TADS® TRACKSIDE ACOUSTIC DETECTION SYSTEM

TTCI offers early bearing defection through TADS® — our Trackside Acoustic Detection System.

TADS® is designed to monitor roller bearings and identify those with internal defects in freight and passenger cars as they pass at nominal operating speeds. TADS® can help find roller bearing flaws early in their growth cycle — before the bearings overheat, cause costly train stops, and/or fail. TADS® enhances equipment performance and can prolong infrastructure life.

The first TADS® installations occurred in South Africa and Australia in 2000-2001. In 2002, the system went into production in North America and by 2013 TTCI had delivered TADS® to 18 sites there. In 2003, the first system in China was installed and, to date, we have installed a total of 85 units in the country. Overall, TTCI currently has 110 units on 5 continents.

The Benefits of TADS®

- Reduced burn-offs and derailments
- Reduced hot bearing train stops, and delays
- Defect information can be relayed by e-mail, page, FAX, or modem connection
- AEI integrated
- Accessible online
- InteRRIS® compatible

Bearing Types

- Tapered roller bearing (AAR and metric sizes)
- Spherical bearings

Detection Capabilities

- High risk defects (growlers and multiples)
- Cup defects (spalling, brinelling, water etch)
- Cone defects (spalling, brinelling, water etch)
- Roller defects (spalling, brinelling, water etch, seams)
- Loose cones
- Effective one-pass detection in most cases (20-60 mph)
- Defect severity prioritization
- Locomotive bearing detection

TCCI is a wholly owned subsidiary of the Association of American Railroads headquartered at the U.S. Federal Railroad Administration’s Transportation Technology Center (TTC) in Pueblo, Colorado, USA.
Serving Passenger Rail

A number of TTCI’s current installations serve passenger traffic as well. In the U.S., several Amtrak trains are monitored at freight sites and TADS® has been able to identify bearing defects for the Amtrak passenger fleet. In China, there are several sites that identify defective bearings for mixed traffic.

Our Global Customers

Chiltern Railways UK has purchased a TADS system to monitor their fleet of passenger vehicles after a successful TADS demonstration test in 2012.

Based on the success with Chiltern, Network Rail, the UK infrastructure owner, decided to initiate a trial at a location close to York, England. Defects have been acted on where the exact location of the bearing in the train can be confirmed via AVI. Network Rail has indicated that they are considering the purchase of the system at York.

Looking Ahead

TTCI plans to continue to enhance the algorithms for freight and passenger trains and include high-speed train operations.