

Transforming Army Acquisition

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A rmy acquisition is moving away from protracted schedules to get materiel to the Soldier sooner. Where problems and existing solutions are well matched, timelines can be shortened dramatically. The future, however, may lie in new ways of doing business altogether. Between these extremes, the Army is looking introspectively to fix the system and help programs that are now underway.

The world has become a very different place since Army transformation began in 1999. The continuing global war on terrorism, and ongoing operations in Iraq and Afghanistan, have heightened the need to accelerate delivery of new capabilities and technologies to deployed Soldiers. Yet, for all the DOD acquisition reform attempts in recent years, the timelines for delivering major systems to warfighters, with few exceptions, have not been shortened appreciably. Many systems still take nearly a decade to field. This article looks at some of the efforts that are changing the acquisition business model and making it more responsive to Soldiers' needs.

Rapid Acquisition Examples

The Stryker is one such combat system. Stryker's family of 10 vehicles was created to provide Stryker Brigade Combat Teams (SBCTs), the Army's new rapid deployment capability, more staying power than our current light infantry forces.

By taking advantage of existing technologies, the intent was to equip the first SBCT by the end of 2001. However, the radical change in philosophy embodied by Stryker — a wheeled vehicle rather than a traditional tracked vehicle — was enough of a departure from convention that the decision to acquire it became a hot political dispute that resulted in program delays. Another critical factor, the Stryker concept required more development and testing than was originally planned for at the outset of the program in late 2000. Even so, deliveries began in 2002, and the first SBCTs to see action arrived in Iraq in late 2003, a significant improvement over typical major weapons programs that keep Soldiers waiting years for the actual equipment to be fielded.

The Rapid Equipping Force (REF), which began in 2002, represents another improvement in getting materiel to the field. As noted in a February 2004 *National Defense* article, the REF focuses on solving specific problems for individual units rather than fielding equipment that has been developed to meet the general needs of the larger force. REF bridges the gap between suppliers and commanders with immediate needs. The REF's success has earned it an expanded mission to help assess technologies that may be ready for the battlefield now or in the future.

While the REF and the Stryker program demonstrate that the acquisition process can be sped up when the right solutions are already available for current needs, they do not tell us much

about how the Army can develop new, large-scale solutions to meet future capabilities.

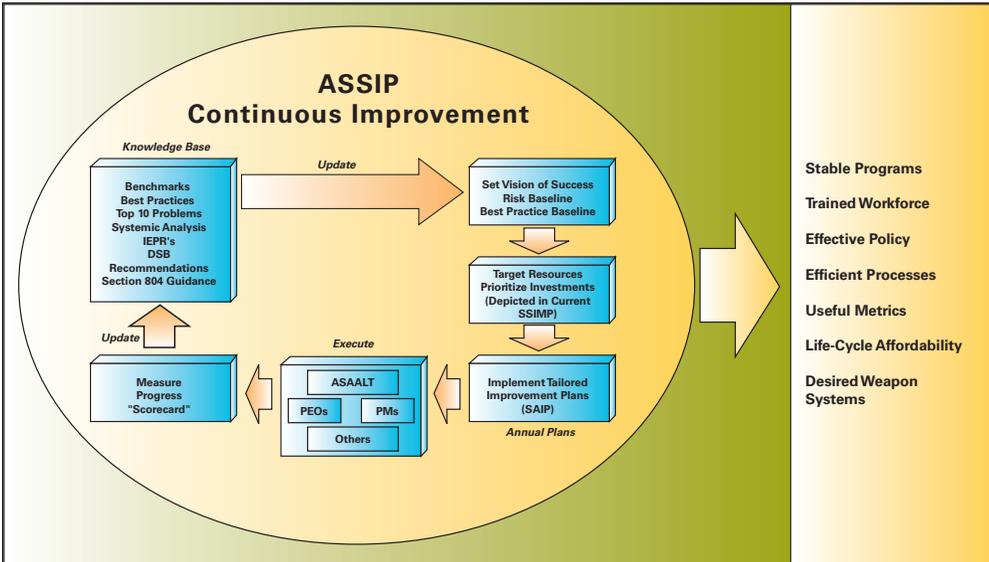
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FCS: Model for the Future

The Future Combat Systems (FCS) program is the Army's biggest acquisition challenge ever. The centerpiece of Army transformation, the FCS program aims to produce sophisticated new weapons and a completely reenvisioned fighting force that leverages information technology to dominate the battlespace as never before. The program is an enormous undertaking, which normally would mean a protracted development cycle. Instead, the Army intends to develop the 18 constituent systems — and the network to connect them — in less time than it has taken to develop just one system in the past.



Stryker is a shining example of how quickly Army acquisition has transformed — from broad concept as a new family of Infantry Carrier Vehicles to actual deployment in combat operations in only 4 years.



- Stable Programs
- Trained Workforce
- Effective Policy
- Efficient Processes
- Useful Metrics
- Life-Cycle Affordability
- Desired Weapon Systems

Key

IEPR	Independent Expert Program Review	PM	Program Managers
DSB	Defense Science Board	SSIMP	Strategic Software Improvement Master Plan
PEO	Program Executive Officers	SAIP	Software Acquisition Improvement Plan

Army Strategic Software Improvement Program (ASSIP) Process to Products

The needs being satisfied by FCS are very fluid, and some of the proposed technologies are immature. These factors necessitated an evolutionary acquisition and spiral development approach for program execution. In late September 2003, Army Chief of Staff Peter J. Schoomaker indicated that he wants the program to be a proving ground for new technologies, especially networking technologies, that can be “spiraled in” to existing Current Force systems.

The program’s unprecedented scope and technical sophistication also propelled the Army into seeking new ways to manage the acquisition

process. As a result, the government and industry execute FCS as a collaborative effort, with Boeing Co. and Science Applications International Corp. teamed in the pivotal role of Lead Systems Integrator (LSI).

The LSI model is a paradigm shift away from more traditional approaches. On the FCS program, many “big-picture” technical and management decisions previously made by a government program office instead fall to the LSI. The Army, while still maintaining an oversight role, works as a partner with the LSI team to promote a true collaborative spirit. A hallmark of this approach is its inclusiveness: the program has sought

out the best suppliers from across industry to join in providing solutions.

This collaborative spirit is embodied in the program’s Software Steering Committee, which is composed of recognized experts from the government, industry and academia — including Carnegie Mellon’s Software Engineering Institute (SEI). Unique among Army programs, the committee ensures that software acquisition receives appropriate “upfront” focus to identify and resolve program issues that impact, or may be impacted by, the software and program timelines.

This is particularly noteworthy on programs where software is the critical element for success. The committee, with its broad representation, is able to evaluate the cutting edge in software development and champion the use of state-of-the-art techniques and processes to help reduce program technical risks. This consultation level rarely occurs in traditional, less open, prime contractor acquisition models.

Will the FCS program’s spiral and collaborative approach, with the strong lead taken by industry, become the model for future Army acquisitions? A November 2003 white paper produced by the *Objective Force Task Force* titled *The Army in 2020*, predicts that “interdependent partnerships between the Army and industry” will be “the norm,” so expectations are high as the program executes its system development and demonstration phases.

The FCS program is developing a family of vehicles that will provide unmatched capabilities at the system-of-systems level.





1st Cavalry military police in Iraq probe a suspected improvised explosive device using the MARCbot, a DTRA robot modified with a camera and boom for video-recon applications. (U.S. Army photo courtesy of Exponent[®])

So, if the LSI model is the future of Army acquisition, what can be done now to help current programs incorporate technology infusions from FCS while still being responsive to combatant commanders and their Soldiers? The first step in answering that question is to understand where Army acquisition is today. SEI is working with the service to do just that.

Army Strategic Software Improvement Program

In 2002, Army Acquisition Executive/Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASAALT) Claude M. Bolton Jr. recognized software had become the pervasive element in everything that the Army buys — from aircraft to bullets. Anticipating a DOD-wide mandate from Congress to establish improvement programs for software-intensive system acquisitions — what would become *Section 804* of the *Bob Stump National Defense Authorization Act for FY 2003* — and understanding the challenges facing the Acquisition, Logistics and Technology Workforce in such an environment, Bolton proactively partnered with SEI to create ASSIP. His goal — institutionalize improved business and development processes, ultimately leading to systems

that cost less, field sooner and perform better. The figure on Page 84 depicts ASSIP's continuous improvement process.

Benchmarking for Improvement

In a key ASSIP initiative, SEI is building an understanding of Army acquisition practices to “baseline” the state of Army software-intensive system acquisition. Termed “Benchmarking for Improvement (BFI),” the process seeks to elicit practices that have been successful on individual programs as candidate benchmarks for broader application. BFI also helps determine where existing higher-level policies impede program progress, or where gaps in policy cause ambiguity and increased risk. The primary technique used in the BFI process is direct program engagements, supplemented by surveys of key Army acquisition professionals, and interviews of other experts.

By understanding the baseline state, SEI can help find promising technologies available industrywide to foster Army acquisition system improvements. Programs participating in benchmarking receive several benefits:

- The opportunity to influence, without attribution, higher-level policies that affect how missions are accomplished.
- Immediate feedback about the Army's current procurement practices.
- Early adoption of improvement strategies.

The programs also benefit from continued expert consultation through an ongoing relationship with SEI to monitor the successes and shortcomings of improvement strategies.

While SEI works to classify the Army's current acquisition system and recommend changes, initiatives such as the REF and programs like FCS and Stryker are already experimenting with new ways of doing business. As the Army moves to adopt what Schoemaker terms a “Joint and Expeditionary Mindset,” the acquisition process will continue to be influenced. Although the future direction of Army acquisition may continue to change, it is clear that transformation has taken hold. With a renewed emphasis on Soldiers, efforts underway seek to ensure that the Army remains relevant and ready as a critical component of the Joint Force. The nexus of all these efforts promises an exciting future, one where the Army acquisition system meets the Soldier's needs and expectations, on time, every time.

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