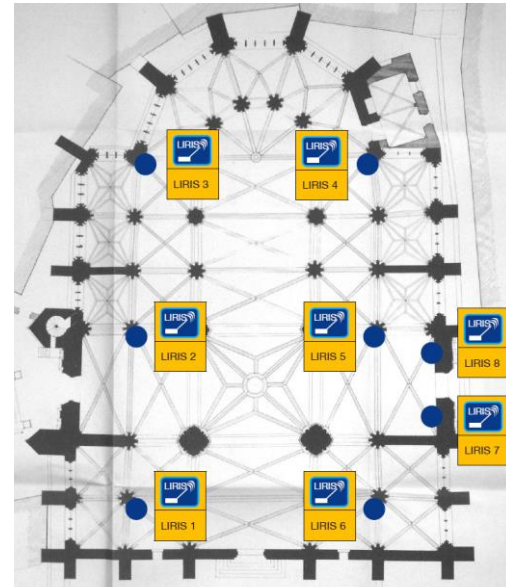


# Church, Saint-Florentin, Burgundy, France

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LIRIS Autonomous Optical Strand location sketch

## Damaged Historical Monument Monitoring

### Client

Saint-Florentin Municipality  
Mr. DECARIS Historical Monument Architect

### Structure

Church, built between the 14<sup>th</sup> and 17<sup>th</sup> centuries.  
Constituted by large nave and choir  
Length: 30 m, width: 20 m.

### Context

Numerous disorders, like cracks, have been noted since decades on this structure, especially the new roofing works. These damages can be caused by the atypical architecture, but also due to the bad quality of the bearing soil. Geotechnical studies have showed the presence of numerous cavities below the church.

### Client's needs

A campaign of renovation works will be launched to stabilize the Church.

Before defining precisely these works, the client needs to understand the structural behaviour of the Church.

### Instrumentation installed

- 8 LIRIS Autonomous Optical Strands of 2 meter long
- 5 X-Triggers

The LIRIS are installed vertically on pillars of the nave and at the entry. The X-Triggers are installed on representative cracks.

### Results

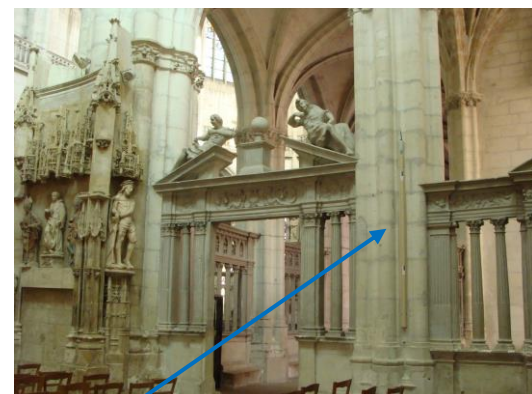
Static deformations show a good correlation with the thermal variations. For the moment, no geotechnical correlation is indicated.

### Client benefits

The client will be able to define and target the repair works to the areas where it is really necessary.



LIRIS Optical Strand on a nave pillar, before protection



LIRIS Optical Strand on a nave pillar, after protection

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