

**DEFENSE INDUSTRIAL BASE ASSESSMENT:  
U.S. Infrastructure for Underwater Acoustic Transduction Systems**

This assessment was undertaken at the request of the Office of Naval Research (ONR), Department of the Navy, U.S. Department of Defense. The U.S. Department of Commerce, Bureau of Industry and Security, Office of Technology Evaluation (OTE) performed this study with assistance from ONR, manufacturers of transducers and related materials and components; and other U.S. Government agencies, research organizations and universities.

Underwater acoustic transducers receive and transmit sound. These devices are used for measurement, calculation and communications in a range of commercial activities as well as in national security applications such as detecting and tracking ships and submarines. OTE designed three structured survey documents to understand the capabilities of 1) manufacturers of underwater acoustic transducers and the suppliers of associated materials and components, 2) U.S. Navy organizations with device calibration and testing facilities, 3) institutions engaged related education and research.

Forty eight companies reported on the types of materials, components, and underwater acoustic devices they could design and manufacture. Data also was gathered on their ability to calibrate and test devices and systems incorporating underwater acoustic transducers. Information was also obtained on the capabilities of 13 U.S. Navy organizations, one Department of Energy laboratory, and one private research organization. In addition, 18 universities reported on their instructional and research programs.

The goals of this study were to:

- Identify companies supporting production of underwater acoustic transducers
- Measure their ability to surge production of materials, components and devices
- Assess the financial health and performance of companies
- Map the capabilities of companies, U.S. Government facilities, and universities to calibrate and test underwater acoustic transducers and systems incorporating this technology
- Evaluate the educational and experience levels of the workforce
- Understand the scope of underwater acoustic transducer-related educational programs at universities and recent matriculation levels in associated programs

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