Sernigerbaach Viaduct (Luxembourg)

Project description

The Sernigerbaach Viaduct in eastern Luxembourg carries the local A1 highway (European route E44) across the valley that shares its name. It consists of twin continuous-deck structures, each with eight spans. The total length of the bridge is 650 m.

While planning renovation works in 2012, the responsible engineers decided to make use of modern technology to facilitate measurement and evaluation work and thus optimise the planning. A structural health monitoring (SHM) system would be used to record and assess the bridge's condition and performance during a one-year period.

mageba scope

The SHM system was used to record deck movements and rotations at both abutments, over a period of one year in order to obtain data for all seasons. The measured values were collected, classified and evaluated in the ROBO®CONTROL master station. Thereafter, relevant data was sent via GSM/GPRS to be viewed on the mageba web interface.

All movement and rotation data was correlated with temperature, which was also measured. This enabled the responsible bridge engineer to evaluate the structure's behaviour, and verify its safe performance, avoiding the need for more extensive renovation works.

Highlights & facts

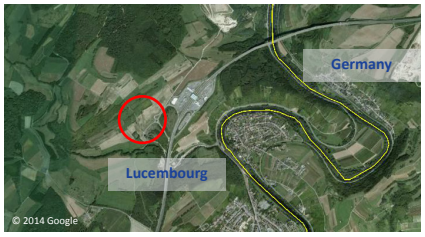
mageba products:

Type:	ROBO®CONTROL monitoring system
Sensors:	Displacement, inclination, temperature
Installation:	2012

Structure:

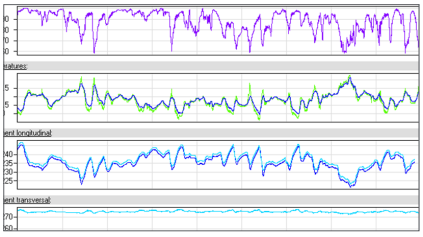
Country:	Luxembourg
Built:	1987
Renovated:	2012
Length:	650 m
Client:	Administration des Ponts et Chaussées

The viaduct is in eastern Luxembourg, close to the German border.



Installation of the ROBO®CONTROL system's master station, with cables to all sensors.

Presentation of recorded data on mageba's ROBO®CONTROL web interface.



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