

THE PROJECT IN NUMBERS

MORE THAN
4797
INSTRUMENTS

MORE THAN
12 KM
OF CABLES

MORE THAN
7 KM
OF INCLINOMETER
CASINGS

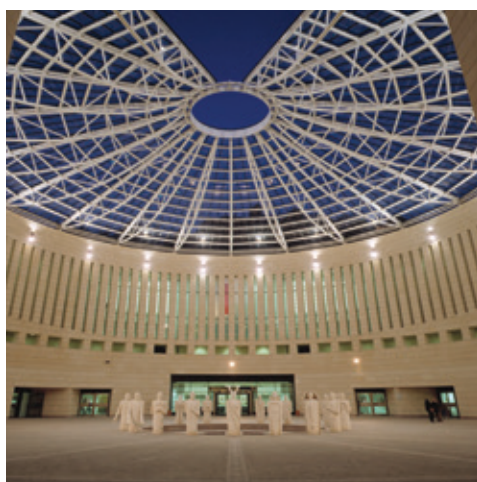
Roof top dynamic monitoring with Tiltmeters,
San Siro Stadium, Milan - Italy



Foundations and building monitoring,
Lakhta Tower, Saint Petersburg - Russia



Structural Health Monitoring,
MART Museum, Rovereto - Italy



Tilt beam installation on Maxentium Basilica

REFERENCE PROJECTS

Europe

Colosseum, Rome - Italy
CERN - Switzerland
Pisa Tower - Italy
Lakhta Tower, St. Petersburg - Russia
Massentium Basilica, Rome - Italy
Le Havre port - France
Topkapi Palace Museum - Turkey
Schiphol airport - Netherlands
Elbtower, Hamburg - Germany
San Siro Meazzo stadium - Italy
Fridtjof Nansens vei 12, Oslo - Norway
Barcelona harbour - Spain
Jardin Exotique - Monaco
Tempa Rossa project - Italy
Mart Museum, Rovereto - Italy
Fiumicino airport - Italy
Regina Elena canal - Italy
Zagorie Skyscraper - Russia
Schwarzenberg Palace - Austria
EX Fiat area, Turin - Italy
Sol Essais project - Monaco
Dibenko-38 project, Moscow - Russia
CEDEFOP Building - Greece
Zilart project, Moscow - Russia
Yekaterinburg city building - Russia
Impactului-V2 Center - Romania

America & Asia

Atlanta Airport - USA
City of David Archeological project - Israel
National Library, Nur-Sultan - Kazakhstan
Almaty International airport - Kazakhstan
Amas PPP Project - Bahrain
Saar bridge - Bahrain
King Salman Navy Base - Saudi Arabia
Grand Mosque Nur-Sultan - Kazakhstan
New Presidential building - Bahrain
Mitcham K Jerusalem project - Israel
Constitutional Council Palace, Nur-Sultan - Kazakhstan
Semel building - Israel



BUILDINGS AND HERITAGES SAFETY AND MONITORING



BUILDINGS & HERITAGES SAFETY AND MONITORING



Petra, Jordan

The monitoring of buildings and skyscrapers requires a careful assessment of the causes that could lead to their settlements or deformations/ tilting. Usually the causes of movement are to be searched in the foundations and the type of lithology on which the structure is built, as well as in incorrect evaluations made during the building design.

The origin of the instability can be caused by excavations or other underground works in the vicinity, sudden changes in the water table, earthquakes, etc.

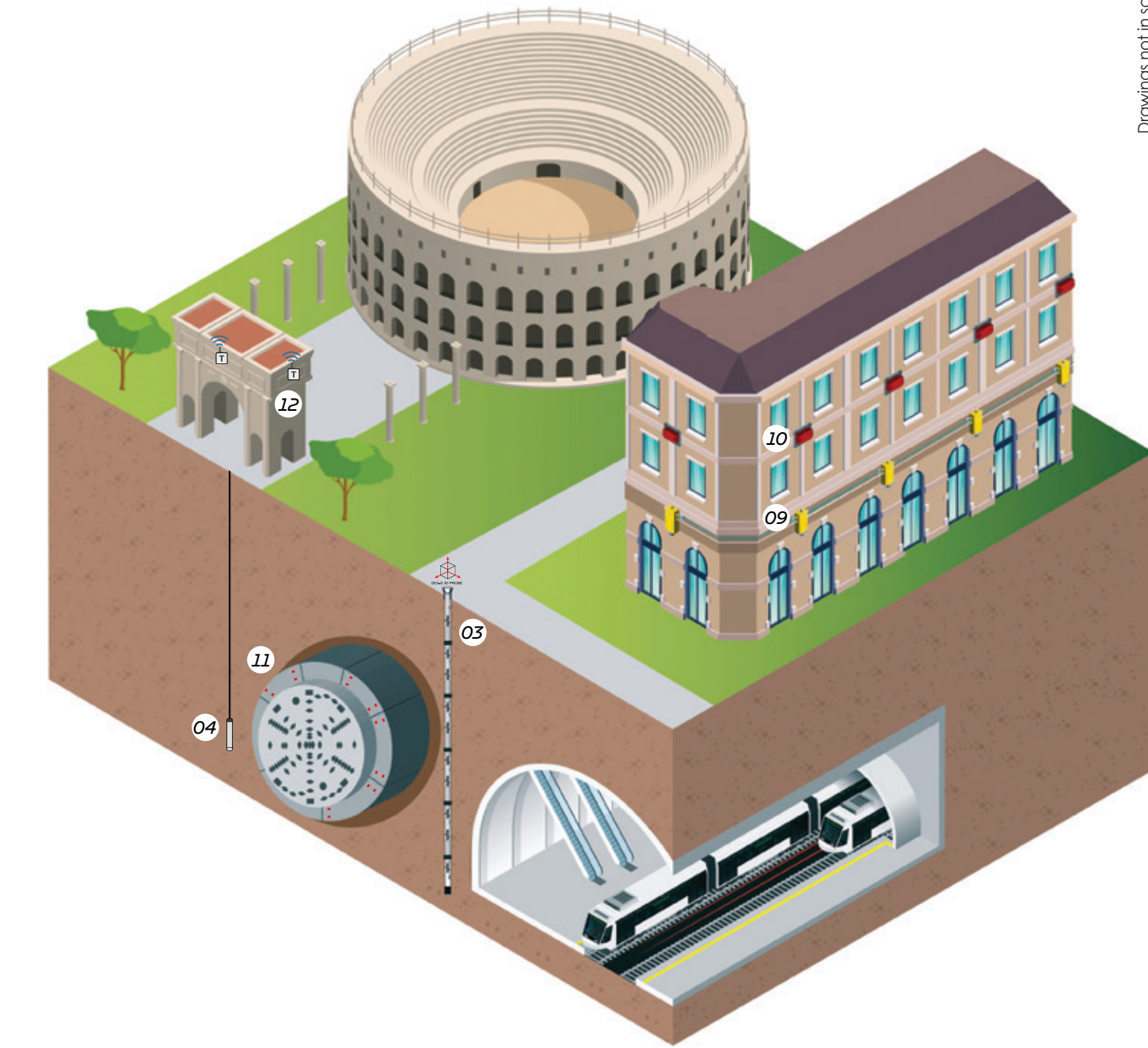
A well-designed monitoring system, integrated into the overall design of the work, will allow any problems to be controlled during both the construction and operation of the structures. If a monitored parameter reaches a critical value, it offers an opportunity to check any potential damage and make the proper adjustments. In the case of existing buildings or heritages, the monitoring system will allow to check the structural health of the work and thus its safety and usability.

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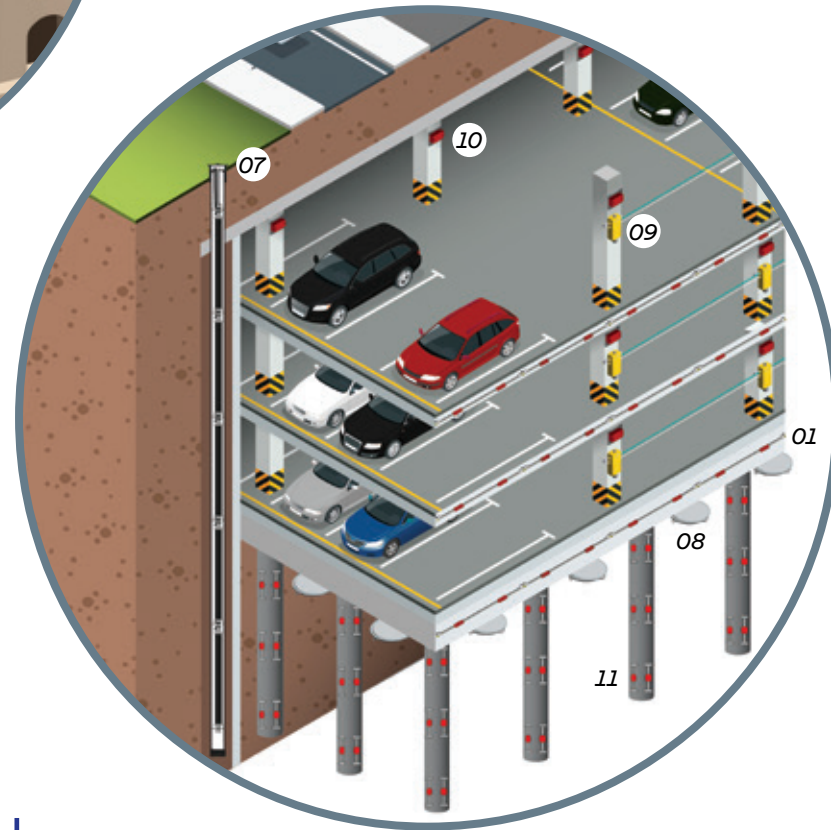
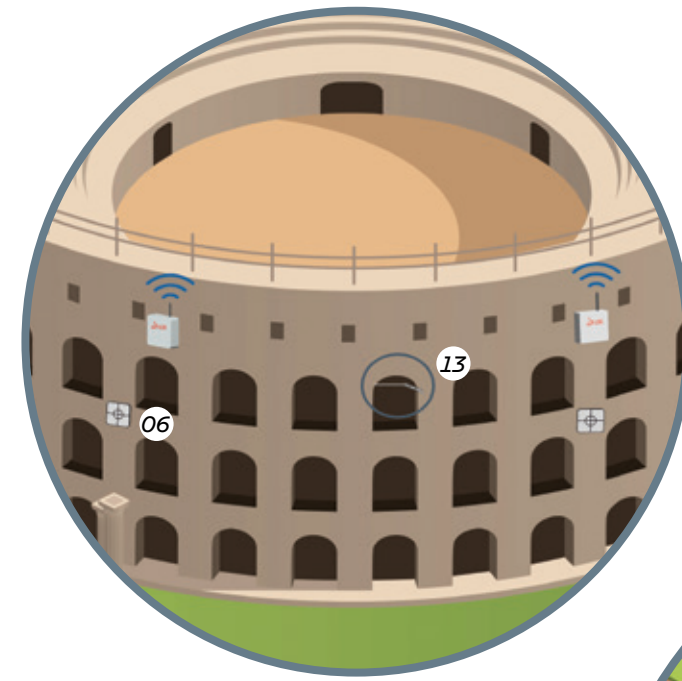
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HERITAGE MONITORING



Drawings not in scale



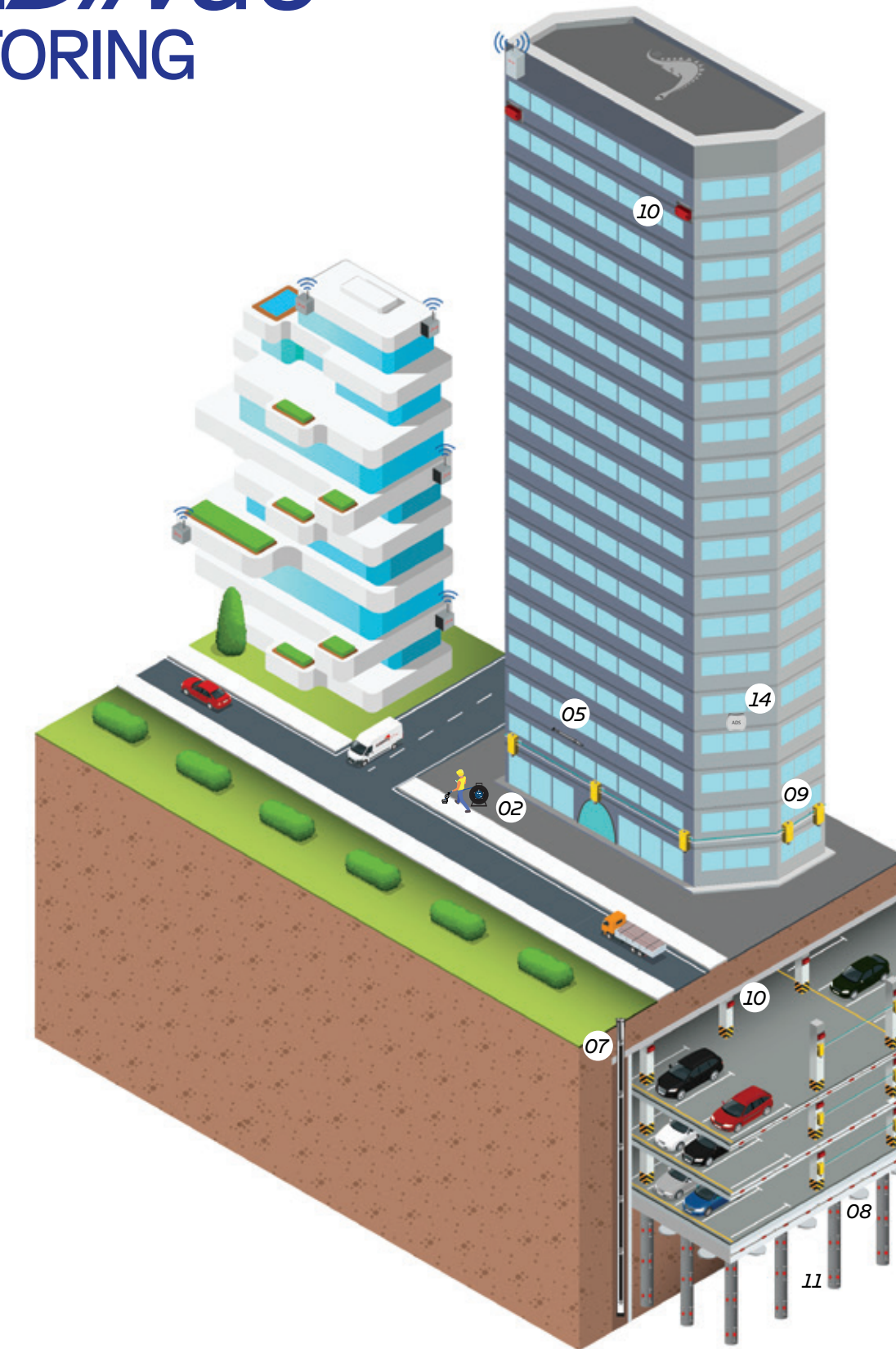
Reading solutions and data collection

The readout units and dataloggers are an essential part of the monitoring system. The readouts are needed during the installation procedures, in order to check any instruments before and after their installation, or when an automatic monitoring solution is not required. MIND readout is the new portable multichannel readout unit able to read and store data from both digital and analogue instruments, via its MIND App.

Dataloggers and wireless solutions are ideal for the automatic and remote monitoring in any geotechnical conditions. OMNIAlog and WRLog dataloggers offer precise measurement and reliable data acquisition from various sensor types and gauges supporting vibrating wire, MEMS and digital sensors, and all major geotechnical instruments. Sisgeo can also offer a dedicated service for data/measurement management from automatic and manual monitoring systems called AIDA IoT (powered by Field Srl).

The electric signals of the instruments are captured by the Data Acquisition Units, sent to a Server and later imported to a dedicated Database, where they are divided by project, instruments and measurements. Data are then converted into engineering units, validated, processed and represented in charts and table format.

BUILDINGS MONITORING



INSTRUMENTS

- 01 Digital LT-inclibus Check of the structural or ground horizontal/vertical displacement
- 02 B.r.a.in inclinometer system Monitoring of the ground horizontal displacement and slope stability
- 03 Digital DEX-S inclino-extensometer 3D borehole automatic profiling
- 04 Vibrating wire piezometer Monitoring of the pore water pressure
- 05 Vibrating wire crackmeter Monitoring of the cracks opening
- 06 Geodetic survey point Topographic control of structural displacements
- 07 Digital MD-Profile system High accuracy horizontal deformation monitoring in boreholes

READOUT AND DATALOGGER

- MIND readout
- OMNIAlog multichannel datalogger
- WR Log wireless system

INSTRUMENTS

- 08 Total pressure cell Monitoring of the total pressure between foundations and ground
- 09 Digital H-Level settlement system Differential settlement monitoring of structures
- 10 Digital tiltmeter Tilt monitoring of the structures
- 11 Vibrating wire strain gauge Check the stress conditions of concrete mass or steel structures
- 12 Wireless tiltmeter Reading of the building local tilting
- 13 Wire deformeter Monitoring of the distance between two points

STRUCTURAL HEALTH MONITORING SYSTEM

- 14 Ad-Signum solution Continuous monitoring of the global structural state and event detection

