

Appendix One

MARINE SCIENCE AND TECHNOLOGY STUDY METHODOLOGY

Because of the difficulties in categorizing the marine science and technology industry into particular SIC or NAICS codes and because the definition of the industry is not well-established, we began this study by developing a master list of companies and organizations in New England that could be classified in the marine technology sector. Several sources were used to develop this master list, included the Marine and Oceanographic Technology Network (MOTN) membership list, the Sea Technology Buyers Guide and Directory, a database of marine technology businesses and organizations developed by the University of Rhode Island, firm lists developed by the Cape Cod Development Council, the University of Massachusetts Lowell TechTrack database, the U.S. Dept. of Defense's Directorate for Information Operations and Reports, and a list of SBIR/STIR awardees (1998-2003) in the region.

We then used Dun and Bradstreet's MarketPlace, a proprietary database, supplemented by web searches, SEC filings, and a sample of interviews with managers at some of the identified companies to flesh out our master list with employment, sales, and product SIC codes. NAICS and other industry codes were determined if possible. A separate telephone survey focused on higher education institutions in order to determine the number of employees involved in marine technology research and specific programs focused in marine technology areas.

After compiling a master database of 481 companies and organizations, the information from our company interviews, as well as the data collected, were used to more precisely define the industry structure of the marine technology sector. As shown in Appendix Two the sector is broken down into five major categories. *Marine Instrumentation and Equipment* contains firms producing cutting edge marine equipment, such as transducers, various meters, remote sensing equipment, fiberoptic and GPS systems, a variety of sensors, and underwater power sources and generating equipment. These are categorized in eleven different areas, including marine acoustics, oceanographic and geophysical measuring instruments, electronics for marine instruments and platforms, electronics for marine navigation and communications,

electromagnetic sensors and instruments for remote sensing, floatation equipment and a variety of underwater uses. *Marine Services* contains a wide variety of marine engineering and consulting firms, marine monitoring systems, floating research facilities, and marine security and/or defense firms. The third sector is *Marine Research and Education*, which contains largely higher education institutions as well as a variety of research institutes and consulting groups. *Marine Materials and Supplies* includes producers of much of the material input for marine activities, such as paints, engines, riggings, and machinery. The last sector, *Shipbuilding and Design* includes major shipbuilding operations (SBD).