



OFITECO
URBAN TUNNEL MONITORING SERVICES



**HELPING YOU
MAKE IT HAPPEN**

Civil Engineering
and Structural Health
Monitoring Consultancy
since 1971

www.ofiteco.com

MAIN SERVICES

- Previous inventory of buildings, structures and services.
- Professional design of Monitoring systems (Selection & location of instruments, threshold levels, reading frequencies...).
- Qualified installation and commissioning of instruments and devices.
- Supervision of monitoring plan and surveillance programs.
- Preventive and corrective maintenance of monitoring systems.
- Monitoring campaigns (manual and automatic readings).
- Accurate and real time Information Management Service.
- Engineering analysis and assessment.

URBAN TUNNEL MONITORING SERVICES
COMPREHENSIVE MANAGEMENT OF SAFETY

INFORMATION MANAGEMENT

- To achieve the **INFORMATION's** objectives we need to have a comprehensive management system to ensure, at all times, the availability of valid information necessary to evaluate the performance of the works, its adjustment to the design expectations and therefore the safety level thereof.
- An **ORGANIZATION** equipped with adequate resources and procedures will be essential for this function.



Tunneldata
REMOTE DATA MANAGEMENT FOR
MONITORING OF UNDERGROUND WORKS
**Real-Time
Web Service**

The advertisement features a computer monitor and a smartphone, both displaying the Tunneldata interface. The background is a green grid pattern. The Ofiteco logo is visible at the bottom.

SUPPLY, INSTALLATION, COMMISSIONING AND OPERATION OF A COMPREHENSIVE MONITORING SYSTEM FOR THE CONSTRUCTION WORKS OF RIYADH METRO LINE 5 (SAUDI ARABIA)

CONTRACTOR



SCOPE OF THE WORK

Planning, execution and supervision of:

- Identification of monitoring system objectives
- Selection of design, equipment and tools, matching project requirements
- Installation and commissioning of instruments and control elements
- Setup of work procedures for installation and monitoring (readings)
- Monitoring (readings) and reporting

INSTRUMENTATION AND MONITORING OF SEVERAL TUNNELS AND TWO METRO STATIONS (BEN GURION AND AHARONOVITCH) OF THE RED LINE (LTR LIGHT TRAIN TRANSIT), TEL AVIV, ISRAEL

SCOPE OF THE WORK

Among the work to be done for the contract, the following points were of interest from the point of view of underground works:

- Detailed monitoring plan and method of statement
- Supply, installation and maintenance of the geotechnical monitoring devices.
- Supply of database and reporting system, including licenses, support and service for the software.

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JV China Civil
& Danya Cebus

INSTRUMENTATION AND MONITORING OF THE INFRASTRUCTURE EXTENSION OF LINE 7 (METROESTE) IN MADRID (SPAIN) SECTIONS: I, II & III

SCOPE OF THE WORK

- Preparation of an specific monitoring plan for the project.
- Notarized inventory of buildings near the site prior to construction.
- Installation of the instruments provided for in the monitoring plan, consisting of:
 - Superficial leveling landmarks
 - Leveling gauges on the facades of nearby buildings
 - Deep points of reference for leveling
 - Sets of three disks to monitor cracks
 - Rod extensometers
 - Inclinometers on diaphragm walls and in the ground
 - Convergence pins in the tunnel and stations
 - Anchor load cells
 - Vibrating wire piezometers
 - Clinometers to monitor wall inclinations
- Monitoring campaigns, adjusting reading frequency to the rules of the monitoring plan.
- Redaction of monitoring reports.
- Noise and vibration control during construction.

CONTRACTOR

DRAGADOS

INSTRUMENTATION FOR THE EXTENSION OF METRO LINE 10 IN MADRID SECTION 2: CUATRO VIENTOS – ALCORCÓN (MADRID, SPAIN)

SCOPE OF THE WORK

The purpose of the work was the supply and installation of monitoring devices, and also the reading and tracking of the instrumental control. Different kind of equipment was installed :

- Superficial leveling landmarks
- Points of reference for surveying
- Inclinometers
- Rod extensometers
- Incremental extensometers
- Vibrating wire extensometers
- Gauges to monitor movements in nearby buildings
- Total pressure cells

CONTRACTOR

DRAGADOS

INSTRUMENTATION AND MONITORING OF THE INFRASTRUCTURE METRO LINE 2 (MÁLAGA, SPAIN)

SCOPE OF THE WORK

- Drawing up of a specific monitoring plan for the project.
- Installation of the instrumentation devices listed in the monitoring plan, which includes:
 - Tell-tale extensometers on the ground.
 - Level gauges in the facade of the buildings close to the works site.
 - Settlement platforms.
 - Collapse targets.
 - Rods extensometers.
 - Vibrating wire extensometers.
 - Deformeter basis.
 - Crackmeters.
 - Inclinometers in cut-off walls and on the ground.
 - Convergence bolts.
 - Total pressure cells.
 - Vibrating wire piezometers.
- Reading campaigns of the monitoring system, adapting its frequency to the control needed.
- Drawing up of the monitoring reports.

CONTRACTOR
UTE METRO MÁLAGA



**INSTRUMENTATION AND MONITORING OF THE INFRASTRUCTURE
LIGHT RAIL TRANSIT (LRT)
METRO LINE 2. SECTION: COLONIA JARDÍN - POZUELO DE ALARCÓN
(MADRID, SPAIN)**

SCOPE OF THE WORK

- Preparation of an specific monitoring plan for the project.
- Notarized inventory of buildings near the site prior to construction.
- Installation of the instruments provided for in the monitoring plan, consisting of:
 - Superficial leveling landmarks
 - Leveling gauges on the facades of nearby buildings
 - Deep points of reference for leveling
 - Sets of three disks to monitor cracks
 - Inclinometers on diaphragm walls and in the ground
 - Convergence pins
 - Total pressure cells
 - Vibrating wire piezometers
 - Hydrostatic profile gauge
- Monitoring campaigns, adjusting reading frequency to the rules of the monitoring plan.

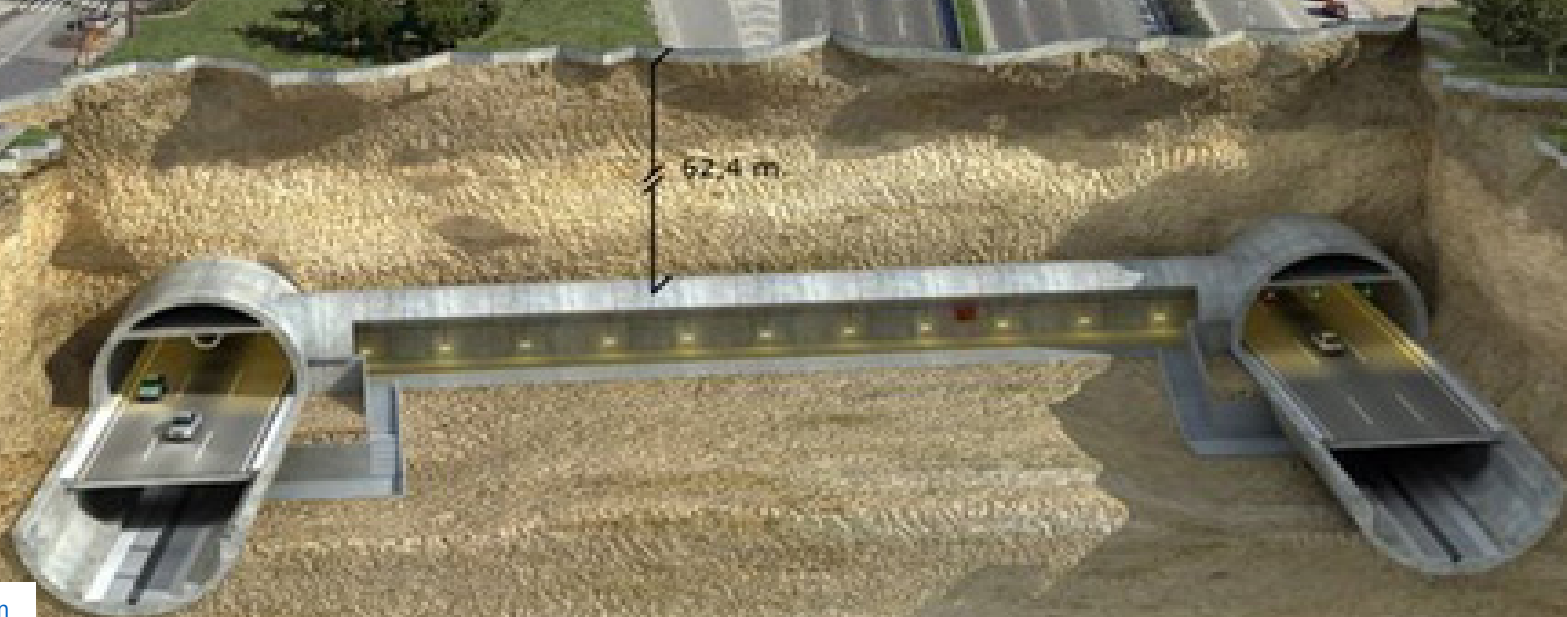
CONTRACTOR



INSTRUMENTATION DURING THE CONSTRUCTION OF MADRID CALLE 30 (MADRID, SPAIN)

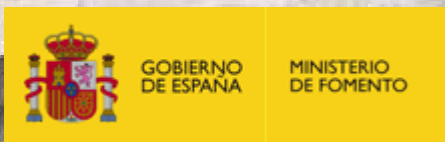
SCOPE OF THE WORK

The purpose of OFITECO's work was the supply and installation of monitoring devices, the reading of these devices and the long-term tracking of cracks, noise and vibration monitoring in buildings around the CALLE 30's works.



LONG-TERM TRACKING OF THE INSTRUMENTAL MONITORING AND INSPECTION OF THE RAIL TUNNEL INSTALLATIONS IN GIJÓN (SPAIN).

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SCOPE OF THE WORK

The purpose of OFITECO's work is the supply and installation of monitoring devices, the reading of these devices and the long-term tracking of the instrumental monitoring and inspection of the tunnel installations.

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MONITORING SERVICES DURING THE CONSTRUCTION OF THE METRO LINE 3 IN ALBORAYA (VALENCIA, SPAIN)

SCOPE OF THE WORK

- Supply and installation of geotechnical instrumentation:
 - Rod extensometers
 - Total pressure cells
 - Vibrating wire piezometers
- Monitoring campaigns, adjusting reading frequency to the rules of the monitoring plan.

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INSTRUMENTATION AND MONITORING OF PRO PATRIA – PETARE METRO LINE IN CARACAS (VENEZUELA).

SCOPE OF THE WORK

Among the work to be done for the contract, the following points were of interest from the point of view of underground works:

- Control and supervision of construction work (tunnels, cut-off walls)
- Control and supervision of special work (consolidation, piling, lowering water levels, etc.)
- Laboratory tests (quality control)
- Instrumentation and monitoring of works

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