



# Xilocastro Project: Highways Monitoring

CLIENT: **LANDMARK**

## THE CHALLENGE

The Xilocastro Highway in Greece has suffered a number of serious landslides which have greatly impacted traffic flow and constantly present a risk to users. After several costly reconstructions to the road, the asphalt was repaired, but again deformation was seen between where the new and old asphalt meet, as well as in the walls that run in parallel with the highway.

A monitoring system was required to assess the level of movement and if this was associated with the previous landslide or the current construction works ongoing. Understanding this potential movement would help with the ongoing remedial works. The system had to be easy to install, as well as accurate, discreet and reliable.

Landmark contacted Senceive to find a solution, due to their reputation for wireless remote condition monitoring for civil infrastructure across the world.

## OUR SOLUTION

Senceive proposed monitoring the highway wall using their Nano+ triaxial tilt sensor. The node's triaxial capability and lack of wires allow the Nano+ to be positioned at any orientation.

The Nano+ was securely fixed to the wall using a two-part mounting plate and the strength of this fixing and the high durability of the IP rated enclosure make it ideal for busy construction sites and allow functionality in the harshest of environments.



*Fig.1 3G gateway mounted to pylon*

The data from the wireless mesh network was transmitted to a solar powered 3G gateway, which was mounted to a nearby pylon. The gateway then uses the mobile network to transmit data to a secure cloud server, which can be viewed by registered users of Senceive's WebMonitor software.

## THE OUTCOME

Nano+ triaxial tilt nodes are the ideal choice for this highways project, as they can be installed with ease and efficiency. This reduces man-power, time and costs. Senceive were also able to offer training and comprehensive support throughout the project. The extremely reliable and robust system also eliminated the need for any further maintenance or visual checks. The system also allows the reporting rates to be adjusted remotely with no need for costly and potentially dangerous site visits.

