

DIMETIX APPLICATION EXAMPLE

AE-0511

STRUCTURAL HEALTH MONITORING

Industry : Geodesy & Construction
Application type : Monitoring

Brief description



Pic 1: Commercial/Residential development

A civil engineering company had a unique request: to develop a new system for structural health monitoring. This was used to measure sub-millimeter displacements in 3 axis. They wanted to develop new towers in a busy sports complex, only a few feet away from three existing bridge piers. The developer needed to ensure no shift of the existing bridge structure occurred during the excavation and construction periods. The owner of the structure wanted to ensure a high precision measurement system was in place prior to excavation to detect any anomalies during the excavation and construction period.

They combined 3 heated Dimetix laser sensors and a specialized, high precision 2-dimensional laser position target detector. The IP65 rated laser sensors were equipped with heater units to

withstand temperature variations and harsh external conditions, and measured transversal displacement from the bridge piers to the sports arena while the detectors measured transversal and vertical displacement.

The systems were deployed in July 2014 and have been collecting readings 24 hours a day, 7 days a week ever since. Careful data collection and monitoring have allowed the sports complex to remain operational throughout excavation and construction period, adjacent buildings and infrastructure were protected against damage in a high density construction area.



Pic 2: Construction site

Customers advantages

- Maintenance free application
- Easy alignment thanks to the visible laser beam
- Rugged aluminum housing suitable for harsh industry environment

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