

### NTI Corporation Seaport Team

Team Member	Functional Areas	Technical Capability/Recent Experience
NTI Corporation	3.1 R&D Support 3.2 Engineering Support 3.3 Modeling& Simulation 3.4 Prototyping Model-Making, and Fabrication 3.5 System Design Documentation and Technical Data Support 3.6 Software Engineering 3.7 RM&A Support 3.8 HF Engineering Support 3.9 Safety Engineering Support 3.10 Configuration Management Support 3.11 QA Support 3.14 T&E Trials Support 3.15 Measurement Facilities, Range, and Instrumentation Support 3.16 Acquisition Logistics Support 3.17 Supply and Provisioning Support 3.18 Training Support 3.19 ISE/Fleet Support 3.20 Program Support 3.21 Administrative Support	<p>NTI has been supporting Naval Surface Warfare Center activities on a direct basis since 1988. NTI accomplishes program management; scientific and technical analyses in support of submarine, surface ship and advanced naval vehicle system RDT&amp;E; and life-cycle support. NTI's produces documentation necessary for successful establishment and effective accomplishment of warfare center projects that involve multi-disciplinary scientific, engineering and technical efforts.</p> <p>NTI's technical areas of concentration include: naval vehicle stealth; acoustic and non-acoustic signatures; ship system design, integration and inter-operability; system/project support acquisition; technology development and transition; ship HM&amp;E; submarine propulsion systems and propulsors; and underwater acoustic measurement.</p> <p>NTI's program areas of concentration include: exploratory development (6.2), advanced development (6.3), engineering development (6.4) and system development (6.6); construction and acquisition support (SCN), and operational system support (O&amp;MN; OPN).</p> <p>NTI performs various tasks in support of acoustic and non-acoustic stealth technology development, ship design applications, and fleet support implementation under the USS VIRGINIA Class, follow-on submarine, advanced submarine technology development, the DDG1000 and follow-on surface and advanced naval vehicles, advanced ship concepts, stealth/survivability and technically related Navy programs.</p> <p>NTI evaluates advanced technologies, defines and assesses specific technology issues/initiatives and approaches, and provides recommendations and</p>

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		<p>implementation-support documentation to realize acoustic/non-acoustic signature, structures/materials and survivability technology potentials and achieve program/project performance, technical, schedule and cost goals.</p> <p>Programs supported by NTI includes submarine signature reduction technologies, advanced motor technologies, advanced propulsion system designs, acoustic and non-acoustic sensor development and employment, and advanced naval materials development.</p>
AEPCO	3.2 Engineering Support 3.5 System Design Documentation and Technical Data Support 3.6 Software Engineering 3.14 T&E Trials Support 3.16 Acquisition Logistics Support 3.17 Supply and Provisioning Support 3.18 Training Support 3.19 ISE/Fleet Support 3.20 Program Support 3.21 Administrative Support	<p>Since 1996, AEPCO has been providing services to the Navy (PEO TSC) to support the acquisition and management of fully interoperable theater surface combatant systems and platforms throughout their programmed life cycles.</p> <p>AEPCO provides database and information system planning support for emergent PEO TSC data management requirements.</p> <p>AEPCO provides comprehensive analyses, planning, program management, and documentation design/development services to support DDG 51 class acquisition contract and procurement tracking.</p>
AIM Precision Machining	3.4 Prototyping, Pre-Production, Model-Making, and Fabrication	<p>AIM is a precision manufacturer specializing in Computer Numerical Controlled (CNC) and manual turning, CNC and manual milling, wire EDM, grinding, welding, sawing, broaching, polishing, assembly and marking, all meeting exact specifications. AIM has provided model making and prototyping services to government and commercial customers.</p>

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Applied Physical Sciences Corp.	3.1 R&D Support 3.2 Engineering Support 3.3 Modeling& Simulation 3.4 Prototyping Model-Making, and Fabrication 3.5 System Design Documentation and Technical Data Support 3.6 Software Engineering	<p>Applied Physical Sciences (APS) is a Research, Development and Engineering consulting firm specializing in Acoustics, Signal Processing, Marine Hydrodynamics and Electromagnetics. APS provides services and innovative products to the National Defense R&amp;D community, and also to the commercial market through direct commercial support and the Small Business Innovative Research (SBIR) program. APS specializes in the service areas of acoustics, hydrodynamics, electromagnetics, signal processing, and system prototyping.</p> <p>APS recent experience includes providing support to applied R&amp;D projects for the Office of Naval Research (ONR), the Naval Sea Systems Command (NAVSEA) and the Defense Advanced Research Projects Agency (DARPA).</p> <p>APS conducts engineering modeling and simulation in support of Naval ship design and subsystem concept development, including quiet propulsion, vehicle silencing, sonar, sea-keeping and hydrodynamics. APS develops detection, classification, and tracking algorithms for sonar, radar, navigation and general purpose surveillance systems. APS develops prototype sensors and systems including: active and passive sonar systems; acoustic test facility infrastructure; monitoring and surveillance systems; and vector-sensor based systems.</p>
Arion Systems	3.1 R&D Support 3.2 Engineering Support 3.6 Software Engineering 3.14 T&E Trials Support 3.15 Measurement Facilities, Range, and Instrumentation Support	<p>Arion Systems is a systems engineering and design firm that has been supporting various US Government activities on a direct basis for many years. Specializing in naval systems analysis Arion has supported Naval Surface Warfare Center activities in the area of acoustic data analysis for several years. In this work, Arion is applying engineering technologies in the design of ship signature components that will help achieve R&amp;D operational performance goals.</p>

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Barron Associates	3.1 R&D Support 3.3 Modeling& Simulation 3.5 System Design Documentation and Technical Data Support 3.6 Software Engineering	<p>Barron Associates has been supporting Naval Surface Warfare Center activities on a direct basis since 2000. Barron provides R &amp; D support in the development of algorithms and scientific software and hardware prototypes for the guidance, navigation, and control of Navy fleet aircraft, smart munitions, and surface ships and submarines; fault detection and isolation for ships and ship systems; shipboard power distribution systems; and permanent magnetic motor steering gear designs for surface warships.</p> <p>Barron develops modeling and simulation and data analysis tools and system design documentation supporting numerous military system programs.</p> <p>Barron develops scientific software in support of a wide variety of R&amp;D and modeling projects, including software engineering support for all phases of development and for most modern programming languages and platforms.</p>
BMT Designers and Planners, Inc.	3.1 R&D Support 3.2 Engineering Support 3.3 Modeling& Simulation 3.5 System Design Documentation and Technical Data Support 3.6 Software Engineering 3.8 HF Engineering Support 3.9 Safety Engineering Support 3.14 T&E Trials Support 3.20 Program Support 3.21 Administrative Support	<p>BMT Designers &amp; Planners have provided technical and managerial consultancy services to a variety of government agencies and commercial clients, primarily in the Maritime Business Sector. The foundation of their competencies is supported by four pillars of excellence: Ship Design and Engineering, Advanced Technology, Environmental, and Safety. Their record of delivering high caliber design, analysis and management support services exceeding customer expectations defines over 50 years of client service to the Maritime Industry</p>

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Carlow International	3.3 Modeling& Simulation 3.8 HF Engineering Support 3.12 IS Development, IA, and IT Support 3.14 T&E Trials Support	<p>Carlow International has been supporting NAVSEA activities on a direct basis for many years. Carlow performs human factors engineering in support of PEO (Ships) on HSI application to LCS, with emphasis on human systems engineering and test and evaluation.</p> <p>Carlow provides human factors technical support to NAVSEA in the development and application of HFE and HSI metrics and checklists in the program review process.</p> <p>Carlow has provided human factors engineering support to Navy programs including PMS 377 for HFE application to LHA(R); HFE and HSI for DD(X), CVN-21, DDG-51, EMALS, Fast Sealift, VIRGINIA Class submarines, and SEAWOLF Class submarines.</p>
Crew Training International	3.18 Training Support	<p>Crew Training International (CTI) has been supporting Naval Surface Warfare Center activities on a direct basis since 1995. CTI develops human factors training programs for the aviation industry, as well as other areas.</p> <p>CTI develops cockpit procedures and training for military aircraft as well as Squadron Standard Operating Procedures, aircraft operational checklists, computer-based training modules, flight training syllabi, instructional handbooks, grade sheets, and assessment criteria.</p> <p>CTI designed, developed, implemented and managed an integrated Cockpit Resource Management (CRM) training system for all Air Force Reserve Command (AFRC) weapons systems utilizing web-based training. CTI designed and developed web-based training to augment AFRC training programs for units located throughout the U.S.</p>

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Daniel H. Wagner, Associates	3.1 R&D Support 3.3 Modeling & Simulation 3.6 Software Engineering	Wagner Associates has been providing support to the Naval Surface Warfare Center since 1996 in the areas of R&D, Modeling and Simulation, and Software Engineering. Wagner Associates has developed and designed a multiple-processor architecture for a high volume contact management, correlation, and fusion system, with different processing priorities for different targets. The correlation process uses multiple-hypothesis techniques and both Gaussian and non-Gaussian tracking methods. Wagner Associates conducts Acoustic Mission Planning involving subsurface search for enemy submarines. Planning includes search and localization issues, including how to perform target motion analysis to support weapons firing decisions.

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DDL OMNI Engineering, LLC	3.1 R&D Support 3.2 Engineering Support 3.3 Modeling& Simulation 3.4 Prototyping Model-Making, and Fabrication 3.5 System Design Documentation and Technical Data Support 3.6 Software Engineering 3.7 RM&A Support 3.9 Safety Engineering Support 3.10 Configuration Management Support 3.11 QA Support 3.14 T&E Trials Support 3.15 Measurement Facilities, Range, and Instrumentation Support 3.16 Acquisition Logistics Support 3.17 Supply and Provisioning Support 3.18 Training Support 3.19 ISE/Fleet Support 3.20 Program Support 3.21 Administrative Support	<p>DDL OMNI Engineering, LLC has been providing direct support to NAVSEA since 1970. DDL OMNI provides engineering and technical services to the Navy in a variety of programs.</p> <p>DDL OMNI's technical capabilities include systems engineering and analysis, materials and structures engineering, design and prototyping, operations research, information technology, program management and acquisition support, logistics engineering, distributed simulation and war gaming, environmental services, and award-winning web design and development services.</p>

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Delphinus Engineering	3.4 Prototyping Model-Making, and Fabrication 3.9 Safety Engineering Support 3.11 QA Support 3.18 Training Support 3.19 ISE/Fleet Support 3.20 Program Support	<p>Delphinus Engineering has provided technical support to NSWCCD and NAVSSES since 1996. Areas of support include: research, development, test, evaluation, and installation of shipboard damage control; fire fighting; fire protection; and personnel protection equipment and systems, in support of NAVSEA and ONR Program requirements.</p> <p>As the primary agent for the Navy in lifecycle management of installed shipboard DC/FF systems, Delphinus Engineering has performed a wide range of engineering, technical and analytical tasks for NAVSEA, NSWC Carderock Division, COMNAVSURFPAC, COMNAVSURFLANT, COMNAVAIRLANT, COMNAVAIRPAC, COMSUBLANT, and COMSUBPAC. Delphinus designs and develops prototypes of improved fire fighting and damage control equipment; develops damage control training materials, including drill guides, Computer Based Training (CBT) modules, and Interactive Electronic Technical Manuals (IETM).</p> <p>Delphinus provides System Safety Engineering Support to the Navy and Coast Guard. This includes safety system installation and ship alterations including hull, fire protection, firefighting, electrical, mechanical, and structural improvements. Engineering and technical services are provided to support Coastal Systems Station, Diving and Life Support Systems, in their fundamental research through full-scale development of underwater and surface life support equipment and systems.</p> <p>Delphinus provides Quality Assurance (QA) support to NSWCCD. Delphinus performs non-destructive tests and examinations (NDT/NDE) of various allied processes on surface ship and submarine structural and piping systems. Delphinus performs the installation of various system modifications, repairs, and installations to improve shipboard and submarine damage control, fire fighting and chemical, biological and radiological, and survivability systems.</p>

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Dynaflow	3.1 R&D Support	<p>Dynaflow has provided R&amp;D services in applied sciences since 1988. Dynaflow performs both applied and fundamental analysis, numerical simulation, experimentation, testing, and evaluation.</p> <p>Dynaflow has developed a system for performing ship shock qualification tests in response to underwater explosions. The system utilizes an array of non-explosive devices to elicit a ship loading response that is the same as that due to an actual explosive test but without the danger, expense, and time consumption of the use of explosives.</p> <p>Dynaflow developed an underwater cleaning system utilizing cavitating jets to strip rust and paint from ship hulls to enable underwater repair and rapid repainting by divers.</p>
Epoch Engineering	3.1 R&D Support 3.2 Engineering Support 3.3 Modeling& Simulation 3.14 T&E Trials Support 3.15 Measurement Facilities, Range, and Instrumentation Support	<p>Epoch Engineering, Inc. (EEI) is a small business that has provided engineering and R&amp;D support to the NAVSEA and OPNAV communities. The company brings a wealth of experience in advanced Robust Laser Interferometric acoustic measurement systems, platform level acoustic signature control, acoustic testing, Force Level/Information Centric acoustic modeling and simulation, quiet Stirling technology, and advanced semiconductor high power switching. An example of EEI unique measurement capability is represented in the embodiment of a Robust Laser Interferometer (RLI), developed by EEI, which provides LI based acoustic measurement information.</p> <p>EEI provides engineering, research and development, and system engineering support for the development of acoustic measurement systems, acoustic/information centric performance analyses and assessments, and related project RDT&amp;E task orders.</p>

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Materials Research Design	3.1 R&D Support	<p>Materials Research &amp; Design, Inc. (MR&amp;D) has experience in providing research, analysis, and design services to the advanced materials community, especially in the areas of composite materials. Their work encompasses all types of composites, including ceramic matrix, carbon-carbon, organic matrix, and metal matrix materials. Typical programs at MR&amp;D focus on simultaneous design of material and structure to optimize component cost, weight, and/or thermomechanical performance. Additional programs focus on research into behavior of composite materials and constituents and the development of micromechanical models to analyze and understand observed properties.</p> <p>MR&amp;D has specialized in the analysis and design of high performance, innovative rocket nozzles. Additionally, they have extensive experience in thermal management, including the analysis and design of satellite radiator panels, thermal doublers, and other thermal protection system components. MR&amp;D has worked in the area of process modeling to assist in the design of components capable of surviving the extreme temperatures and stresses of the process environment.</p>
Materials Science Corporation	3.1 R&D Support 3.4 Prototyping Model-Making, and Fabrication	<p>Material Sciences Corporation has been a leading provider of material-based solutions for acoustical and coating applications since 1971. They apply their expertise in quiet and coating technologies to solve noise, vibration and harshness (NVH) and temperature problems for a wide variety of customers. MSC has developed and implemented new and novel methods for the non-destructive examination of composite material structures, as well as new methods to understand and locate material anomalies in large structures that were previously undetectable using standard methodologies.</p>

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Noise Control Engineering	3.2 Engineering Support 3.3 Modeling & Simulation 3.4 Prototyping Model-Making, and Fabrication	Noise Control Engineering (NCE) has provided acoustical engineering consulting services to the marine, industrial, commercial, and naval communities since being founded in 1991. The company specializes in noise and vibration measurement & control. Their acoustical consulting capabilities include: acoustic analyses, finite element analysis, noise control treatment design, specification preparation, design reviews, and on-site acoustical surveys. NCE has recent experience in predicting and control naval vessel airborne noise.
Paragon Systems	3.12 IS Development, IA, and IT Support 3.18 Training Support	<p>Paragon Systems, LLC has provided leading-edge IT solutions to civilian, defense, and intelligence agencies for over a decade. As a leader in enabling enhanced government efficiency and productivity, Paragon Systems has also provided on-going staffing resources to support a multitude of technology and classified intelligence initiations. Additionally, they have provided information technology services to the Office of Naval Intelligence (ONI), including on-site network/systems administration, maintenance and user training; secure network engineering, design and installation; hardware and software recommendations, integration, installation and configuration; and custom application software design and development.</p> <p>Paragon Systems has also participated in the development of a Mobile Training Facility in support of Aegis Weapons System Training. They designed, architected and implemented systems to conform to physical requirements related to a Mobile Unit to provide deployable training to NSWC personnel.</p>

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Perot Systems	3.1 R&D Support 3.2 Engineering Support 3.3 Modeling& Simulation 3.4 Prototyping Model-Making, and Fabrication 3.5 System Design Documentation and Technical Data Support 3.6 Software Engineering 3.7 RM&A Support 3.8 HF Engineering Support 3.9 Safety Engineering Support 3.10 Configuration Management Support 3.11 QA Support 3.12 IS, IA, and IT Support 3.13 Ship Inactivation and Disposal Support 3.14 T&E Trials Support 3.16 Acquisition Logistics Support 3.17 Supply and Provisioning Support 3.18 Training Support 3.19 ISE/Fleet Support 3.20 Program Support 3.21 Administrative Support	<p>Perot Systems has delivered IT infrastructure solutions, systems development and integration, consulting services and business process solutions to homeland security, national intelligence, defense and federal civilian agencies for 20 years. They offer the federal government the unique combination of domain knowledge and proven commercial best practices in all areas of IT services and solutions.</p> <p>Perot Systems supports the full spectrum of system development, alteration, and integration, including engineering research of existing technologies to improve or enhance existing systems. They regularly perform engineering analyses of system and operational requirements, perform cost and technical tradeoff analyses with recommendations, and assist in the preparation or revisions to system design and specification documents.</p> <p>Perot systems provides program management, engineering, technical, Quality Assurance (QA), and logistical support in the development, update, and revision of shipboard and shore-based equipment resulting from design changes.</p>

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Planning Systems Incorporated	3.1 R&D Support 3.2 Engineering Support 3.3 Modeling& Simulation 3.4 Prototyping Model-Making, and Fabrication 3.5 System Design Documentation and Technical Data Support 3.6 Software Engineering 3.7 RM&A Support 3.8 HF Engineering Support 3.10 Configuration Management Support 3.12 IS Development, IA, and IT Support 3.15 Measurement Facilities, Range, and Instrumentation Support 3.18 Training Support 3.18 Training Support 3.20 Program Support 3.21 Administrative Support	<p>Planning Systems Incorporated (PSI) has been a recognized technical asset in the field of underwater acoustic measurement and engineering for 35 years. They have pioneered acoustic theory development and application to underwater vessels and structures. They are extensively involved in development of physics-based engineering design and development for the U.S. Navy and DOD.</p> <p>PSI has experience supporting the Naval Warfare Centers, NAVSEA, and Program Executive Offices (PEOs) in a wide variety of cradle to grave engineering, technical and programmatic services for surface/undersea ship platforms, operational and support systems and research and development, including extensive experience in supporting the Navy's TUBA program in broad technology areas.</p>

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Propulsor Technology	3.2 Engineering Support 3.3 Modeling& Simulation 3.5 System Design Documentation and Technical Data Support 3.6 Software Engineering 3.7 RM&A Support 3.11 Quality Assurance (QA) Support	<p>PTI has provided a broad range of engineering services to NSWCCD and NAVSEA in support of the USS VIRGINIA and USS SEAWOLF submarine propulsor programs. This support included evaluation of waivers and deviations for structural adequacy, assembly problems, material compatibility, and lifecycle issues. PTI has also provided concept designs, calculations, and reviews of machining and inspection tooling, material handling equipment, and casting mold designs.</p> <p>PTI provided 3D modeling and simulation support for improved USS Virginia Class propulsor dry-dock assembly/disassembly scenarios where various innovative tooling concepts and propulsor design changes were evaluated. PTI also simulated the casting and solidification process for large propulsor casting to identify potential deficiencies and evaluate proposed mold designs.</p> <p>PTI has experience in developing drawing packages, providing lifecycle management for propulsor programs, developing training courses, and reviewing project plans and inspection calibrations for conformance to ISO, MIL-SPEC and ANSI standards.</p>
System Research and Development Corporation	3.4 Prototyping Model-Making, and Fabrication	<p>System Research and Development Corporation (SRDC) has been providing support to the Navy in pioneering research in autonomous aircraft R&amp;D resulting in the unique ARCHANGEL series. They have specialized in conducting low-observable aircraft payload integration analysis and operation.</p>

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Technology Management Group	3.2 Engineering Support 3.6 Software Engineering 3.14 T&E Trials Support	<p>Technology Management Group (TMG), Inc. has provided superior engineering services to a variety of Naval Sea Systems Command laboratories and activities for more than 15 years. Engineering and technical support services have concentrated on the weapons system life cycle spectrum from technology research and development to end product test and evaluation and field integration/introduction, especially in Joint or Navy combat systems.</p> <p>TMG engineers are actively engaged in the development of new war fighting capabilities and systems as well as modification and enhancement to existing systems, equipment and software. They have supported prototype design and fabrication, reduced and scale model development, fabrication, and test and evaluation of numerous ship hull forms and their associated control systems. TMG software engineers have provided full life cycle software engineering support to NSWC Dahlgren and NSWC Carderock including system development, and network support. TMG also provides Human Factors Engineering that addresses the nature of human information processing and many of the non-psychological issues of human factors such as workplace layout and safety issues. Their efforts focused on the human-system interaction related to combat systems, including the application of automation, human-computer interaction and the capabilities and limitations of the human operator, both physical and mental, and how these guide the design of systems with which people interact.</p> <p>Additionally, TMG has experience with Test and Evaluation (T&amp;E), including the derivation of discrete test requirements, test planning, development of test scenarios and simulations, identification of test and analysis tools, test execution, and post-test data analysis and reporting. TMG personnel have supported both land-based and shipboard test venues, including technical support to fleet exercises and Naval and Joint Service test events and exercises.</p>