DEFENSE ACQUISITIONS

The Army's Future Combat Systems' Features, Risks, and Alternatives

Why GAO Did This Study

To become a more responsive and dominant combat force, the U.S. Army is changing its strategy from bigger and stronger weapons to faster and more agile ones. The Future Combat Systems (FCS)—which the Army calls the "greatest technology and integration challenge ever undertaken"—is expected to meet the Army's transformational objectives. Forming FCS' backbone is an information network that links 18 systems. Not only is FCS to play a pivotal role in the Army's military operations, FCS and its future iterations are expected to eventually replace most of the Army forces. For FCS' first developmental increment, the Army has set aside a 5 ½-year timetable from program start (May 2003) until the initial production decision (November 2008).

GAO was asked to testify about FCS' key features, whether the program carries any risks, and, if so, whether there are alternatives for developing FCS capabilities with fewer risks.

www.gao.gov/cgi-bin/getrpt?GAO-04-635T.

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.

What GAO Found

The FCS concept is a new generation of manned and unmanned ground vehicles, air vehicles, and munitions, each of which taps into a secure network of superior combat information. These weapon systems are to be a fraction of the weight of current weapons yet as lethal and survivable. FCS' lightweight and small size are critical to meeting the Army's goals of deploying faster and being more transportable for big or small military operations. Rather than rely on heavy armor to withstand an enemy attack, FCS' systems will depend on superior communications to kill the enemy before being detected. One of FCS' key advantages is that it provides an architecture within which individual systems will be designed—an improvement over designing systems independently and making them interoperable after the fact. Another merit is that FCS is being acquired and developed with the full cooperation of the Army's program managers, contractors, and the warfighter community.

FCS is at significant risk for not delivering required capability within budgeted resources. Three-fourths of FCS' needed technologies were still immature when the program started. The first prototypes of FCS will not be delivered until just before the production decision. Full demonstration of FCS' ability to work as an overarching system will not occur until after production has begun. This demonstration assumes complete success—including delivery and integration of numerous complementary systems that are not inherently a part of FCS but are essential for FCS to work as a whole. When taking into account the lessons learned from commercial best practices and the experiences of past programs, the FCS strategy is likely to result in cost and schedule consequences if problems are discovered late in development.

Because it is promising to deliver unprecedented performance capabilities to the warfighter community, the Army has little choice but to meet a very high standard and has limited flexibility in cutting FCS requirements. Because the cost already dominates its investment budget, the Army may find it difficult to find other programs to cut in order to further fund FCS. To avoid unanticipated cost and schedule problems late in development, several alternatives can be considered:

- add time to FCS' acquisition schedule to reduce concurrent development;
- take the time to develop and demonstrate the most critical capabilities first, such as the FCS network, then proceed with an acquisition program; and
- focus on maturing the most critical technologies first, then bundle them in demonstrations of capabilities, and ensure that decision makers have attained the knowledge they need at critical junctures before moving forward.

_____ **United States General Accounting Office**