GeoSIG
swiss made to measure

Critical Infrastructure Structural Health Monitoring

What can be monitored?

- Dams
- Bridges
- Mines
- Tunnels
- High-Rise Buildings
- Pipelines
- Railways
- On-shore and Off-shore Turbines
- Historical and Aging Structures
- Stadiums/Arenas
- Factories
- High Precision Facilities
- LNG, Coal, Mixed Power Plants
- NPP

What are the Features and Benefits?

- Rapid Assessment
- Detect Early Signs of Failure
- Assess Structure's Safety Following a Major Event
- Ensure Ongoing Safety
- Reduce Maintenance and Repair Costs
- Extend the Life of an Aging Structure
- Improve Knowledge about Complex Structures

Professional Advice and Support from Concept to Deployment

Our professional and experienced consultants are ready to provide you with the best impartial advice and support from the outset. Our knowledge of engineering structures and seismology, coupled with an in-depth understanding of our instruments, will provide you with an unparalleled advantage to achieve the best results for your monitoring requirements on time and on budget.

Simple installation example for typical dam

1. 5 x ***albris*** GMS-series Digital Accelerographs
2. 1 x GMS-GPS GPS Receiver
3. Cable and Software

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TerraIntel

Environmental Intelligence for a Changing Planet

Critical infrastructure—including bridges, pipelines, dams, levees, airports, and energy networks—is aging rapidly and increasingly exposed to hazards such as subsidence, flooding, and extreme weather. Traditional monitoring is often reactive, fragmented, and relies on costly, site-specific inspections, which leads to inefficiencies, escalating costs, and growing risks.

Our Solutions: (LINK)

TerraIntel Digital Twin (LINK)

TerraIntel Digital Twin is an AI- and Earth Observation–powered dynamic simulation platform that transforms infrastructure management from reactive to predictive. Unlike static CAD or BIM models, it mirrors real-world conditions by fusing continuous satellite data, IoT sensor streams, and physics-based models into a living, time-evolving virtual environment.

InSAR Technology (LINK)

Interferometric Synthetic Aperture Radar (InSAR) is a spaceborne remote sensing technology that measures millimeter-scale ground deformation by analyzing phase differences between repeated radar observations of the Earth's surface.

Infrastructure Risk Analysis (LINK)

TerraIntel's infrastructure risk analysis is an integrated, data-driven framework that combines satellite geodesy, machine learning, and environmental data for identifying, quantifying, and forecasting risks to critical infrastructure arising from geophysical, climatic, environmental, and anthropogenic processes. It translates complex Earth system signals into actionable intelligence for asset owners, planners, insurers, and public agencies.

Groundwater Management (LINK)

Sustainable groundwater management relies on understanding the physical relationship between fluid pressure and land surface deformation. In confined and semi-confined aquifers, extracting water reduces pore-fluid pressure, increasing the effective stress on the aquifer's mineral skeleton and causing the land surface to subside.

TerraIntel

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