



Inspection, Testing & Asset-Integrity Solutions



**Custom
Ultrasonic
Transducers:**

- ▶ Conventional
- ▶ Phased Array
- ▶ Applications Engineering



Ultrasonic Transducers:

- ▶ Conventional
- ▶ Phased Array
- ▶ Accessories

With an average of 21 years and aggregate of 916 years, our experienced team of engineers, technicians, assemblers, and general managers have an extremely deep level of knowledge and background solving unusual, demanding, and complicated NDT projects. Industries served over this time include aerospace engines and airframes, nuclear vessels, heat exchangers, large gas turbines and others.

Who We Are:

Sensor Networks, Inc. (SNI) is a Pennsylvania-based technology company specializing in the design and fabrication of industrial ultrasonic transducers and tooling for demanding in-situ test and inspection applications. Engineered for precision, ease of use, and maximum durability, our offerings include ultrasonic transducers, fixtures, couplant-delivery systems, qualification/calibration standards, procedure development, personnel training, and instrumentation.

"The transducer enables and/or optimizes the UT exam."

SNI's deep domain expertise enhances NDT solutions through the selection, design, and optimization of the ultrasonic technique. The transducers' efficiency is paramount for converting electrical energy into sound, then coupling and directing that acoustic energy into the test piece to maximize its signal-to-noise ratio.



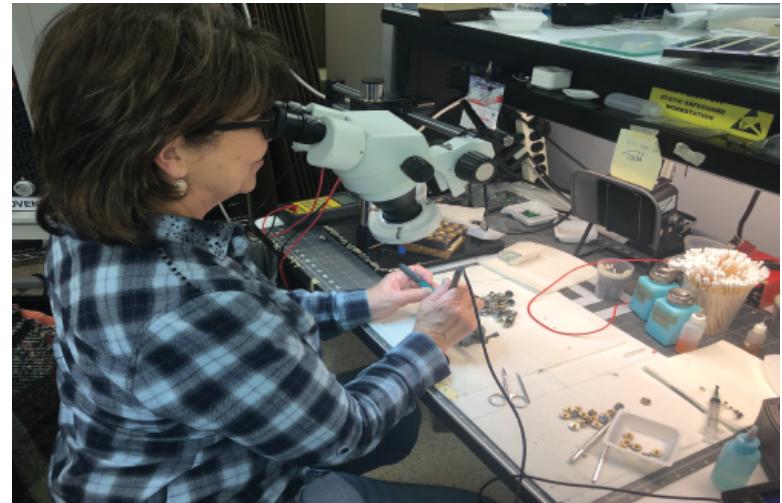


SNI's customers have direct access to our highly experienced team of NDT professionals.

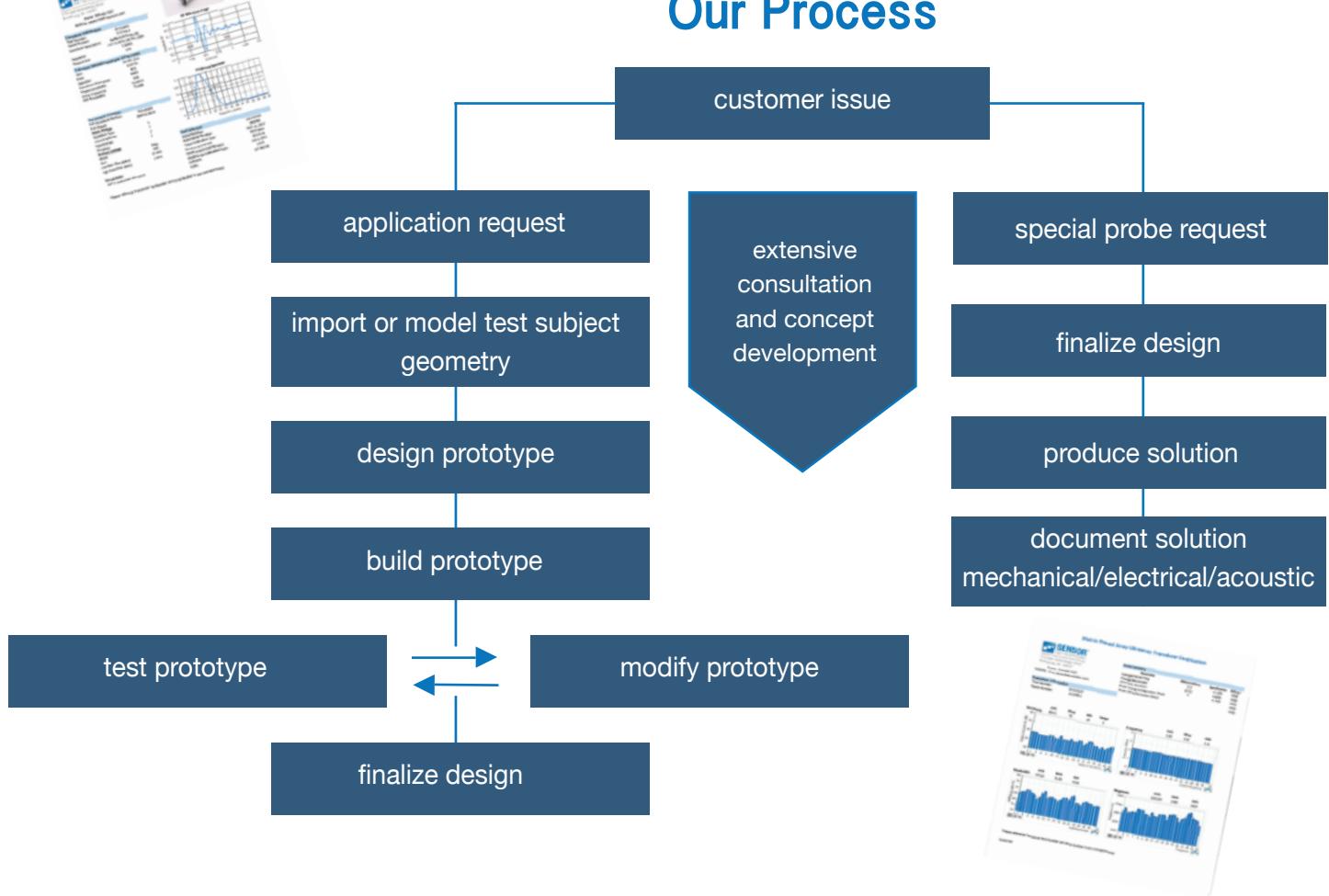
Successful Ultrasonic Applications Engineering

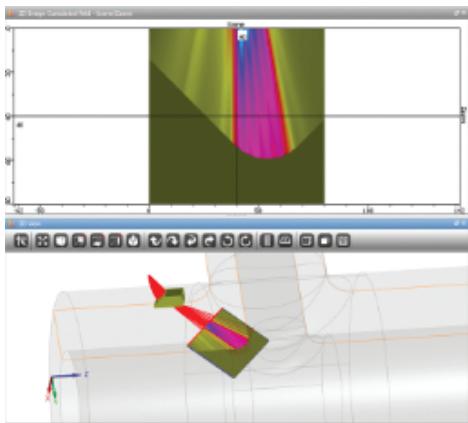
is the result of three major elements:

- ▶ Experience
- ▶ Capabilities
- ▶ Process

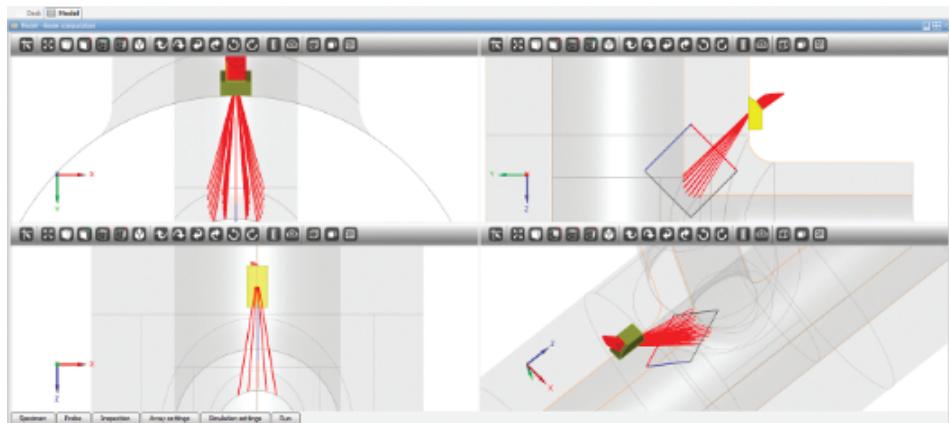


Our Process





In-house CAD/CAM capabilities, including our 5-axis CNC Mill and CNC Lathe, allows for rapid prototyping of complex shapes in most engineering materials.



Sensor Networks, Inc. uses industry-preferred design and simulation tools to create an optimized mechanical, electrical, and ultrasonic model of the inspection task, including its scan plan.

In-house ceramic fabrication capabilities enable rapid prototyping of complex, piezo-composite materials. This capability creates a fast and efficient project turn around.

- ▶ **SolidWorks:** Parametric 3D CAD and Mechanical Properties Modeling
- ▶ **AutoCad:** 2D CAD and Ray-Tracing
- ▶ **CIVA:** Acoustic Beam Modeling and Delay Law Calculation for Conventional and Phased Arrays
- ▶ **PiezoCad:** Transducer Construction and Performance Modeling
- ▶ **Field II:** Transducer Construction and Performance Modeling
- ▶ **UltraVision 3D:** NDT Data Imaging and Analysis Software for Conventional and Phased Arrays
- ▶ **ES Beam Tool:** Ultrasonic Inspection Plan Design and Validation Software



Precision fixturing is key to reproducible test results

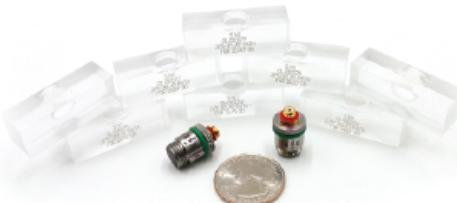
Optimized Solutions for Cost-Effective Productivity

Sensor Networks offers transducers and UT solutions in a variety of styles, compatible with any major manufacturer's conventional or phased-array instruments.

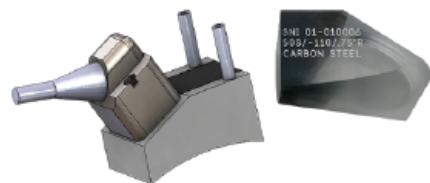


Small Diameter (<0.25"/6mm) ID

Bore Probes: shear-wave, L-wave, duals and tandem types.



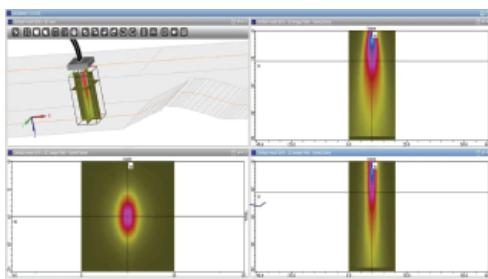
SensorScan® QS: conventional transducers for the quick swapping onto delay lines or wedges.



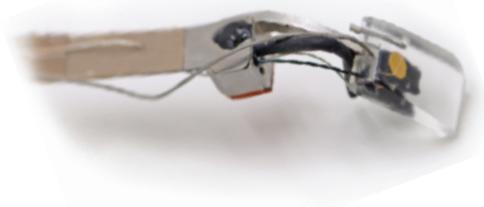
ASME Section XI: compound radius wedges, refracted longitudinal, phased array duals, contact or immersion, TOFD, complex wedges & delays.



O.D. Transducers: for tube weld or braze joints.



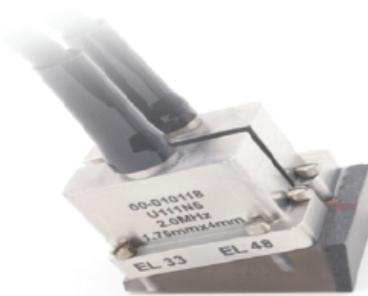
CIVA of Dual: Acoustic modeling of dual-element transducer performance on a small pit.



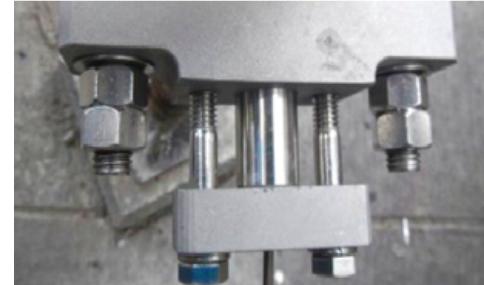
In-Situ: self aligning wand transducers for the hard to access rotating equipment.



Phased Array: linear & matrix, annular, daisy & circular, contact & immersion, single & dual, flat & curved.



2MHz PAUT Dual: with 2x16 elements per probe and detachable wedge.



7MHz Ultra High-Temp Delay Line: transducer and mounting clamp for continuous 500°C (932°F).



10MHz PAUT Dual: special 64-element dual for HTHA exams.



1.5MHz PAUT: replaceable wear face on phased-array probe.



5MHz PAUT: 92-element transducer for bar testing machines.



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Also see our standard transducer catalog.