

SUCCESS STORY

WIRELESS MONITORING OF PONTE VECCHIO++

COUNTRY:

Italy

SECTOR:

Civil infrastructure operators

PROJECT TYPE:

Infrastructure monitoring

MAIN PRODUCT:

Loadsensing | The Wireless Monitoring System

Challenge

When over 200 meters of a street close to Florence's famous Ponte Vecchio collapsed in May 2016, the alarm bells started ringing. The sinkhole, caused by a broken pipe, swallowed about 30 vehicles, but fortunately nobody was hurt. However, the municipal authorities became seriously concerned about the stability and integrity of this symbolic monument. The current bridge was built in the 14th century, although there are vestiges of previous constructions going back to Roman times. As well as receiving millions of visitors every year, the Ponte Vecchio has a number of shops and in its recent history has survived floods, fire outbreaks and even the trend of hanging padlocks from its balconies (over 5,000 of them were removed in 2006). How can you guarantee the stability and integrity of a monument that has been subjected to so many stresses for more than six centuries?

Solution

At the request of Florence City Council, the Geology Department of the University of Florence installed a network of geotechnical sensors connected to a Software Suite to monitor the Ponte Vecchio. The solution selected was Worldsensing's Loadsensing remote monitoring system, due to its string of advantages: reliability, long-range, low-power and wireless operation. Being wireless was especially important, as the installation of cables was not an option compatible with the preservation of this World Heritage monument.

Benefits

The wireless monitoring solution showed that despite being over 600 years old, the Ponte Vecchio has a stable and secure structure. The sensors located along the 32 meters length of structure provide real-time information on the stability of the bridge and of the nearby land. This guarantees the safety of the millions of people who visit the monument every year and enables any incident on the structure to be detected, in order to be able to react immediately and solve it before it becomes a threat. In this way, the people of Florence and the city's visitors are going to be able to continue to enjoy what is considered Europe's oldest medieval bridge over the coming centuries.

"Invisible" monitoring to preserve historical heritage

The Ponte Vecchio is one of Florence's most symbolic monuments and has millions of visitors every year. To ensure stability and integrity, a network of Loadsensing sensors constantly controls the health of this World Heritage bridge.

ADVANTAGE

- Permanent monitoring of the monument.
- Control of the infrastructure and of the environment.
- Immediate detection of any risk.
- Reduction of emergency operations.
- Minimum impact as no wiring is required.



Find out more:

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