

# Wayside Detector Technology

*Leveraging technology to drive incident prevention, improving safety performance. Also drives improvement in Mechanical efficiency and network fluidity.*

**Monitoring locomotive and railcar mechanical health to proactively detect real-time issues on active trains to enable preventative action.**

- Multiple layers of technology and lines of defense to help prevent incidents
- New technologies provide early identification of difficult-to-visually-inspect components as well as internal defects inside roller bearings
- Improves Mechanical employee productivity by providing advanced notification of components requiring repair prior to trains arriving in yards
- Improves network fluidity by decreasing frequency of train stoppages caused by component failure



## **Multiple detector technologies across CN's Network:**

*Dense network of advanced technology, detecting for:*

- Hot bearing
- Acoustic bearing
- Wheel impact load
- Wheel profile
- Dragging equipment
- High/Wide Load
- High Water
- High Wind
- Landslide



## **Hot Bearing Detector:**

*Monitors wheel bearing temperature on passing rolling stock, and immediately alerts train crews of alarms so the train can be stopped and inspected, and appropriate steps taken.*



## **Acoustic Bearing Detector:**

*Assesses wheel bearing sound signature to identify compromised components well in advance of a heat-generating failure.*

**CN has an extensive wayside detection network, utilizing over 24 million data points per day across 2,800+ detectors**

