

Comparison of Slope Monitoring Sensors
 Measurand Inc.

	ShapeAccelArray™	Traversing Inclinometer System	In-Place Inclinometers	TDR
Full Profile	Yes	Yes	No	No
Rapid Hole Monitoring	Yes Within milliseconds - Vibration data are obtained at multiple points, along with location, shape and direction immediately for complete length.	No 45 minutes per 100 feet - The recording time is consuming. An operator must physically visit the site to record each hole. Probe cable and readout are bulky and heavy.	Yes Within seconds - However, they only monitor discrete points.	Yes Within seconds - However, they only monitor discrete points.
Remote Data Acquisition and Access	Yes	No	Yes	Yes
Non-grooved Casing Permitted	Yes Special casing is not required - They can be installed with conventional drilling or cone penetrometer (CPT) equipment.	No Requires expensive, specific grooved casing	No Requires expensive, specific grooved casing	Yes Special casing is not required - They can be installed with conventional drilling or cone penetrometer (CPT) equipment.
Realtime Reading	Yes Near real-time	No	Yes Near real-time	Yes Near real-time
Tolerance of Bent Casing	Yes	No	No	Yes
Vibration	Yes	No	No	No
Immediate Deformation Measurement	Yes ShapeAccelArray measures location, shape and direction immediately for its complete length.	No	No	Yes However, they only measure points of shearing and not shape deformation or direction of movement.
Operating Costs	Low	High Technicians must visit site to read each hole, taking 45 minutes per 100 feet, plus travel and setup times.	Low	Low