Evaluation of existing systems for the long-term measurement of bridge deflections

Evaluation des systèmes existants pour le suivi à long terme des déformations des ponts

Funding: National (Switzerland)
Duration: Sep 2004 - Jul 2007
Status: Complete with results

Background & policy context:
The project has the purpose to inventorise, classify and evaluate existing methods for the long-term monitoring of bridge deflections. The result will be summarized in a report allowing a rational approach to the selection of measurement methods applicable to a given application. Classical measurement methods (topometry, hydrostatic leveling) will be considered along with more recent developments, as for example methods based on inclinometers or optical fibers. The pros and cons of each method will be exposed in relationship with typical applications. Case studies of representative monitoring configurations will be included.

Objectives:
The main objective of the project is identification, classification and evaluation of measurement methods applicable for the long term monitoring of bridge deflections.

Methodology:
The following steps will take place:

- Literature research
- Collection of further information from the companies which are active in the field of measurement
- Case studies

Parent Programmes:
ARAMIS - ARAMIS information system

Institute type: Public institution
Institute name: Swiss Government: State Secretariat for Education and Research
Funding type: Public (national/regional/local)

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Key Results:
The final report provides guidance to the master of the works to better define its monitoring needs, to formalize its requirements and identify measurement methods potentially applicable to a particular work. The case studies further have a more precise idea of the magnitude of costs and effort associated with a given case.

Final report reference:

Documents:
Burdet06.pdf (Final report)

STRIA Roadmaps: Infrastructure
Transport mode: Multimodal transport
Transport sectors: Passenger transport, Freight transport
Geo-spatial type: Other