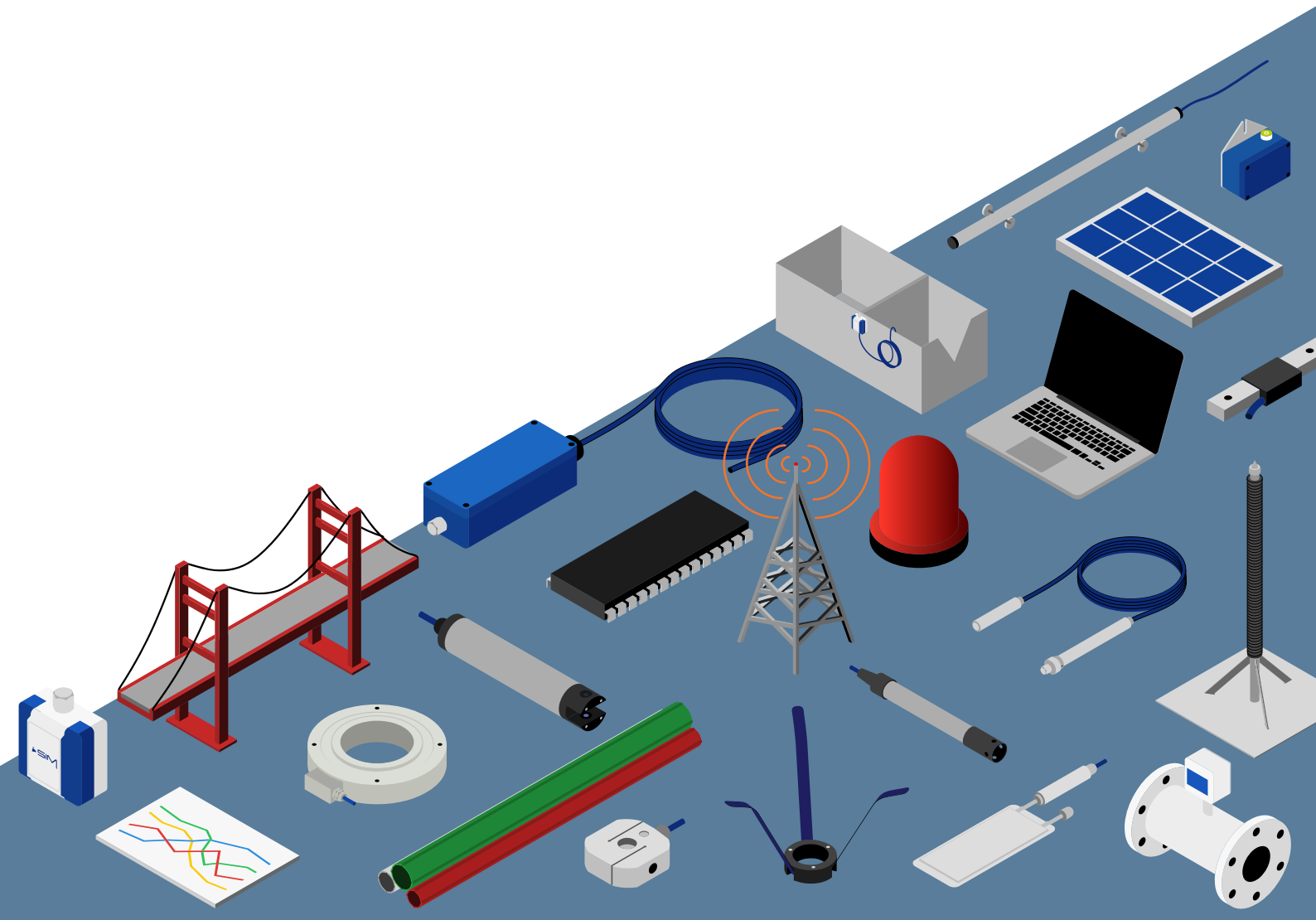




Instruments and systems for
geotechnical monitoring
structures control and
environmental protection



Sim Strumenti



**Since 1992 alongside
companies, professionals, public entities
and universities.**





PRECISION INSTRUMENTATION



DATA ACQUISITION AND CONTROL UNITS



COMPLETE MONITORING SYSTEMS



MANAGEMENT SOFTWARE



ASSISTANCE IN PROJECT, INSTALLATION AND OPERATING PHASE, ON SITE AND FROM REMOTE





Vision

We believe in securing the environment and people through simple and efficient monitoring systems, pushing innovation with respect and knowledge.









Company profile

Sim Strumenti S.n.c. since 1992, joining the modern technology and the long experience of its technical staff, develops and produces special measurement instruments with the aim of solving, in a personalized way, the problem of geotechnical, hydrogeological and environmental monitoring, in addition to static and / or dynamic control of the overtop structures.

The instrumentation produced can monitor continuously the work progress, allowing the continuance in conditions of maximum safety, providing, if necessary, warnings of danger states.

The devices is designed to guarantee long-term operation and to monitor after works are ended, the long term stability of the structures.

Sim Strumenti further enriches its products range by providing applicational software that can manage, save, process, print and display, in numerical and graphical way, the data recorded in the field.

In addition to the standard instrumentation, Sim Strumenti designs and develops customized measuring devices.

Finally, the technical department provides all the technical assistance necessary to guarantee efficiency and the reliability of the reliefs over time.





What we do

Sim Strumenti is particularly specialized in:

- Instrumentation for static and dynamic measurements on industrial plants
- Instrumentation for on-site tests and load tests
- Instrumentation for continuous monitoring of excavation and land consolidation work
- Instrumentation and systems for level measurements and pollution of groundwater
- Instrumentation and automatic systems for instrumental control of marine coasts
- Monitoring of major works (roads, highways, dams, viaducts, aqueducts, etc.)
- Instrumentation for load tests and acceptance tests
- Environmental monitoring – acoustic and chemical
- Instrumentation for continuous control of civil works









Geotechnical monitoring

Geotechnics is the discipline that deals with studying the behavior of the lands and the rocks, also dealing with problems related to design, construction and structural behavior of all the various types of earthworks, such as foundations, embankments, mountainsides, etc.

The solution of geotechnical problems is linked to three main aspects:

- the conditions of the soil and water in the ground
- the behavior of the terrain considered as a system of particles
- the mechanics applied to the ground.

For geotechnical monitoring Sim Strumenti offers advanced solutions for measurement instruments, data acquisition units and complete monitoring systems.

Within Sim Strumenti catalog, you can find products dedicated to geotechnical monitoring, such as:

- inclinometers
- settlement meters
- piezometers
- pressure cells
- extrude meters
- wire joint meters
- multipoint borehole extensometer
- landslide alert system (ALF)
- data acquisition units





Environmental monitoring

Environmental monitoring is aimed at evaluating and determining, with periodic or continuous systems, environmental parameters and pollution levels, in order to prevent negative and harmful effects on the environment.

Mainly, this type of monitoring concerns the control of quality, level and flow of water and atmospheric agents.

For environmental monitoring Sim Strumenti offers advanced solutions for measurement instruments, data acquisition units and complete monitoring systems.

Within Sim Strumenti catalog, you can find products dedicated to environmental monitoring, such as:

- conductivity sensors
- PH sensors
- turbidity sensors
- flow meters
- level meters
- water level meters
- flood alert system (ALIN)
- Wind speed and direction sensors
- pluviometri
- rain gauges
- humidity sensors
- data acquisition units









Structural monitoring

Structural monitoring is aimed at evaluating and determining with periodic or continuous systems the static and dynamic parameters of structures during the constructions and their functioning.

Structural monitoring evaluates the stability of structures such as: buildings, bulkheads, tunnels, bridges, silos, etc.

For structural monitoring Sim Strumenti offers advanced solutions for measurement instruments, data acquisition units and complete monitoring systems.

Within Sim Strumenti catalog, you can find products dedicated to structural monitoring, such as:

- load cells
- joint meters
- extensometers
- embedment strain gauges
- wall inclinometers
- tilt meters
- settlement multipoint system
- data acquisition units





Products

Sim Strumenti offers a wide range of products for geotechnical, environmental, hydrogeological, meteorological and structural monitoring.

Inside Sim Strumenti catalog you can find products for:

- water quality control
- monitoring of settlement or displacement of land
- pressure or load monitoring
- flow or level measurements
- acquisition of data obtained from the instrumentation
- monitoring of land inclination
- control of meteorology

The products are periodically updated to increase ease of use, efficiency and durability.

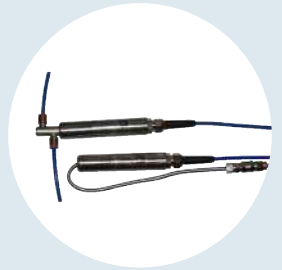
Sim Strumenti monitoring systems are customizable, designed to adapt to the different needs that are encountered during each project. The customer is listened to and advised towards the solution that best suits his requests.

For all of our products you can visit our website: www.simstrumenti.com/en/products



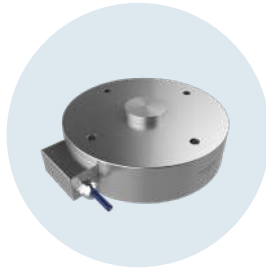
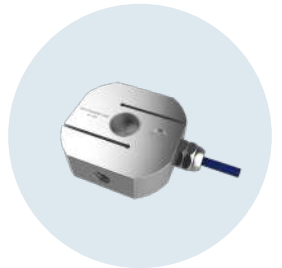
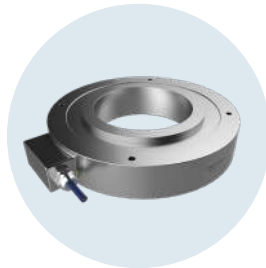
Settlement and Displacement

- Settlement meters
- Displacement meters
- Extensometers
- Crack meters
- Settlement multipoint systems



Load and Pressure

- Load cells
- Embedment strain gauge
- Pressure cells
- Flat jacks



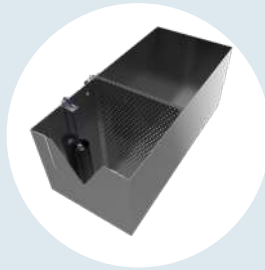
Water Quality

- Conductivity sensors
- PH sensors
- Dissolved oxygen sensor
- Turbidity sensor
- ORP sensors



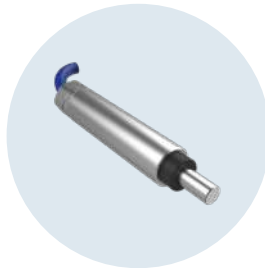
Flow and Level

- Piezometers
- Water level meters
- Ultrasonic level meter
- Flow meters
- Flow probes
- ALIN System (flood alert)



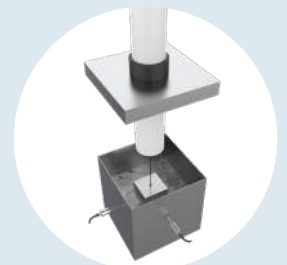
Meteorology

- Temperature sensors
- Humidity sensors
- Barometers
- Rain gauges
- Wind speed sensors
- Wind direction sensors
- Solar radiation sensors



Inclination

- Fixed wall inclinometers
- Fixed depth inclinometers
- Inclino-metric systems
- Direct pendulums
- Inverted pendulums

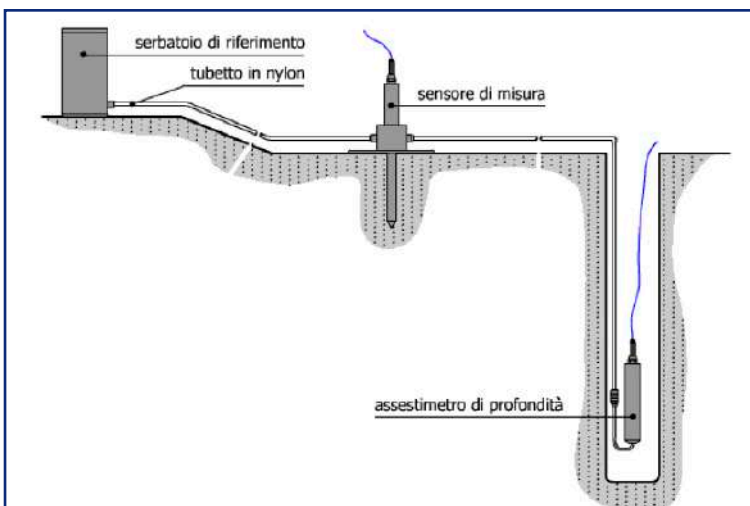


Readout Units e Accessories

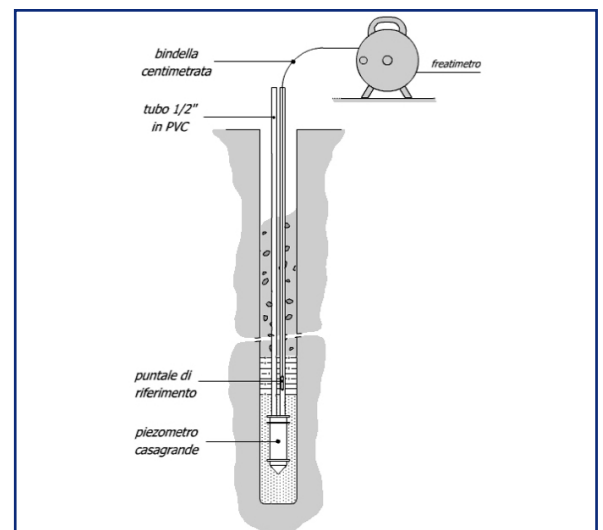
- Programmable readout units
- 2, 4, 8 channels data loggers
- Multichannel data loggers
- Modems
- Flow converters
- Process controllers



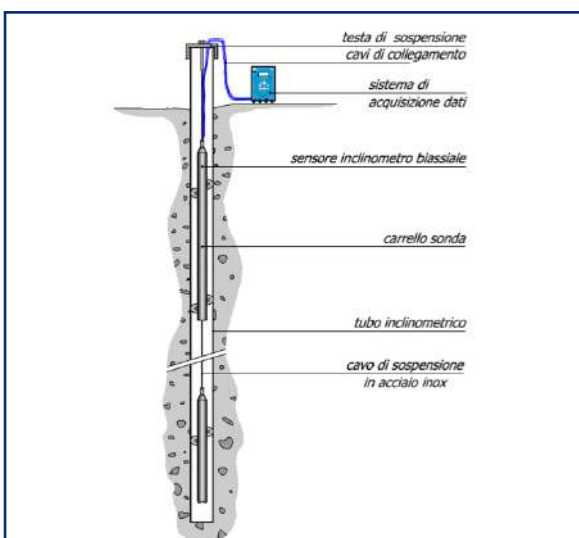
Installations example



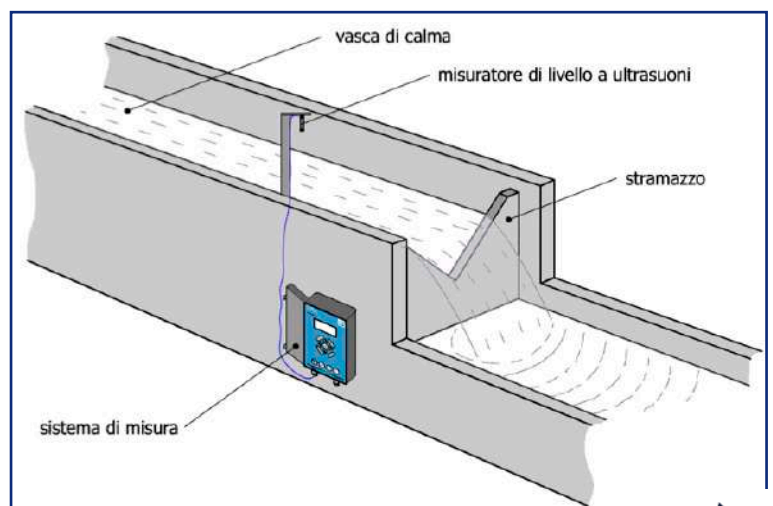
Electric depth settlement meter - ST130



Water level meter - LV620



Depth fixed inclinometer - IN930



Ultrasonic level meter - LV630



Ad hoc customized instruments and systems

Sim Strumenti also responds to special issues, where an ad hoc designed and produced instruments are required.

The studied solutions for this type of commissions, are designed looking not only at the functional and qualitative aspect of the individual elements but also at the economic level, thereby maintaining the contained costs for systems that at the same time require wide customization and efficiency.

Innovation is certainly an integral part of this type of projects. In fact, increasingly complex and specific requests always require new solutions, where possible foreseeing future needs.



**SPECIAL
REQUEST**

PROJECT

**TESTING
and
TUNING**

**FINAL
PRODUCT**





2500 ton. load test



Marmore waterfalls



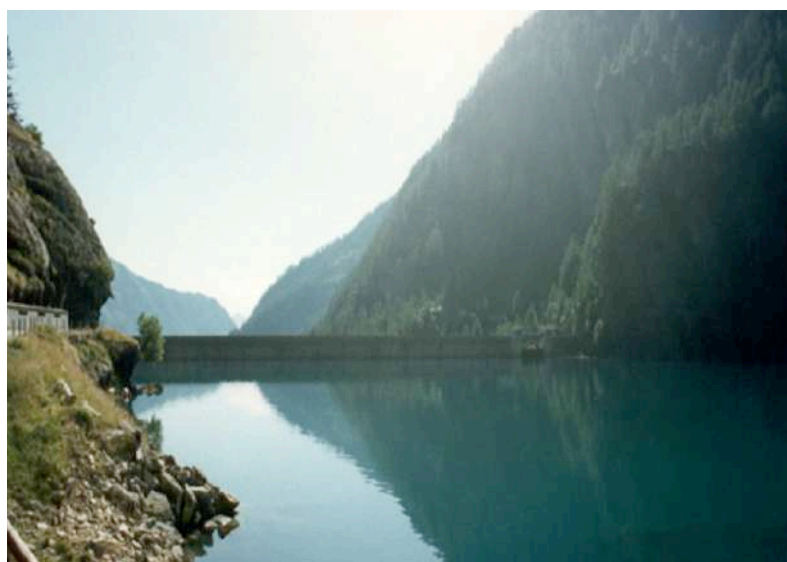
Masada cliff



Caramanico - landslide



Monte Beni - meteorology station



Campiccioli - dam



Among Our Works

Landslides

Assisi - inhabited center monitoring
Caramanico - inhabited center monitoring
Ceriana - inclinometric monitoring
Monte Beni - landslide monitoring
Senise - inhabited center monitoring
Val Nerina - falling rocks control

Monuments

Akko (IL) - "The Knight's Hall" monitoring
Cesarea (IL) - roman racecourse
Masada (IL) - cliff monitoring
Parma - Cathedral
Pisa - Cathedral
Roma - Castel Sant'Angelo
Roma - Palazzo Minerva

Special Tests

Bastardo (PG) - load test (chimney)
Haifa (IL) - load test on 14000 tons silos
Marina Herzelia (IL) - extraction load test
Shalom Tower (IL) - 2500 tons load test

Dams

Beauregard - static monitoring
Chiascio - water control
Esaro - static and dynamic monitoring
Sierra Leone - static and dynamic monitoring
Tarsia - static and dynamic monitoring
Venezuela - static monitoring

Bridges

Campobasso - road viaduct
Modena - high speed beams control
Parma - high speed beams control
Salinello - A14 highway

Structures

Genova - port (quay control)
Milano - north railway (Milano - Malpensa)
Modena - high speed embankments
Livorno - highway embankment
Perugia - Mini Metro
Porto Torres - wharf (caissons monitoring)
Romania - railway monitoring
Venezia - Progetto Mose monitoring
Venezia Airport - pre-load embankment monitoring

Tunnels

Cosenza - A3 highway
Gaggiano - fixed extrude meter
Monte Bianco - tunnels and large square monitoring
S. Benedetto (La Spezia) - Aurelia

Environmentals

Marmore Waterfalls - rock wall monitoring
Cinque Terre - meteorology station
Glorenza (BZ) - rubbish dump
Serbia - water quality monitoring
Sirmione - thermal waters
Somalia - environmental monitoring
Taranto - sea water infiltration





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