Great Place To Work.® Certified JUN 2024-JUN 2025 ITALY

PLATINUM Top 1% ecovadis Sustainability Rating JUL 2024

SOCOTEC

ADVANCED MONITORING FOR THE SECURITY OF INFRASTRUCTURE

Safety, Efficiency and Technology

GREEN TRUST BY SOCOTEC

TRUST & TECH BY SOCOTEC

SOCOTEC

Committed to building your *future*

Our **vision** is to help maintain the **integrity** of infrastructure by making it **safe** and improving its **technical**, **environmental** and **economic performance**. We also aim to identify, assess and manage quality, **health and safety risks** throughout the **lifecycle** - from construction to demolition - by providing in-service maintenance.

Worldwide presence!

Present in 27 countries with more 14,000 employees!

No. 1 in Control of Buildings

In France and the UK

N°1 in Test, Inspection certification & Compliance

In the UK and Italy

No. 1 in wind farm inspection and photovoltaic systems

In France

A company recognized for project consulting and dispute resolution in the construction, infrastructure, and energy sectors in the UK, the US, and the Netherlands.

Technological Innovation

The Heart of Monitoring Services

SOCOTEC Italy stands out for its use of cutting-edge technology to ensure accurate, reliable and rapid infrastructure monitoring.

Fibre Optic Sensors

IoT networks for Remote Monitoring

Digital Platforms for Real-Time Data Analysis

A team of **EXPERTS** ready to tackle **every challenge**

Building Trust for a safer and sustainable world

You can find more details about technical specifications and past work on our website

Why Monitoring Is Crucial

The key to security, efficiency and durability of infrastructure.

Monitoring is the key to keeping infrastructure safe and sustainable over time. With continuous, accurate checks, you can identify problems early and make quick, targeted decisions.

Risk prevention:

Detect movements and deformations early, preventing emergencies.

Regulatory compliance:

Ensure safety standards and current regulations are met.

Optimised management:

Accurate data supports predictive maintenance, reducing costs and time.

Strategic support:

Collected data are essential for designing new projects or improving existing ones

Advanced Monitoring

safety, efficiency and **sustainability** in every project

Our proven experience, combined with an integrated approach and the latest technologies, enables us to offer tailored, state-of-the-art solutions. We have a clear goal:

To help our clients manage their infrastructure throughout its lifecycle - from design and construction, through maintenance and operational improvement, to decommissioning.

↪ **SOCOTEC Italy offers a complete range of infrastructure monitoring solutions tailored to the specific needs of each customer.**

SOCOTEC's Services for **monitoring**:

Geotechnical Monitoring

We monitor underground conditions to prevent risks like ground collapse, landslides, and instability. This service is essential for infrastructure in critical or naturally stressed areas.

Structural Monitoring

We assess the condition of structures to ensure their integrity and stability over time. Using advanced techniques, we detect deformations, stresses and other problems, supporting predictive maintenance and improving overall infrastructure safety.

Topographical Monitoring

We use high-precision technology to detect movements and deformations in surfaces and structures, creating detailed 3D models.

Discover the services dedicated to

Geotechnical MONITORING

Onshore & Offshore

Geotechnical monitoring is a crucial part of managing infrastructure, ensuring safety and preventing risks like subsidence, landslides, and ground instability. By continuously checking underground conditions, you can spot any problems early and fix them before they threaten the structure's integrity.

SOCOTEC Italia is a trusted leader in this field. Using innovative tools and adapting to each project's unique needs, our monitoring services help optimize infrastructure management, improve safety, and extend the life of your assets.

You can find more details about technical specifications and past work on our website

01 | Interstitial Pressure Monitoring

Tool used:

High-precision piezometers.

Purpose:

To measure and monitor the water pressure in the ground.

This information is essential for understanding underground water behavior and preventing instability issues like hydraulic uplift or liquefaction.

Main applications:

Dams and water reservoirs

Pressure control to avoid internal erosion phenomena.

Underground excavations

Analyze hydrostatic pressure to design proper drainage systems.

02 Slope Stability Monitoring

Tool used:
Inclinometers, settlement gauges, profilometers, and optical sensors

Purpose:

Monitor ground movement in real time - both horizontally and vertically - to detect subsidence or landslides before they become critical.

Main applications:

Escarpments and retaining walls

Detect movements that could compromise stability.

Infrastructure projects

Prevent settlement in rail and road works.

Tunnels

Continuously monitor during excavation and operation to ensure the safety of surrounding structures

03 Control of Subsoil Displacement

Tool used:
Optical sensors, high-strength automatic inclinometers, IoT network-based monitoring systems and climate monitoring systems.

Purpose:

Evaluate how slopes behave over time, spot critical changes, and predict possible collapses.

Main applications:

Mountain areas

Protection against landslides and mudslides in areas subject to high natural hazards.

Mining Sites

Control of slopes during excavation and restoration operations.

Infrastructure

Continuous monitoring to ensure the safety of roads, bridges and railways located in critical areas.

04 Groundwater monitoring

Tool used:

Multi-parameter piezometers, capable of detecting several hydrogeological parameters simultaneously.

Purpose:

Monitor groundwater conditions to prevent seepage, manage groundwater levels and assess the impact of human activities.

Main applications:

Construction projects

Prevention of flooding during excavation or foundation work.

Quarry and mine management

Monitoring to ensure the safety of operations.

Dams

Control of groundwater levels to prevent instability phenomena.

Custom solutions

SOCOTEC Italy develops custom monitoring plans to meet each project's specific needs. By combining traditional tools with advanced digital technologies, we can provide:

Real-time monitoring systems

For timely intervention in case of anomalies.

Detailed and customised reporting

In-depth analyses and practical recommendations to improve risk management.

Digital data analysis platforms

Intuitive data visualisation for effective information management.

Structural MONITORING

Safety first

Structural monitoring is essential to keep infrastructures safe and sound during construction and throughout their life. SOCOTEC Italy offers cutting-edge solutions for continuous structural performance checks, helping spot potential issues early and optimize maintenance.

Accelerometers for traffic-induced vibration analysis.

Monitoring spans using advanced technologies.

Inclinometer monitoring system for pylon stability.

You can find more details about technical specifications and past work on our website

Leader in the TICC sector

Test, Inspection, Certification & Compliance

The services dedicated to Structural monitoring

01 | Measurement of Deformations

We monitor structural deformations to detect settlements or critical points that could threaten integrity. We collect real-time data to provide in-depth, timely analyses.

Our approach:

We use strain gauges and advanced sensors to detect even the smallest changes in deformation.

Advantages:

- Prevent structural failures.
- Identify anomalies early before they turn into major damage.
- Support planning for preventive maintenance.

02 | Crack monitoring

We keep track of how cracks form in structures, monitor changes in their width, and record every update. This service is essential for assessing safety and planning targeted repairs.

Our approach:

We install displacement transducers at cracks to track their behavior over time.

Advantages:

- Accurate detection of active cracks.
- Continuous monitoring to prevent serious deterioration.
- Analysis useful for consolidation interventions.

Main applications:

- Historic buildings and monuments
- Reinforced concrete structures
- Buildings in earthquake-prone areas

03 | Masonry assessment

We assess masonry stress to plan strengthening and restoration, ensuring structures remain safe and stable over time.

Our approach:

We use flat jacks to measure existing stress in the walls and analyze how they respond under load.

Advantages:

- Identify the areas under the most stress.
- Evaluate how much load the masonry can bear.
- Help plan targeted reinforcement work.

Main applications:

- Restoration of historic buildings
- Post-earthquake reinforcement
- Public structures

04 | Static and Dynamic Monitoring

We simulate maximum load conditions during testing and analyze vibrations to assess the stresses on the infrastructure. Over the years, we track key parameters to evaluate any loss of functionality.

Our approach:

Static monitoring:

We simulate loads using trucks or specific weights to recreate maximum usage conditions.

Dynamic monitoring:

We use three-axis accelerometers and dynamic strain gauges to analyze vibrations from traffic, wind, or seismic activity.

Advantages:

- Identify structural weak points.
- Provide detailed analysis of how infrastructure behaves under real stresses.
- Support planning of maintenance interventions.

Main applications:

Bridges and viaducts

Continuous monitoring to ensure the safety of roads, bridges and railways in critical areas.

Construction in urban environments.

Monitoring interferences between construction work and existing structures, assessing damage caused by settlement and vibrations.

Large Buildings

We check a building or monument's condition to make sure it stays usable and preserved, even after earthquakes.

Topographic MONITORING

Topographic monitoring is essential for accurately tracking the movements of surfaces and structures over time, helping to ensure stability, safety, and optimal asset management. SOCOTEC Italia uses advanced tools—like 3D laser scanners, photogrammetry, and robotic total stations—to provide continuous, detailed infrastructure monitoring. This lets us catch even the smallest changes, prevent risks, optimize maintenance, and guide targeted interventions.

Relying on SOCOTEC's topographic monitoring means investing in the safety and durability of your infrastructure with professional, innovative support. Precision and control for the safety of your assets.

You can find more details about technical specifications and past work on our website

The services dedicated to topographical monitoring

01 | Monitoring with Robotic Total Stations

Our approach:
We use networks of robotic total stations to detect movements and deformations with extreme precision.

Advantages:

- Automatic and continuous data acquisition.
- Monitoring even under difficult environmental conditions.

Main applications:

Bridges and viaducts

Railway infrastructure

02 | 3D laser scanning surveys

Our approach:

Laser scanning technologies to create three-dimensional models of monitored structures.

Advantages:

- Maximum precision in detecting details.
- Creation of digital models for in-depth analysis.

Main applications:

Historical Buildings and Monuments

Critical infrastructures

03 | Monitoring by Photogrammetry

Our approach:

Photogrammetry techniques to detect and analyse surfaces and structures.

Advantages:

- Creation of orthophotos and 3D digital models.
- Fast and efficient surveying over large areas.

Main applications:

Dams and water reservoirs

Quarries and mines

04 | Integration of IoT technologies

Our approach:

Continuous monitoring systems integrated with IoT networks.

Advantages:

- Access to real-time data.
- Automatic notifications in case of critical changes.

Main applications:

Seismic zones

Large construction sites

You can find more details
about technical specifications
and past work on our website

TRUST&TECH
BY SOCOTEC

Technology to support our **experts**.

Trust&Tech by SOCOTEC is the **technological expertise** our **specialists** use in the field and for our clients. It supports technical consulting and risk management in Construction, Infrastructure, and Industry during Environmental, Energy, and Digital transformations.

↪ As an independent, trusted third party, we bring the best technical skills and technologies to our projects.

TRUST&TECH

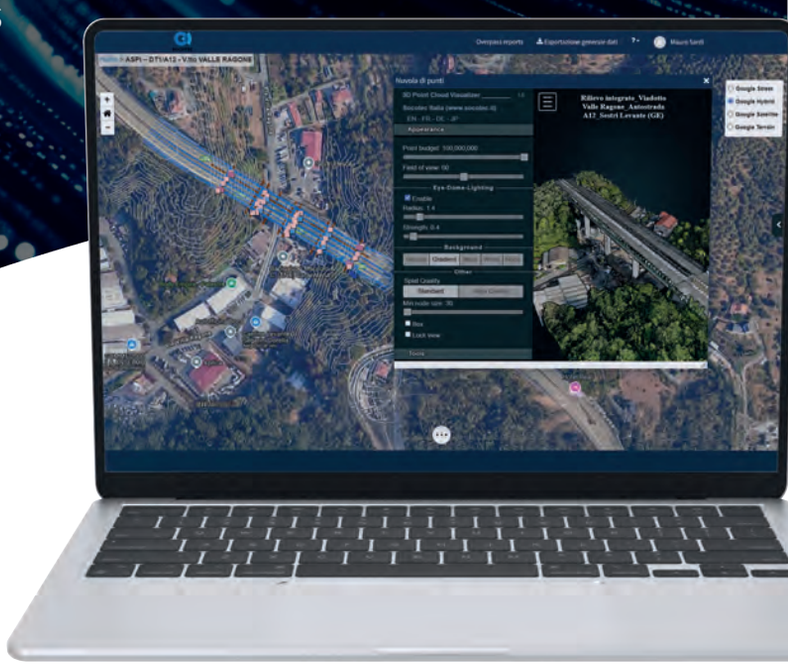
DDS

DATA DISSEMINATION SYSTEM

Innovation to enhance safety

Centralized and accessible monitoring.

The DDS (Data Dissemination System) is a WebGIS platform that makes managing and interpreting monitoring data easier. It's designed for accuracy and speed.



Main Features

- **Intuitive interface:**
Easy navigation from any device, without additional installations.

- **Advanced visualisation:**
Data represented in interactive 2D/3D models, graphs and intuitive maps.

- **Total customisation:**
Configurable to meet project requirements, including specific sensors and plug-ins.

- **Guaranteed security:**
Systems hosted at certified providers with cyber security and disaster recovery.

Advantages:

- Real-time access to monitoring data from anywhere.
- Reduces analysis time through centralized management and integrated caching.

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Advanced technologies for monitoring.

SOCOTEC's WebGIS platform is a powerful, flexible system that makes it easy to handle and analyze large amounts of data. It combines the latest technologies to provide a custom solution for every monitoring need.

TOP-QUALITY TECHNOLOGICAL TOOLS

- **High-precision sensors:**
Accurate geotechnical, structural and environmental data.

- **Automated monitoring stations:**
Continuous acquisition and configurable validation of data.

- **Interactive maps:**
Detailed analyses and intuitive graphical visualisations for quick decisions.

TAILOR-MADE FUNCTIONALITY

- **Profiled access:**
Customisation of users and authorisation levels.

- **Smart notifications:**
Configurable automatic alerts via SMS or e-mail.

- **Simplified management:**
Intuitive tools for customised analysis and reports.

A Solution for Every Need

By integrating advanced sensors, digital tools, and ongoing support, SOCOTEC Italia provides accurate and timely monitoring for every type of infrastructure.

With DDS, SOCOTEC Italia turns data into strategic actions, making monitoring more efficient and responsive.

INTEGRATED SOLUTIONS FOR THE

MONITORING & CONTROL

Onshore and Offshore Wind Farms

The wind industry is a key part of the global energy transition. Keeping wind farms safe, stable, and efficient is vital for getting the most energy out of them and making them last longer. SOCOTEC Italia offers advanced monitoring solutions for every stage of a wind farm's life—from design to day-to-day operations—to help cut risks and boost performance.

Specific services for wind energy

The Heart of Monitoring Services

SOCOTEC Italia offers tailor-made solutions for each wind farm component:

Wind turbines:
Monitor deformations and vibrations to ensure stability.

Turbine blades
Use fiber-optic sensors to track vibrations, ice build-up, and prevent damage from centrifugal forces.

Foundations:
Continuously assess structural strength with advanced sensors.

Environmental impact:
Monitor noise, bird life, and marine flora to reduce ecosystem impact.

SOCOTEC

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and past work on our website

Solutions for every stage of your wind farm

SOCOTEC Italia offers advanced monitoring solutions that cover every stage of an asset's life cycle

Preliminary Surveys for
Design

Geotechnical and geophysical investigations, topographic surveys, and environmental analyses.

Checks During
Construction

Quality checks of materials and non-destructive testing. Inspections during installation and steel quality checks

Surveys During
Commissioning

Foundation checks and tests, structural analysis and reinforcement measures, and preventive maintenance plans.

Inspections:
Visual and Drone

Visual inspections and drone surveys, Endoscopic examinations, Laser scanning technologies

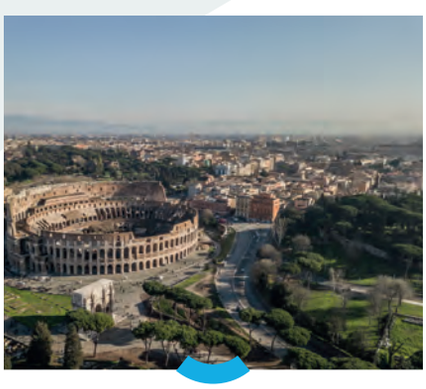
Main project

Geotechnical, structural and topographic monitoring of the Metro C Line - Rome

For the T3 section of Line C, we designed and installed an advanced monitoring system, dealing with:

- Survey geotechnical and structural parameters
- Automate data collection
- Monitor historic structures along the route
- Manage and share data through the Web-GIS DDS platform

We also carried out monitoring before work began on the landmark section of Line T3 (San Giovanni–Colosseum–Piazza Venezia) to protect the historic structures. We also manage monitoring on sections T7, T6a, T5, and T4, providing full support for tunnels and stations with cutting-edge technology.



Colosseum Park

Environmental and structural monitoring

We constantly monitor the Colosseum's environmental and structural conditions, providing essential data to protect one of the world's most important monuments.

Latina Nuclear Power Plant

Dynamic characterisation of the reactor building

We installed an advanced structural monitoring system on the reactor building at the Latina Nuclear Power Plant. It allows real-time analysis of the structure's behavior and ensures the plant's safety.

Alba-Bra Hospital(CN)

Wireless drainage system monitoring

We designed and set up a wireless automatic monitoring system to track the drainage system's efficiency, improving stormwater management and making the healthcare infrastructure safer.

Milan M4 Metro

Geotechnical and structural monitoring during the construction of the new line

We supported the works for the M4 Line of the Milan metro, managing:

- We carry out geotechnical and topographic monitoring of lines M1, M2, and M3.
- We install and automate detection devices.
- We process, share, and manage data via the Web-GIS DDS platform to ensure continuous monitoring.

Metro Line II - Warsaw, Poland

Design and management of the monitoring system

For the East and West extension of the Warsaw Metro II Line, we implemented an integrated monitoring system including:

- **Installation of advanced detection devices**
- **Automation and centralization of data**
- **Management of the Web-GIS DDS platform**

State Road 652 'Fondo Valle Sangro'

Geotechnical, geomorphological and topographical monitoring

We monitor ground conditions between Gamberale and Civitaluparella in Abruzzo, keeping the infrastructure safe with the first innovative SAAV (ShapeAccelArray Vibrating) devices to track ground movements.

GREEN TRUST BY SOCOTEC

What does it mean when a service is GreenTrust?

Green Trust is a service focused on the six environmental goals of the EU Taxonomy under the Green Deal.

↪ ***GreenTrust focuses on reducing environmental impact and improving the energy efficiency of buildings, facilities, equipment, and structures.***

SOCOTEC GROUP

27
COUNTRIES

Germany
Saudi Arabia
Austria
Belgium
Colombia
Ivory Coast
Spain
United States
United Arab Emirates
France
Ireland
Italy
Japan
Lebanon
Luxemburg
Madagascar
Morocco
Mauritius Island
monaco
The Netherlands
Philippines
Poland
United Kingdom
Singapore
Thailand
Vietnam
Romania

7
PLATFORMS

190
SITES IN FRANCE

including **29** technical training centers and **17** school worksites for Nuclear Training

14 000
PEOPLE

6 500
ENGINEERS

250 000
CLIENTS

€1.6Bn
TURNOVER

250
EXTERNAL RECOGNITIONS

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BUILDING TRUST FOR A SAFER AND SUSTAINABLE WORLD