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# Seismology for On-Site Inspection and Basic Research: The Concept of Nanoseismic Monitoring

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Forensic seismology describes the detection and interpretation of exceptional seismic events, e.g. during an on-site inspection (OSI), or signals by plane crash, submarine explosion, bomb attacks. For basic research, forensic seismology means discovery of unknown or unexpected signals, e.g. precursors of rockslides, deep earthquakes below induced seismicity, or nano-earthquakes of active faults. In any case, the challenge is in the search for a-priori unknown signal signatures, often in unknown underground at near-local scale. Nanoseismic monitoring is a unique approach for measuring, detecting and analysing seismic signals. It combines a specific small array layout of seismic stations and several software tools for detecting and analysing seismic events.

Nanoseismic monitoring works with minimum requirements for field operations, displays continuous data streams, supports processing of weak events close to ambient noise by array analysis, and allows for interactive, real time modification of underground velocity models. It is perfectly suited for seismologists operating in a new region of unknown tectonic or induced seismic activity. Nanoseismic monitoring is the standard approach for the PSM tool of OSI investigations. We will present the software with its recent update to handle topography for application in mountainous regions.

## E-mail

marco.walter@sonicona.com

## Promotional text

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## Oral preference format

in-person

**Primary author:** Mr JOSWIG, Manfred (Sonicona GbR)

**Co-authors:** Mr WALTER, Marco (Sonicona GbR); Mr HÄFNER, Rolf (Sonicona GbR)

**Presenter:** Mr JOSWIG, Manfred (Sonicona GbR)

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