Track Monitoring
Track monitoring systems help maintain the safety of railroad tracks by monitoring track alignment for lateral movement, longitudinal profile for settlement or heave, and cant for changes in the relative elevation of the two rails.

Instrumentation
GEO-Instruments supplies two different track monitoring solutions. Both solutions are fully wireless and provide automated processing, data visualization, and distribution of data and alerts to stakeholders. The systems operate 24/7.

GeoCloud Wireless Tiltmeters provide 2D measurements for calculating changes in longitudinal profile and cant.

Tiltmeters are particularly robust, with reliable performance unaffected by water, snow, brake dust, cold temperatures, and electrically noisy environments. The advanced flatmesh networking algorithms, powered by Senceive, ensure that measurements are never lost, even if neighboring sensors are damaged.

AMTS Systems provide 3D measurements for calculating changes in alignment, longitudinal profile, and cant.

AMTS can be used to monitor changes in alignment. They can also provide absolute positioning over long distances with AMTS arrays.

Advantages of Automation

Safety: Readings are obtained remotely, and after installation, very little access is required.

Reliability: Measurements are recorded electronically. Additional tiltmeters or prisms can be added easily, if required.

Quick Access: Data and alerts are available on smartphones and PCs just minutes after the reading is taken.