



# Sites

WATCHING OVER YOUR STRUCTURES



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**A global, independent partner  
working for the sustainability  
of exceptional structural assets**



ENGINEERING



MONITORING



INSPECTION



COMMISSIONING



TECHNICAL  
SUPPORT

[www.sites.fr/en](http://www.sites.fr/en)

*Ensuring future sustainability.*



# Sustainability engineering

## Independent leader in structural sustainability

SITES is a structural health monitoring pioneer and a specialist engineering company dedicated to **infrastructure performance and service life**. SITES' engineers, assessors and technicians strive to **make exceptional structural assets sustainable** as they age and they are used and operated, and to manage their impact on the neighbouring environment.

Based on in-situ investigations into structures and stakeholders, analyses and calculations, SITES **diagnoses structures' actual condition, monitors their development, and recommends and ensures upgrades are correctly implemented**, thereby guaranteeing safe, sustainable use and avoiding any unexpected operational interruptions or costly repairs.



### ENGINEERING & SUSTAINABILITY STUDIES

Structural calculations, BIM, recommendations, structural risk analysis, vulnerability studies, maintenance plans, assessments, diagnostics, etc.



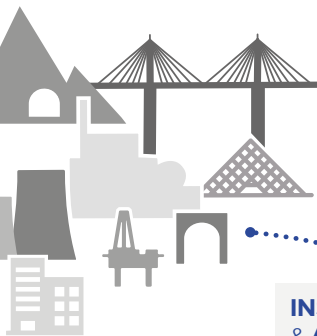
### MONITORING & INSTRUMENTATION

Structural Health Monitoring, IoT, periodic structural inspections, vibratory and seismic assessment, etc.



### TECHNICAL ASSISTANCE & OWNER ENGINEER SERVICES

Monitoring and coordination of civil engineering sites, roads and utilities, painting, fire protection projects, etc.



### INSPECTIONS & ASSESSMENTS

Preventive monitoring of structures during operation, diagnosis and assessments, inspections of inaccessible areas, structural audits, etc.



### TESTS, CHECKS, SURVEYS & MEASUREMENTS

Metrology, surveying, NDTs, televisuals, drones, mapping, scanning, digital cloning of structures and installations, containment tests, coating checks, penetrating radar investigation, dynamic analysis, etc.



**INDEPENDENCE & OBJECTIVITY**

**GLOBAL APPROACH**

**35 YEARS OF EXPERIENCE**



“ We operate at every stage in structures’ life cycle, from design to deconstruction. ”

**DESIGN /  
CONSTRUCTION**  
Monitoring engineering  
Instrumentation



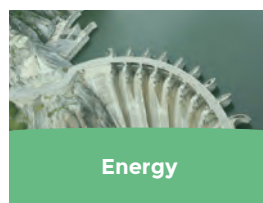
**OPERATION**  
Monitoring  
Risk assessment  
Recommendations, upgrades



**ALTERATION /  
DECONSTRUCTION**  
Optimisation of worksites risks



Since 1984, we have carried out thousands of independent inspections on Exceptional Structural Assets



They support SITES :








## Tools and dedicated solutions

### HIGH DEFINITION & HIGH-SPEED CHARACTERIZATION OF STRUCTURES

- > **ScanSites®**: Remote inspection system
- > **Laser scanning, ScanSites 3D®**
- > **ScanTubes®**: High definition tunnels surveys, galleries, confined spaces
- > **Drones**
- > **Photogrammetry**
- > **Metrology** 



SITES drone used for inspection on photogrammetric surveys

### STRUCTURAL MONITORING ECOSYSTEM

- > **Walls mounted or embedded sensors**: Vibrating wire extensometers crack-meters, optic fibre sensors, tiltmeters, pendulums, CAM'n'BR, static & dynamic, robotized total stations...
- > **Data acquisition system**
- > **Wired and wireless data transmission, ..., all protocols**
- > **SIMon-e® platform for data visualisation, treatment and analysis**



Railways tunnel ScanTubes® survey.

Sensor CAM'n'BR®: Remote acquisition of direct or inverse pendulums.

### DIGITAL INSPECTION

- > **VERAO® GC**: Inspection for maintenance purpose of a fleet of assets
- > **VERAO® fireproofing**: Inspection of fire-fighting equipment

### WORKS SURVEILLANCE

- > **OASIS**: App and platform for works surveillance

### SPECIALIZED EXPERTISES

- > **Anti-corrosion assessors certified ACQPA / FROSIO**
- > **GPR, NDT**



3D digital twin of the "Arc du Carrousel du Louvre", based on photogrammetric surveys to enable a structural health monitoring.



# References

## AIRPORTS

Inspection and metrological monitoring of civil engineering infrastructure at Roissy Charles De Gaulle and Orly airports / Initial inspection of CDG Val metro structures and study of tunnel fire resistance / Monitoring of Nice Airport, etc.

## DAMS

Geometrical monitoring of the Kruth dam / Remote inspection with ScanSites of the Castillon dam, monitoring of cracking on vaults of large dams (EDF, CNR, SCP, Hydro-Québec) / Instrumentation (Argentina, EDF, etc.) and seismic studies, etc.

## NUCLEAR POWER PLANTS

Preventive monitoring: initial and periodic maintenance inspections / Overall instrumentation of reactor buildings at Flamanville EPR / Monitoring of cracking and three-dimensional deformations on cooling tower shells, etc.

## NATURAL ENVIRONMENTS

Monitoring of cliff cracking in Val d'Aoste / high-precision inclinometry, dynamic optical fibres for characterisation of rock masses, etc.

## OIL AND PETROCHEMICAL FACILITIES & REFINERIES

Engineering and monitoring of structures (chimneys, flares, etc.) of refineries (Exxon, TotalFina, etc.) / Instrumentation of pipes (cryogenic, high temperature) / In-situ technical assistance (Sultanate of Oman) / Study of Nkossa Barge (Congo) monitoring, etc.

## HISTORIC MONUMENTS

Instrumentation and inspection of churches, abbeys, colleges, basilicas (Cathedrals of Nemours, Varzy, Clamecy, Dôle, Orléans, etc.) / Inspection, 3D scanning and instrumentation of the National Assembly / Assessment and monitoring of statues, etc.

## CIVIL ENGINEERING WORKS

Engineering, instrumentation and monitoring of the Millau Viaduct and the Radès-La Goulette bridge (Tunisia) / Detailed inspection of civil engineering works / Assistance with project management: external inspection, drafting of technical specifications / «Structures and materials» diagnostics, etc.

## STADIUMS

Inspection of the roof of the Parc des Princes / Deformation measurements on metal framework arches in Nice stadium, etc.

## TUNNELS

Visual inspections on tunnels (Landy, Croix-Rousse, Fourvière, etc.) / Automated inspection of ventilation shafts in the Fréjus tunnel / Instrumentation of railway tunnels / Monitoring of structures on the Gautrain railway line in South Africa, etc.



Since the Louvre Pyramid was constructed in 1989, SITES has developed and implemented a continuous monitoring and inspection strategy to track changes in its health over time.



Since 2000, EDF has relied on SITES' expertise for its Basic Preventive Maintenance Programme for all the civil engineering structures in its nuclear network (including nuclear islands, waterworks, Balance Of Plant, protective equipment, galleries and so on).



## Certifications

ISO 9001 : 2015  
 ISO 14001 : 2015  
 ISO 45001 : 2018  
 EDF UTO  
 CEFRI-E radioprotection

# Sites

WATCHING OVER YOUR STRUCTURES

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**6**  
offices in  
France

**3**  
subsidiaries  
overseas

**400+**  
employees

over **1000**  
structures monitored  
each year



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South Africa | SITES AFLA (PTY) LTD



Saudi Arabia (2020)

ENGINEERING | MONITORING | INSPECTION | COMMISSIONING | TECHNICAL SUPPORT