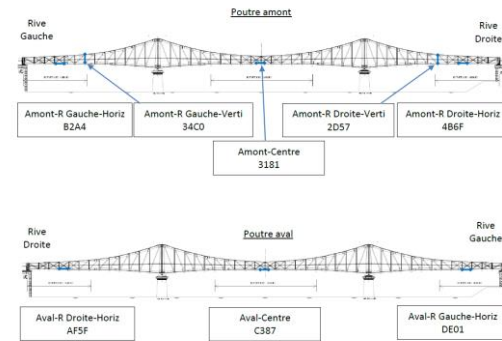
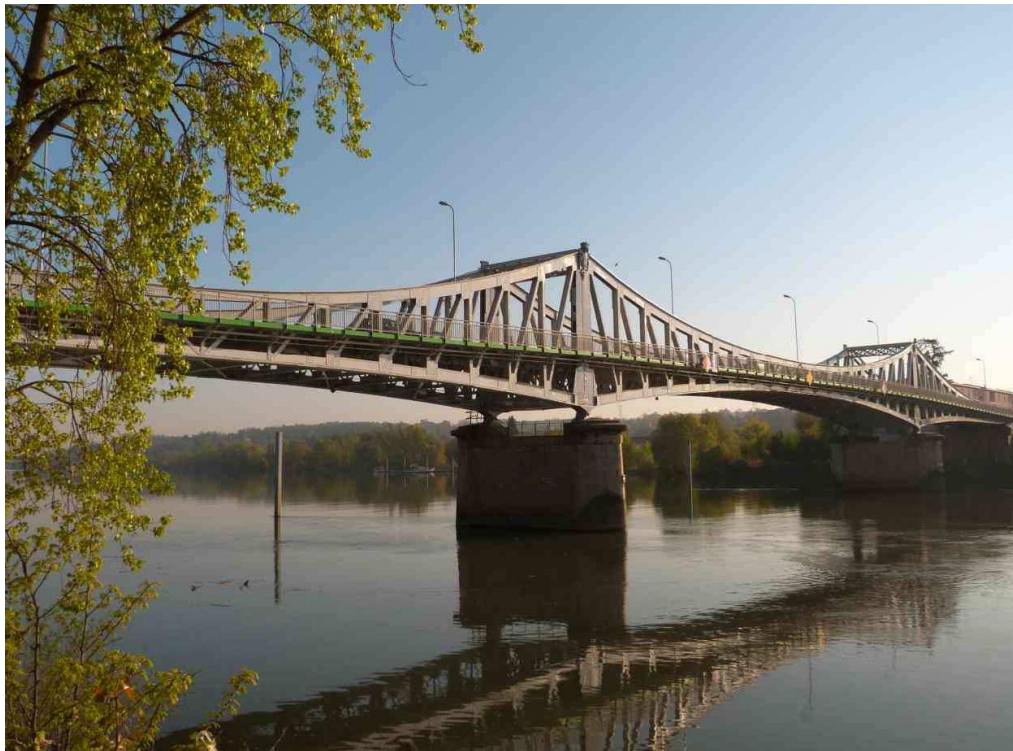


Frans Bridge, Jassans-Riottier (01)

osmos

Integrated safety for structures



LIRIS Optical Strands location on the bridge

Safety availability of an old metallic bridge

Client

Ain Département Council / Road Division /
Maintenance Road Service

Structure

Steel bridge with cantilever girders, and
lower deck.
Overall length: 162 m. Main span: 70 m.
Built in 1901.
18,000 vehicles per day. Prohibition for
vehicles of more than 3.5 tons.

Context

Periodic Detailed Inspections show an
advanced state of oxidation despite painting
campaigns.
The recalculation of the structure also shows
some out-of-bounds elements: A lower chord
near the right bank abutment and 14 vertical
uprights.

Client's needs

The client wishes to check the possible
evolution of the behavior of the structure, in
order to schedule possible work.

Instrumentation installed

- 8 x 2-m long LIRIS Autonomous
Optical Strands

The LIRIS Optical Strands are positioned
horizontally in a lower chord below the deck
(3 sensors downstream, 3 sensors
upstream, in the middle of the 3 spans) and
vertically on uprights (2 sensors).

Results

The deformations show for the moment that
the behavior of the bridge is satisfactory. A
group of dynamic loads is being created to
check the monitoring criteria, such as the
average strain amplitude and their
reversibility.

Client benefits

The client can continue the operation of the
bridge safely for the users, and decide works
if the trends of deformations change.



Installation of a LIRIS Optical Strand on a vertical
unit



LIRIS Optical Strand on a bottom element



LIRIS Optical Strand on a bottom element with
protection cover