



Sensing Technology to Reduce Construction Time and Cost



U.S. DEPARTMENT OF ENERGY

Technology Summary

Remote sensing technologies can be utilized to monitor the foundation structure and concrete conditions, reduce construction time and cost, including: 1) Using piezoelectric (PZT) sensors enabled electromechanical impedance (EMI) sensing to determine early-age properties of the concrete and 2) Acoustic emission sensor (AES) network with time synchronization to identify structure integrity and condition of the foundation. In addition, the integrated solution has RemG technology to monitor installed cable, turbine and electric equipment to reduce construction and operation cost for later part of the project.

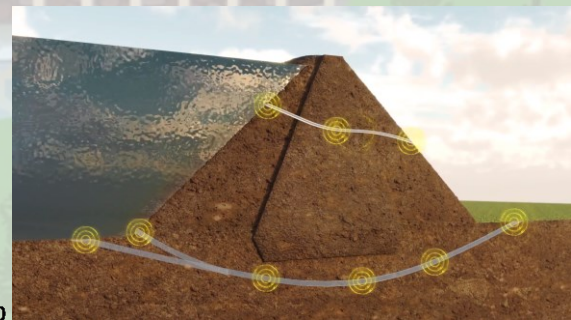
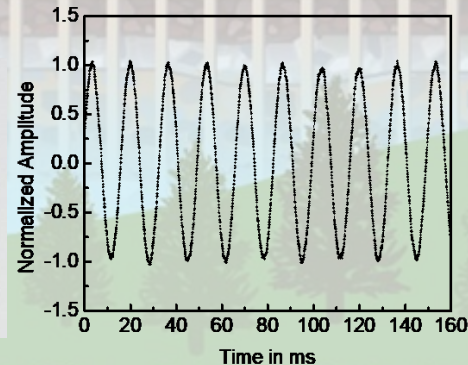
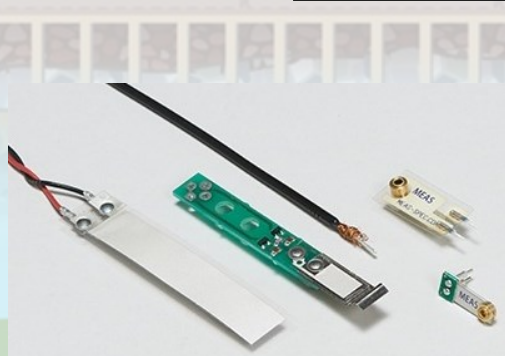
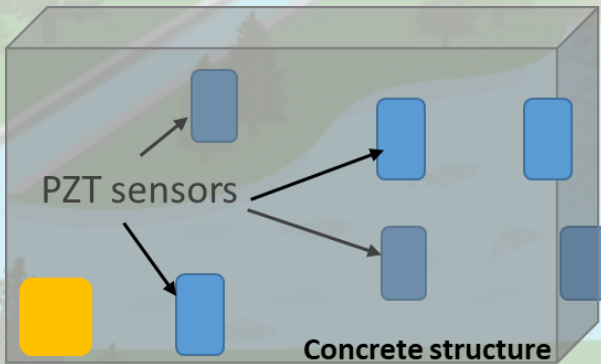
Technology Benefits

- None destructive measurement (NDM)
- Realtime measurement
- Maximum flexibility in terms of application
- Low cost to use or reuse
- Sensitivity and accuracy will improve over time
- Apply for both concrete condition and crack/defect measurement
- Advanced signal processing with AI based algorithm

Team name: Remote Sensing

AMN Partner: International Business and Technology Service Corporation (IBT)

Future collaborators:



GROUND BREAKING HYDRO PRIZE