Eddyfi Technologies
Beyond current

Applications
Brochure

TRAIN AXLE INSPECTION SOLUTION

The phased array ultrasonic solution that keeps you on track.

Discover the all-inclusive package delivering actionable data.

THE BEYOND CURRENT SOLUTION

Eddyfi Technologies offers a solution that simplifies the detection of corrosion and cracks in train axles, particularly at the crack initiation stage, without the need for axle removal from the bogie. This reliable method reduces human error in data interpretation, providing quick results when paired with our market-leading phased array ultrasonic testing (PAUT) instruments.

- One-stop shop solutions driven by technical expertise
- Streamlined workflow for setup, acquisition, and reporting
- Full support for ultrasonic testing (UT) methods including PAUT, time-of-flight diffraction (TOFD), conventional UT, full matrix capture (FMC)/total focusing method (TFM), plane wave imaging (PWI) and phase coherance imaging (PCI)
- Standard and custom probes designed in-house by our technical experts
- The most advanced software analysis in the industry

APPLICATIONS

- Specific application for carbon steel train axles, enabling inspection without removal from the bogie

Eddyfi Technologies understands the unique demands of your role as an NDT inspector, and our complete solution is crafted to address these challenges comprehensively.

Enquire with a member of the team for solution options.

FEATURES

- Streamlined corrosion and crack detection
- Simplified indication detection and positioning
- User-friendly instrument setup wizard
- Minimized human error
- Manual encoded scan operation
- Comprehensive ultrasonic phased array inspection
- Simultaneous multiple scans with coverage from both ends of the axle

Discover a new era of precision with Eddyfi Technologies' high-quality NDT probes and transducers: View PAUT Probe Catalog

AXLE INSPECTION WITH ADVANCED ULTRASONIC PHASED ARRAY TECHNOLOGY

The ultrasonic phased array solution utilizes a unique phased array probe integrated with a scanner to provide clear imagery superimposed onto a true view of the axle geometry imported from a DXF file. This allows for fast and easy flaw detection with positional information, ensuring consistent and reliable results.

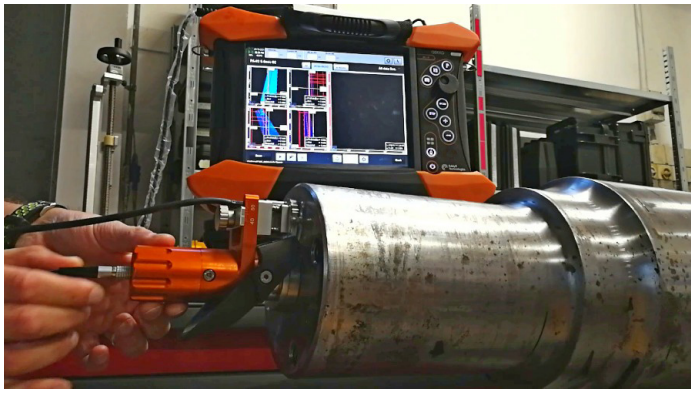

Figure 1: Phased array ultrasonic solution featuring unique probe with scanner collects repeatable, reliable inspection results.

The signals are easily classified as defects or echoes coming from the geometry, minimizing costly errors such as unnecessary rescans, unexpected disassembly, or repairs.

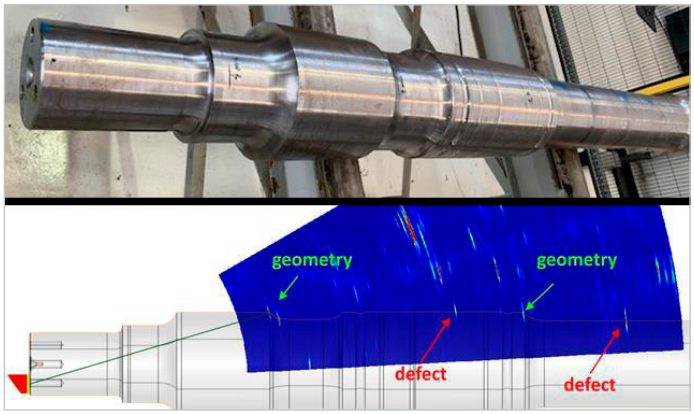

Figure 2: Data overlay highlighting ease of interpretation.

Phased array technology increases coverage and detection capabilities beyond those of conventional ultrasonic testing solutions. The scanner is effortlessly installed and operational within seconds, facilitated by its central pin locator and magnet. Once in place, operators can immediately rotate the scanner to cover the entire surface area comfortably, without the need to hold the probe.

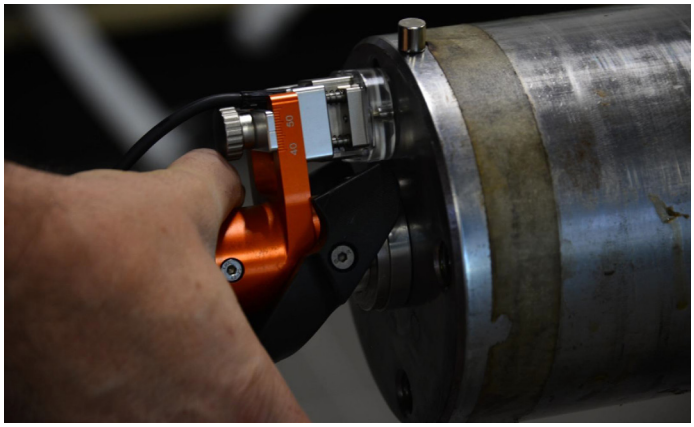

Figure 3: Unique scanner for train axle inspection.

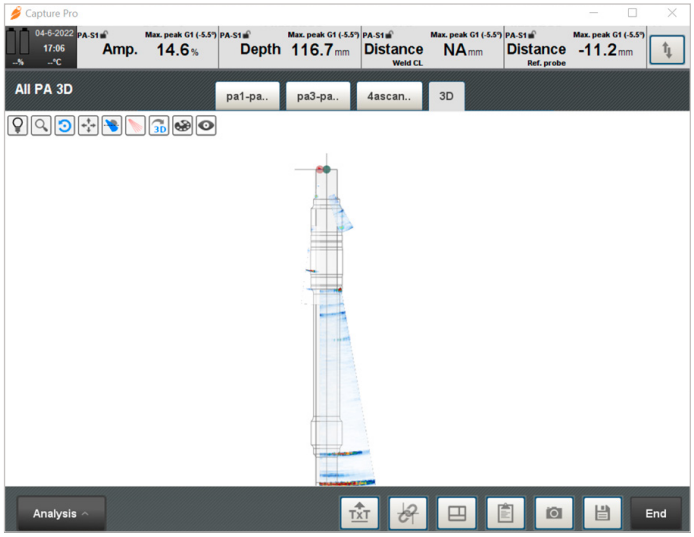

Figure 4: Typical multi-group setup using Capture™ software.

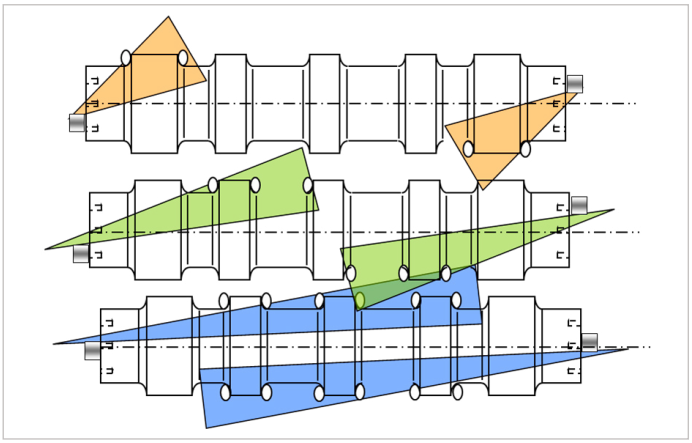

Figure 5: Image of scan plan.

Eddyfi Technologies
Beyond current