

Success Story

Remote Pressure Monitoring of Rail Machinery

The Problem

Railroad companies require constant maintenance to their rail lines, from repairs to cutting grass. Parker worked with a customer that retrofits mobile, heavy-duty equipment (e.g. bulldozers) with specialized wheels and attachments to perform the maintenance. The metal wheels move the bulldozer along the track while the attachments do the work.

To ensure the hydraulics of the mobile equipment are operating properly, the customer must diagnose issues using condition monitoring technology while the machine is in motion. Historically, this has proven difficult because:

- Manual monitoring devices connect to sensors with cords, which can get wrapped and snagged by moving parts
- There is nothing guarding the maintenance technician from the bulldozer and conventional diagnostic equipment requires the technician to be close to the equipment while it's in motion, creating safety issues

The large size of the manual sensors (about six inches in length) also makes it difficult for technicians to attach them to pressure lines, forcing them to actually duct tape the sensors as close as possible.

SensoNODE™ Blue is Parker's series of Bluetooth-powered sensors. Compact, energy-efficient, and wireless, they are designed to provide simple and useful solutions for diagnostic and condition monitoring applications. SensoNODE Blue Sensors monitor assets to help predict problems and prevent downtime, and delivers the information to your mobile device.

Voice of the Machine™ Mobile App gives access to machine and process measurements right on your mobile device. The user-friendly interface makes connecting to sensors uncomplicated and measurements easy-to-read. With customizable dashboards and alarms, you can focus on the data that's most important to you and be alerted when your measurement thresholds are exceeded. Exporting of data is done with a click of one button, which sends a .csv file right to your email.

The Solution

The customer needed a solution that allowed maintenance technicians to perform accurate pressure diagnostics from a safe distance while the machine is in service.

With two wireless SensoNODE™ Blue Pressure Sensors installed at critical points on the machine, technicians are able to use mobile devices with the Voice of the Machine™ Mobile App technology to track data from both sensors simultaneously and from a safe distance.



Success Factors

Diagnostics can be performed far enough away to keep technicians out of dangerous situations.

Workers can install SensoNODE Blue Sensors in the shop when adding attachments, rather than in the field. This helps to save time.

Wireless sensors are installed closer to points of interest than with wired sensors, providing more accurate readings.

The Voice of the Machine Mobile App alarms warn of dramatic pressure drops or spikes with alerts appearing on a user's mobile device.

Customer Value

SensoNODE Blue Sensors make the diagnostic process much more efficient for the customer. Because multiple people can have the Voice of the Machine Mobile App on their mobile phones, this allows workers in the shop to run diagnostics to identify and correct any significant issues before taking the equipment out to the field. This helps reduce the time for in-service diagnostics, as well as returning the equipment to the shop for any subsequent repairs.



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