



# Monitoring Railways

## Asti – Nizza Monferrato railway line

### Background

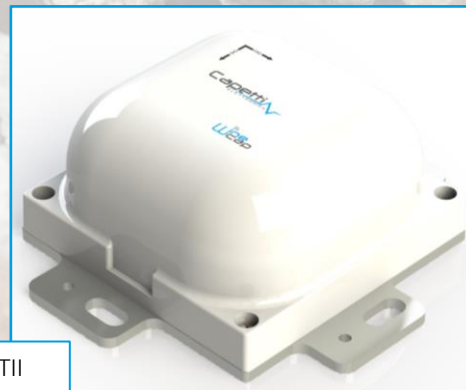
Monferrato Piemontese is an area of Italy that features uplands and valleys, with landscapes that are known especially for various vineyards. The Asti-Nizza Monferrato railway line runs through these landscapes from east to west. The company GD Test was commissioned to monitor the tracks potentially affected by embankment movement as a result of operations to create an underpass using a pipe jacking technique. It was deemed appropriate to set up a particularly versatile system of wireless sensors suited to the morphological context and the absence of an electricity supply line. Furthermore, the technical specifications stipulated by RFI (railway operator) required a monitoring system with readout intervals and thresholds handled as quickly as possible, to guarantee safe train operation.

### The solution

GD Test put its trust in a *WineCap™* monitoring system made up of 21 wireless dual-axis inclinometers, battery-powered and installed on the sleepers to monitor longitudinal and transversal levels, skew at 3 and 9 metres, and other crucial parameters of interest to RFI. Data are transmitted by the system thanks to a gateway that can also be powered by photovoltaic panels, and operates with readout intervals of 5 minutes and customer-defined thresholds. Once monitoring commences, the precision and reliability of the data are very useful and enable prompt decisions if displacement exceeds set threshold values.

### The result

Precision and reliability are two essential factors for a successful railway monitoring system. These two parameters have never been neglected in the relationship between Capetti Elettronica and GD Test that spans decades.



WSD10TII



### The winning choice

- ✓ WSD10TII (IP69 dual-axis inclinometers with zero-point position)
- ✓ MWDG-GSM-M5 (gateway with transmission to Service Centre every 5 minutes)