



Highlights of [GAO-05-924T](#), a testimony before the Subcommittee on Projection Forces, House of Representatives Committee on Armed Services

## Why GAO Did This Study

In April 2002, the Department of the Navy launched the DD(X) Destroyer program to develop a stealthy, multi-mission ship that would provide advanced land attack capability to support forces ashore and contribute to military dominance in shallow coastal waters. Numbers and costs for the DD(X) have changed since the inception of the program. According to the program's official cost estimate, the first ship is expected to cost \$3.3 billion, with per unit costs decreasing as production progresses.

DD(X) is approaching Milestone B and critical design review—two key decision points that will shape the future of both the program and the Navy itself. This testimony focuses on (1) the challenges the DD(X) program is expected to encounter, (2) the program's approach and progress in managing attendant risks, and (3) potential consequences if program progress falls short of expectations.

[www.gao.gov/cgi-bin/getrpt?GAO-05-924T](http://www.gao.gov/cgi-bin/getrpt?GAO-05-924T).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Paul L. Francis at (202) 512-4841 or francisp@gao.gov.

## DEFENSE ACQUISITIONS

### Progress and Challenges Facing the DD(X) Surface Combatant Program

#### What GAO Found

Demanding requirements and time frames present substantial challenges for the DD(X) program. DD(X)'s revolutionary design and automated operations require multiple technological advances. For example, to carry out its primary mission of land attacks, DD(X) must be able to strike land targets from distances of up to 83 nautical miles (about 96 miles)—a capability requiring a level of accuracy and range not yet achieved in naval gunfire. To meet DD(X)'s stealth requirements, new materials, designs, and construction processes are being developed, including a radical hull design that reduces the ship's signature by sloping out—not in—from the ship's deck to the waterline. In addition, many traditionally manned functions will be automated to appreciably cut crew size and reduce operational costs. At the same time, the DD(X) program has imposed a tight schedule—one that calls for concurrent development, design, and construction.

To reduce risk in the DD(X) program, the Navy is building 10 engineering development models that represent the ship's most critical subsystems and technologies. While use of these models is a sound approach, planned testing of the models continues through system design and, in some cases, into detailed design and construction, creating risk. Any problems identified through testing could require design changes and result in delays and cost increases. Past GAO work shows that demonstrating technological maturity—that is, the technology has been shown to perform in its intended environment—at the start of system design and development is key to reducing risk and meeting cost, schedule, and performance objectives. In addition, the models are not identical in design to the subsystems that will actually be installed on the first ships and thus will require additional work to reach the final design.

The consequences of not meeting the challenges facing the DD(X) program are significant. If the program fails to demonstrate capabilities, develop software, or integrate subsystems as planned, these activities will be pushed into the later stages of design and construction. In these stages, the cost of work and delays is much higher and the schedule much less forgiving than in earlier stages. At the same time, the Navy must compete for funding with other programs, while supporting existing platforms and deployments, in a time when the discretionary budget is constrained. In light of the risks framed by the DD(X)'s challenges, decision makers should consider potential trade-offs in advance, including accepting reduced mission performance, increased costs, delayed shipyard work, and/or additional manning. It would be prudent to consider the palatability of such trade-offs now before authorizing the construction of the first ship—a commitment the Navy plans to make by the end of this fiscal year.