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Geotechnical Instrumentation | Geotechnical Monitoring

Geotechnical instrumentation and monitoring, along with geo-hazard assessments and geotechnical surveys, play an important role in safeguarding assets and infrastructure. Properly planned geotechnical surveys are, along with monitoring programs, of paramount importance in identifying potential hazards and risks.

Geotechnical monitoring provides clients with this information over the course of time, tracking and assessing changes to an asset or the condition of the surface/subsurface where the asset is located.

Geophysical surveys can include soil characterization, or rock and other materials, for both civil engineering and environmental projects and as part of an environmental site management plan.

THE Applus+ SOLUTION

Applus+ provides geotechnical and instrumentation services for any kind of infrastructure or industry. Our advanced geotechnical monitoring and instrumentation systems can continuously measure and monitor all high-risk parameters related to structural and geotechnical stability.

Applus+ helps our clients minimize their geotechnical risks with round-the-clock monitoring performed by highly skilled technicians. We ensure the structural and field-performance safety of any kind of work such as:

- Tunnels
- Structures
- Large Excavations

- Embankments
- Bridges and Viaducts
- Large Tanks
- Piping: oil, gas and water
- Docks and Piers
- Buildings

For these assets, Applus+ can measure accelerations, convergences, settlements, displacements, pressure, piezometric levels and vibrations as well as any other parameter that is relevant from the point of view of structural safety. For this purpose, Applus+ has developed its own software: SIGTUN Monitoring Platform.

SIGTUN is a geographical information system that monitors the performance of a project on the field. It uses digitalized cartography where all the devices are located with UTM Coordinates. This software allows us to provide real-time monitoring offering our clients the information they need to control the project.

Applus+ uses cutting-edge technology in its projects, working with conventional instrumentation, IoT technologies and optic fiber.

Applus+ also provides the following services in the Instrumentation and Monitorisation (IandM) field:

- Detailed design for geotechnical IandM projects and IandM plans
- Supply and installation of devices
- Automated monitoring systems with IoT technologies
- Geotechnical engineering services
- Hydrogeological consultancy services
- Vibration monitoring services
- Automated topography
- Geomatics surveying
- Satellite monitoring