

Silicon Audio



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SILICON AUDIO, LLC

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In order to accurately detect and identify the development of foreign nuclear weapons, generally multiple sensors are required, each operating in different frequency ranges and each detecting different magnitudes. Silicon Audio (SI Audio) changed all that, and with its novel technology of a seismometer that operates on advanced optical interferometry, only a single sensor is needed to detect signals originating from these threats. This innovation optimizes efficiency, while also decreasing cost and manpower.

The sensor was developed by Dr. Hall and his colleagues when he was a graduate student at Georgia Tech and later, a post-doc at Sandia National Labs. His initial objective was to commercialize a better microphone for emerging smart phone devices based on the same optical interference technique explained above. However, the National Nuclear Security Administration (NNSA) within the U.S. Department of Energy (DOE) had identified a need through its SBIR/STTR program for developing better seismic sensors. Dr. Hall knew the applicability of his technology could meet these needs, and he embarked on a Phase I and Phase II project with the agency.

After the successful completion of the project, the team relentlessly set its sights on other opportunities in various industries. The U.S. geological survey gave its stamp of approval and added SI Audio to its approved vendor list, and sales to Universities, National Laboratories, and other scientific institutions soon followed. SI Audio then joined a team of Universities working on a NASA project which involves the exploration of Jupiter's moon, Europa. The project is in the earth-based testing phase with a successful test recently completed on an Alaskan glacier. Future deployments are scheduled in Greenland in 2018.

SI Audio's optical seismic sensor, developed with the help of the DOE SBIR program, replaces the job of multiple sensors in the analysis of any seismic event or nuclear explosion, with high dynamic range, reduced costs and superior performance.

SI Audio's technology has a wide range of applicability, from the oil and gas industry, to the scientific community. The company's sensor was approved by the U.S. geological survey (USGS) and made the USGS's approved vendor list.

SI Audio is currently scaling up their production facilities in an effort to fulfill its projected demand of 4,000 sensors per year, across a variety of industries.

Total DOE SBIR Investment:
\$850K

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