The OMS (Overhead Monitoring System) monitors large disturbances between the pantograph and OCS interface during routine passenger service and provide alerts to allow your team to investigate occurrences, providing a proactive maintenance plan and optimizing your OCS uptime.

The OMS has been developed by Transmission Dynamics, has been in revenue service for over 2 years, and consist of the following three components:

Accelerometers: Two Accelerometers are mounted on either side of the pantograph head to continuously monitor the acceleration/impacts on the head.

DPM: The Acquisition and Data Processing Module (DPM) is mounted on the pantograph frame. It continuously monitors the signals from the head mounted accelerometers at 330Hz. Connection is wireless via class 1 Bluetooth module to the car mounted receiver module. The unit is powered by batteries and extended by PV solar cells and will last approximately 6 months. Alarm events are downloaded to the receiver unit immediately following any major impact event.

RSRU: The car mounted Receiver and Signal Relay Unit (RSRU) receives the signal from the DPM wirelessly via Blue tooth and can be mounted as far as 100m from the pantograph. The RSRU can be configured to transmit a signal to the driver or via GSM will alert maintenance staff immediately via text or email. Daily activity can be downloaded via SD card to and allow for long term trending.
Class 91 Locomotive, East coast line, England