Railway embankment monitoring in Scotland

CLIENT: AMCO/NETWORK RAIL

THE CHALLENGE
Senceive was asked to deploy 10 dual axis tilt sensors on an embankment in Scotland prone to water caused land slippage.

OUR SOLUTION
The nodes were standard Senceive tilt nodes simply attached to posts placed in the ground. The stakes were hammered into the ground and then the nodes were bolted on. They were monitoring shallow tilt and slippage down the slope.

THE OUTCOME
The whole installation was completed in a few hours; before the team left site the Senceive Webmonitor was already making the data remotely available in a user friendly format, reporting via our solar powered pole mounted GPRS unit. The installation was in place for a year before sudden movement correlating with high rainfall occurred on several nodes (see figure 1). Localised remedial work was carried out as a result, and monitoring continues. Since this installation a large number of deployments have taken place on a range of earthworks and embankments. These are now often installed alongside Senceive patent protected solar powered IR illuminated cameras, which operate in conjunction with stake mounted sensors. These send images when triggered by sensor movement, avoiding the need for an engineer to visit the site.

Figure 1: