

# Use Case

## Instrumentation of the Pen Castel Mill

Located in the commune of Arzon, in Morbihan (56), **the Moulin de Pencastel, a tidal mill dating back to the 12th century, is a true treasure of architecture and history.**

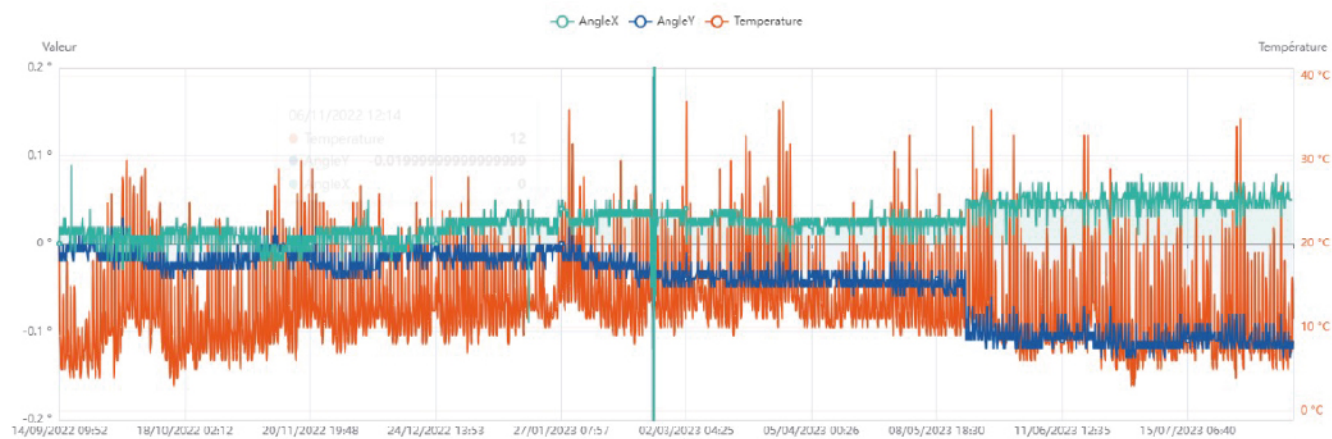
This unique mill continues to fascinate, notably thanks to its ingenious anti-backflow gate system regulating the rise and fall of water that powers its mechanism.



**The Moulin de Pencastel, classified as a historical monument, recently faced several structural challenges, including concerning cracks and potential voids within the masonry.**

An engineering office decided to instrument the structure using our Delta L Max crack sensor and our connected inclination sensor, the Delta R, with the objective of ensuring the preservation of this heritage site without immediately engaging in costly work.

The Delta L Max is used for the continuous monitoring of four cracks and for a complete and accurate assessment of the structure's condition, while the Delta R monitors the inclination movements of the walls.



The monitoring conditions were particularly challenging: the DELTA R sensor was submerged during high tide. However, thanks to its IP66-rated protective housing, the DELTA R continued to provide all required measurements. Real-time monitoring provides crucial data for informed decisions on maintenance and preservation.

Inclination measurements in two axes and temperature data were collected several times a day at different moments.

This monitoring will help determine whether the voids inside the structure are causing structural swelling, enabling targeted and efficient interventions.

Our approach combines diagnostic precision with controlled costs, making it ideal for monitoring historical monuments such as the Moulin de Pencastel.

**Learn more**  
<https://feelbat.fr>

