

STRUCTURE MONITORING

CLIENT: NETWORK RAIL/BRIDGEWAY | **WEST LONDON LINE**



THE CHALLENGE

Network Rail wanted to undertake a structural monitoring project on the West London Line. Concerned about the long-term movement and stability of 5 Overhead Line Equipment (OLE) columns installed on earth embankments which indicated significant movement was taking place.

These masts were distributed over an extended section of track ranging between 50-500m apart with long term monitoring over several years expected.

Network Rail wanted quick and early indication if movements were accelerating and to rapidly enable any possible remedial action which would be planned around engineering hours and operational schedules.

OUR SOLUTION

Senceive provided 5 high resolution dual axis wireless tilt meters to be mounted directly onto the gantries. These were attached on magnetic mounting plates attached to the steel frame, which could be done quickly and effectively and did not compromise the structural integrity of the masts.

With the total monitoring over 1km, solar powered gateways were installed at two locations on the extended site, providing an effective totally mains and wire free solution. Combined with the exceptionally long battery life of the nodes, this matched the requirement not only for precision of measurement and ease of installation, but also in regards to being maintenance free. The measured data is transmitted to Senceive's proprietary cloud based Webmonitor software where it can be securely viewed at any time by Network Rail Engineers.

THE OUTCOME

The installation was carried out simply, quickly and effectively without the need for track possession. The system continues to provide high quality data showing the long-term movement trends of these critical assets.



Increase of a gantry inclination away from the tracks – Webmonitor data

