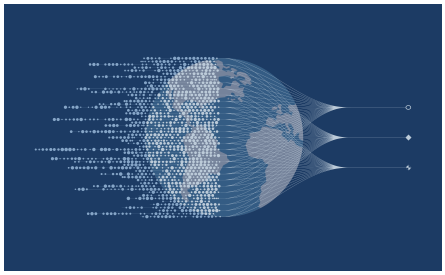

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Case Study with a Mobile Seismo-Acoustic Array, RAPAR

A mobile seismo-acoustic array, RAPAR (RAsPberry ARray) was constructed with six Raspberry Shake-Booms, which are relatively small and cheap equipment. RAPAR is a stand-alone equipment with geophone, acoustic sensor, digitizer, solar power supply and LTE communication system but without a wind noise reduction system. RAPAR was deployed six months in a small peninsula, Homigot, located in the southeastern part of Korea and recorded clear seismo-acoustic signals from explosions at a mine at local distance range less than 10 km. A grid search with the first arrivals of seismic signals recorded at RAPAR was utilized for the localization of the events. The locations of the events were clustered within a small area of 255 m x 225 m. A waveform cross-correlation technique classified the events into five groups based on the seismic waveform coherence. The recorded waveforms at each group revealed the source characteristics of explosions at the mine.

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