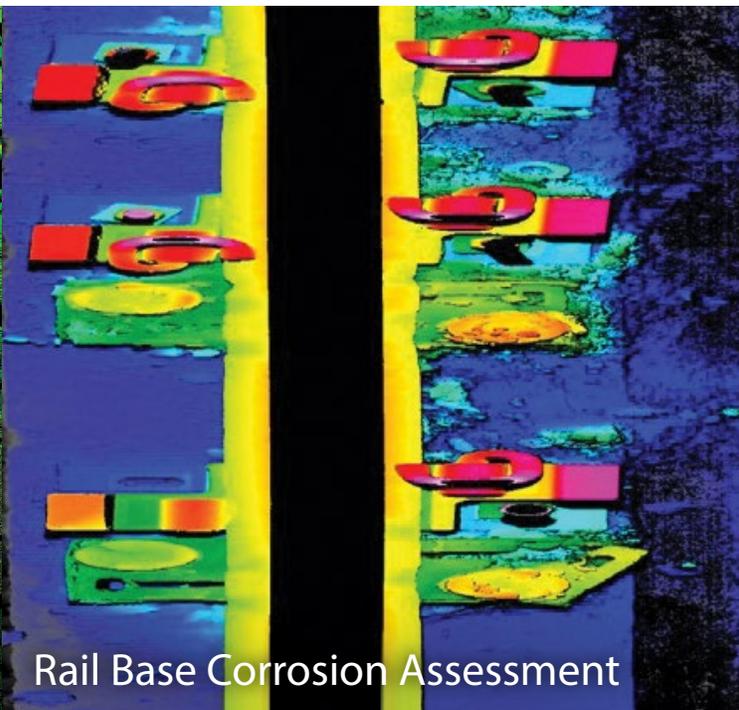
Over time, Rail Seat Deterioration (RSD) can cause a tie to no longer support and restrain the rail. Aurora uses advanced shape recognition to identify degraded concrete ties for repair or replacement.

- Measures RSD and pad wear
- Assesses fasteners and insulators
- Meets industry inspection requirements





Wood Tie Grading



Rail Base Corrosion Assessment

Aurora assigns one of four grades to each and every wood tie based on more than 20 variables, including plate cut, surface roughness, decay and cracks.

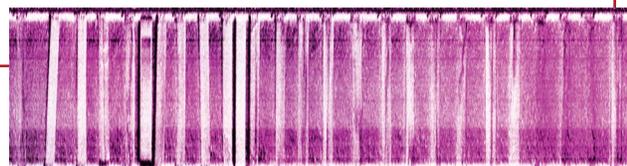
- Customize to your standards
- Generates detailed compliance reports
- Provides tie cluster analysis

Chipping, cracking and splitting are usually telltale signs of Rail Base Corrosion (RBC), most commonly found in tunnels. Aurora can assess the severity of RBC by continuously measuring the width of the rail base.

- Identifies critical loss of rail base
- Evaluates rail base chip depth and shape
- Assigns grade to RBC severity

Trusted Technology That Delivers

Railroads around the world have trusted Aurora's proven inspection technology to scan more than 30,000 miles of tracks annually. That's 100 million ties annually that have been inspected and assigned mile post coordinates, GPS coordinates and tie grade information. All of the information Aurora gathers gets simplified down into easy-to-understand tie grade and compliance reports customized to each of your railroad's specific needs.



To date, Aurora has scanned over 400 million ties and assigned mile post coordinates, GPS coordinates and tie grade information to every individual tie. All of that information gets simplified down into easy-to-understand tie grade and compliance reports customized to your railway's specific needs.

US Patent #: 7616329, 8081320, 8209145, 8405837, 8711222, 8958079

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