



CASE STUDY

Real-Time Crack Monitoring on a High-Risk Bridge in Greece



PROJECT TYPE: Bridge monitoring

COUNTRY: Greece

INDUSTRY: Infrastructure

MAIN PRODUCTS:

- 1 Ackcio Gateway (BEAM-GW)
- 2 Ackcio Analogue Node (BEAM-AN)

CHALLENGE



In 2023, the Servia High Bridge in Greece was closed to traffic due to stability concerns and the risk of a possible collapse.

Experts were concerned about visible cracks on the bridge, which appeared to be widening. At nearly 1.4 kilometres, the 47-year-old bridge is one of the longest in Greece, spanning the Polyfytos, an artificial lake on the Aliakmonas River.

In 2020, safety concerns about the bridge's structural integrity were raised, and traffic restrictions were implemented. But earlier this year, more drastic measures were taken. In March, the bridge was closed.

Following the shutdown, urgent restoration work began. As part of the project, the cracks were monitored to assess their behaviour during and after the structural rehabilitation.

The Greek firm NEOTEK supplied six Elastisense displacement sensors to be installed over major cracks. They needed a reliable wireless solution to provide a 24/7 data stream to the engineers monitoring the restoration progress.

SOLUTION

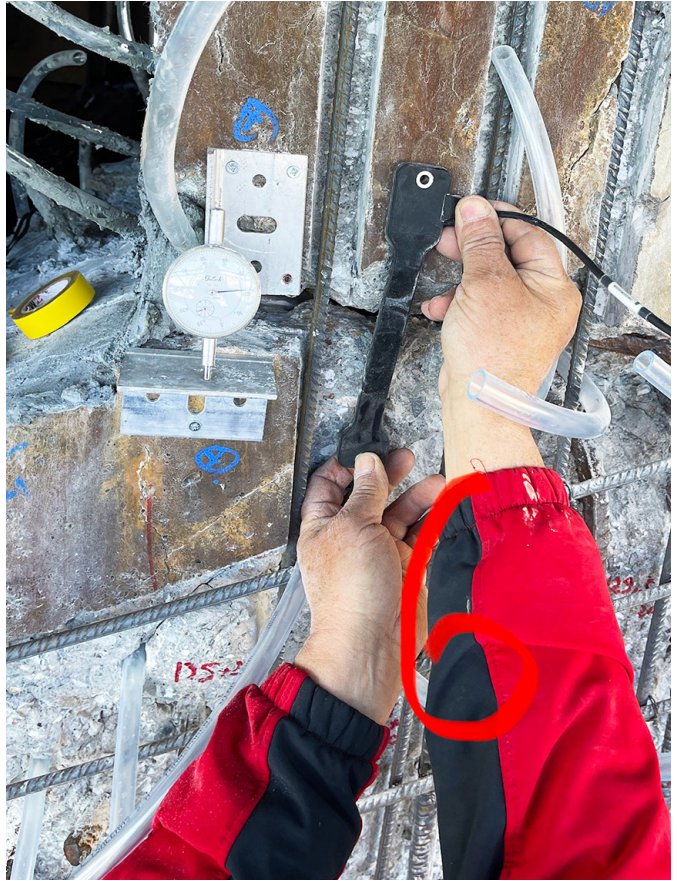
NEOTEK chose the Ackcio Beam system for the reliability and stability of its wireless solution, which provides real-time readings without the obstruction of cables on the work site.

Another key consideration in choosing Ackcio was its ease of installation. Due to the urgency of the project's monitoring needs, the installation had to be done by workers on the site. Under NEOTEK's guidance, the successful installation of the sensors, Ackcio Analogue Nodes and Ackcio Gateway took **just a couple of hours**. Following installation, the system's operation and configuration were confirmed via telemetry.

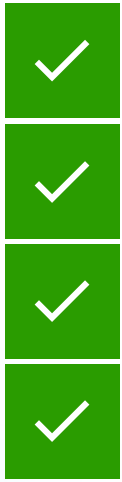
Once the Ackcio Beam system was installed, it began providing the engineers with valuable data. Remote monitoring of displacement, strain, and temperature enabled NEOTEK to detect even minute changes in real time to inform remedial actions when needed. And Ackcio's remote access allows NEOTEK to configure the system from 450 kilometres away.

Looking ahead, Ackcio Beam will be a seamless fit if more monitoring parameters, such as tilt, load and deformation, are added to the system.





RESULTS



Ongoing data access

Reliable, stable readings from an active worksite

Increased infrastructure safety

Improved risk management



BENEFITS



Reliable, real-time readings



Easy installation



Wireless solution eliminates cable



Remote sensor configuration



TESTIMONIAL

Choosing Ackcio for wireless monitoring was an easy decision. The engineers needed to monitor 24/7 without the obstruction of cables. The installation was a pleasure, and we can configure the system from 450 km away! The monitoring engineers are very happy with the seamless monitoring and are considering expanding the Ackcio system to monitor more parameters.

— **Katerina Xystri**
Sales Director
NEOTEK



ABOUT NEOTEK Founded in 1969, NEOTEK is a Greek company actively specializing in the supply and technical support of instrumentation involved in scientific research and industrial applications in the fields of civil, mechanical, geotechnical, structural and seismological engineering.



ABOUT ACKCIO Ackcio builds reliable wireless data acquisition systems for industrial monitoring applications. The company automates monitoring processes and provides remote, intelligent data to enable increased safety and efficient risk management in mission-critical industries, including construction, infrastructure, mining, and rail. Ackcio's flagship solution, Ackcio Beam, is an industrial data acquisition platform that uses a patented long-range wireless mesh network to monitor sensors accurately and reliably in both above-ground and underground environments. Ackcio is headquartered in Singapore and supports clients across the world. In 2021, the company was included in Forbes Asia's inaugural '100 to Watch', a list of small companies and startups on the rise across Asia Pacific.

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