

## Seismic Services – Subsurface Mapping

The seismic services delivered by Applus+ are part of a wide service portfolio of geophysical and geotechnical survey services. Seismic surveys utilise the principle of acoustic-wave propagation to determine velocity changes in subsurface materials. Seismic surveys offer a cost-effective solution to characterising the subsurface of an area, providing information that can be used to make geohazard assessment for determining the building parameters or potential susceptibility to geohazards.



### THE Applus+ SOLUTION

Applus+ RTD's geophysics teams use the latest geotechnical instrumentation for the seismic survey and seismic data processing to carry out subsurface mapping and soil characterization.

We examine a client's needs and analyse the project-site conditions with a view to identifying the most appropriate technology and equipment to use, and our seismic survey teams establish the parameters for data collection to deliver clear and meaningful results.

Applus+ can deploy our seismic services for both our client's facilities or for construction site topography. Furthermore, we have extensive geographical coverage, we can rapidly deploy our teams wherever the client is based.

With highly trained and experienced personnel in geophysical investigations, subsurface mapping and seismic services provide our clients with detailed data concerning subsurface conditions and value-engineering data.

### Target customers

Seismic surveys are used as part of construction site topography, mainly in the design stage, for the evaluation of soil and bedrock parameters. Seismic surveys have many applications, including:

- Determining depth to bedrock
- Bedrock topography
- Rippability
- Determining water-table depth
- Subsurface stratigraphic mapping
- Bedrock mapping
- Fault determination
- Groundwater investigations
- Determining shear-wave velocity ( $V_s$ )
- Seismic site classification using  $V_s 30$  International Building Code
- Identification of potential sinkhole areas
- Mapping of fracture and fault zones
- Wind-turbine site classification
- Levee evaluations

## Key customer benefits

The seismic services offered Applus+ provide our clients with peace of mind when embarking on a new construction project. Our expertise in geophysical and geotechnical surveys provides detailed information enabling a project to be well-planned from the start, thereby avoiding the emergence of potentially costly issues related to insufficient subsurface data or geohazard at a later date.