OVERVIEW

Settlement of railway ballast formations can result from the cyclic loading and vibration of rolling stock. Tamping is an effective maintenance procedure which re-packs these ballast particles in order to restore the correct geometry to tracks.

In order to maintain safe track geometry throughout a railway it is important to perform regularly track inspections.

Geometric irregularities in track can also be identified by measuring dynamic suspension responses of Instrumented Ore Cars (IOCs) during nominal service conditions.

USING IOC PREDICT TAMING MAINTENANCE

IOCs provide continuously measured performance data that can be used to develop maintenance models.

The Tamping Prediction System uses IOC measurement data to conduct predictive modelling and forecasting of wagon dynamic responses to calculate the rate of track degradation over time and identify locations requiring imminent tamping maintenance.

This system has facilitated the development of a preventative tamping strategy that can improve track condition and minimise the requirement for reactive speed restriction and maintenance operations.

This system has proven effective at identifying tamping locations and has been well received by track maintenance planners.