

COMPANY PROFILE

SISMLAB is a University of Calabria **Spin-Off** company, operating since 2005 in the field of structural monitoring. Our activity is founded on scientific studies, led by Universities and R&D institutes and directed to propose new methodologies in monitoring damage degrees and to measure movements and deformations in small and big building frames. This is done using automatic measuring systems made of fibre optic sensors and central recording units. Those techniques, applied to already existing and new buildings allow to recognize critical conditions affecting part of or the whole building frame, and make it possible to plan maintenance activities.

SISMLAB is a growing reality characterized by a team of engineers, CICPND certified and SINCERT recognized, thanks to whom is able to provide specialized expertise.

SISMLAB cooperates with Italian and foreign partners and with some of the Italian Universities. This cooperation is oriented to develop new experimental methodologies of structural check and new advanced monitoring systems implementation.

The firm which is involved in the field of structural monitoring (such as bridges, buildings, tunnels, dams, etc.) using innovative tools, provide a check service to prevent buildings from frame damages and cracks. A maintenance service is also provided for buildings which can be considered important from an historical, architectural and artistic point of view.

Provided services

STRUCTURAL MONITORING

This service is meant to dynamically and statically monitor already existing and new buildings, both in the short and long term. The monitoring activity is conducted by using innovative technologies based on fibre optic sensors.

Bridges



Reinforced concrete (normal and pre-compressed) and steel bridges monitoring; concrete shrinkage monitoring (new and redone buildings); cracks and deformation stages due to the pre-compression monitoring; displacements measurement; structural slidings; Concrete/Steel interaction measurements; deformations monitoring on medium and long term; zero line detection; earthquake damages assessment; vibrations monitoring. The resident monitoring system enables the operators to obtain the results of load tests upon the final inspection, previous to the operativeness beginning, and also to control the static behaviour all the service life long, mostly in terms of displacements. The fiber optic sensors can be placed in the pre-stressed concrete beams, in the abutments, in the piers and in the foundation piles.

Buildings



Our monitoring system, being installed into the structure itself, allows the operators to constantly check reinforced concrete elements displacements and deformations. The fibre optic sensors can be installed both into foundation (strip and isolated footings, piles) and elevation elements (columns and beams).

Geotechnical engineering – Foundation structures



Piles monitoring (axial and cross deformations); rocks and ground deformation measurements; anchored walls, anchorages, braces and foundations monitoring.

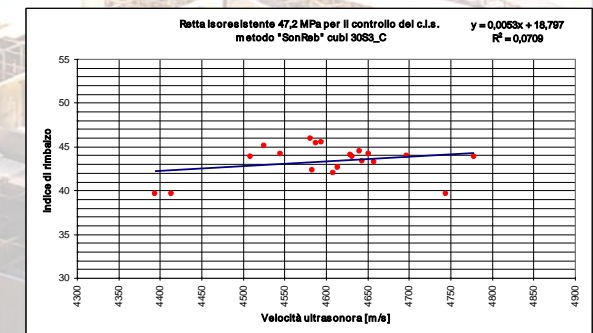
Various application fields

Power and oil plants monitoring: power stations (thermo-electric, hydroelectric, etc.), wind power towers, penstocks, pipe-lines (oil, gas, etc.), tanks, off-shore platforms.

Other applications: quays, safe harbour dams and breakwater structures, belfries, towers, cranes,...

NON-DESTRUCTIVE TESTS ON BUILDING MATERIALS

- ✓ Concrete resistance test with non destructive methods;
- ✓ Concrete integrity check and life time assessment;
- ✓ Stress and materials cracks security parameters evaluation.
- ✓ Displacements tests of static and dynamic efficiency conducted upon working conditions.
- ✓ Public buildings conditions assessment.
- ✓ Technical analysis on test results.
- ✓ Technical consultancy about infrastructural constructions like bridges, reinforced concrete buildings, pre-compressed reinforced concrete and steel, structures.
- ✓ Concrete check upon working condition conducted with NDT methods and correlation graphs definition about different concrete types to be used in new buildings.



R&D ACTIVITIES

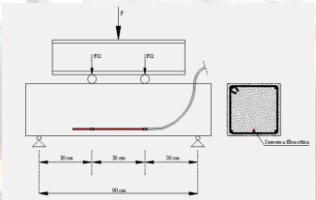
SISMLAB growth is mainly due to the steady effort in R&D activities. The company task is to confirm its position in the structural monitoring, by offering a service which fully satisfies the market requests.

Measurements reliability and precision, monitoring devices reliability beside our carefulness in managing measurements and provided solutions are at the basis of our offer.

All that allows SISMLAB to provide different and effective solutions to many different problems.

Our R&D activity is characterized by the following fundamental subjects:

- ✓ Material and structural behaviour check process definition.
- ✓ Materials and buildings checks in accordance to the national assets preservation authority
- ✓ Training activities to create skilled and certified technicians to check buildings and infrastructural works.



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Solutions and Innovations for Structural Monitoring



Spin-Off University of Calabria



PROVIDED SERVICES

- STRUCTURAL MONITORING OF NEW BUILDINGS
- STATIC EFFICIENCY TEST OF ALREADY EXISTING BUILDINGS
- BUILDING MATERIALS NON-DESTRUCTIVE TESTS

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