GeoTHERM
expo & congress

Donnerstag, 20. Februar 2025, 14.50 Uhr
Baden Arena Kongress 2
Oberflächennahe Geothermie

Thursday, 20 February 2025, 2.50 pm
Baden Arena Congress 2
Shallow geothermal energy

Key capabilities of nodal seismic data acquisition systems to enable their efficient use in urban areas and to ensure data quality.

Schlüsselfunktionen nodaler seismischer Datenerfassungssysteme, um ihren effizienten Einsatz in städtischen Gebieten zu ermöglichen und die Datenqualität zu gewährleisten.

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Geothermal projects often require the acquisition of seismic data in urban areas. Single sensor node recording systems are the most cost effective, operationally efficient, and least environmentally intrusive method to acquire this data. However, there remain operational and data quality challenges with regards to quality control, data security, and signal to noise monitoring due to the lack of real time feedback. Developments in LPWAN QC networks provide solutions to these issues.

The utilization of LPWANs provides the real time QC status of the nodal recording spread without the physical intervention of staff thereby improving risk mitigation, operational management and reducing HSE exposure. The risk of third party, removal or interference with nodes and the consequent loss of data especially in densely populated areas is mitigated. In addition, ambient noise levels can be monitored to ensure an acceptable signal to noise ratio data is acquired.

The authors will discuss the challenges of urban data acquisition and how these are addressed with LPWAN QC networks.