Executive Summary
Technology Acquistion Reform

In February 2003, the Naval Research Advisory Committee was charged by Mr. John J. Young, Jr., Assistant Secretary of the Navy (Research, Development and Acquisition) to conduct a study on technology acquisition reform. The major difference between this study and others on acquisition reform is that this study focuses on ways to more smoothly inject new technology into acquisition programs.

The Department of the Navy wants—and needs—to exploit technological advances more rapidly. The ability to field technologically sophisticated systems and use them effectively is a distinctive asymmetrical advantage the United States enjoys over its adversaries, and anything that increases our rate of innovation—whether the innovations originate in government, industry, or abroad—works to the advantage of our Sailors and Marines.

But this challenge can be frustratingly difficult to meet. Persistent problems stand in the way. Cultural, bureaucratic, and programmatic obstacles bedevil the acquisition of technology. The culture that surrounds the acquisition system makes it difficult to bring new technology into that system. This system remains very conservative: structured to avoid fraud, conflict of interest, and risk, it discourages the research and development community from taking risks and seizing opportunities. Designed to eliminate risk and meet cost and schedule constraints, the system rightly treats unproven technology as a risk to its programs. Whether the acquisition consumer of technology is a Naval Program Manager or a contractor, that consumer is disinclined to accept risky new technology (however high the payoff it promises) for fear of failure (and the results of failure).

Implicit in Sea Power 21 is an imperative to speed development of new concepts and technologies and to streamline the procedures that facilitate their rapid implementation. The six recommendations of this study, listed below, will shorten the time required to respond to the warfighter's needs.

Institutionalization of a Rapid Technology Acquisition Team concept would establish an ability to respond rapidly to the warfighter's unique and immediate needs, bypassing the more deliberate acquisition process. The approach would insure that logistical support is provided and maintained for items delivered through this accelerated process.

Similarly, a Direct Reporting Program Office for Disruptive Technology would incubate promising technologies until they are ready to be handed over to an established program. This office would also provide a home for disruptive technologies emerging from discovery and invention. Since these potentially transformational technologies are not linked to existing acquisition programs, they need an alternative path to maturity.

Requiring a science and technology project, whether or not it directly supports a Future Naval Capability, to identify an acquisition advocate when it reaches Technology Readiness Level (TRL) 3, and to have a signed Technology Transition Agreement at TRL 4, will facilitate a more rapid maturation and acceptance of technology. It would focus resources on science and technology that have a customer, and it would give the customer responsibility for program oversight beyond TRL 4. The net result should be a higher yield from the science and technology program.

Using established metrics and TRLs to measure a technology's readiness for insertion into acquisition programs would improve the chances of program success. Not only will specific programs benefit, but the consumer's confidence in science and technology will also increase, to the general improvement of the research and development culture. Contractual and personnel incentives to temper risk aversion and encourage technology insertion should further improve the maturation and infusion of technology. The synergy of these initiatives will encourage proper assumption of well-managed risk to meet the needs of the Fleet and Force.

The test and evaluation process is often described as a principal obstacle to rapid handover of technology from acquisition community to the warfighter. In order to be most efficient and effective, the test and evaluation process must complement evolutionary acquisition and spiral development. An additional study is recommended to determine ways to better accomplish test and evaluation.

A technology knowledge base is essential and should be established. The acquisition customers' program is best served if a repository of technology development efforts were available to improve identification of candidates for technology insertion, which in turn may accelerate delivery of mature technology to our Sailors and Marines.