

# Strategic Technology Transition: A New Kind of Partnership

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The SEI and the U. S. Army Aviation and Missile Command (AMCOM) Software Engineering Directorate (SED) have entered into a partnership that establishes AMCOM as the leader in technology transition for SEI technologies for the Army. This special partnership was marked by the opening of an SEI satellite office, the first of its kind, in Huntsville, AL, in the fall of 2002.

To help connect SEI technologies with AMCOM's future business, the SEI conducted two strategic business and technology planning workshops with SED leadership. These workshops drew many top-level SED managers, including William Craig, director of the SED, and several of his direct reports, along with key program managers and technical staff. The workshops resulted in a mapping of relevant SEI technologies to SED business objectives.

The AMCOM SED has already reported achievement of maturity level 4 in the Capability Maturity Model<sup>®</sup> for Software. As one of the early partnering projects, the SEI is supporting AMCOM in moving to Capability Maturity Model Integration (CMMI<sup>®</sup>), as well as in adopting use of the Personal Software Process<sup>SM</sup> (PSP<sup>SM</sup>) and the Team Software Process<sup>SM</sup> (TSP<sup>SM</sup>) in software engineering projects. Once these practices are in place at the SED, they will provide a foundation for the transition of relevant SEI technologies to other Army organizations worldwide. Other SEI software engineering management and technology practices, along with SEI product line and COTS acquisition practices, will also be considered for transition to the SED.

Since the AMCOM SED provides critical support to AMCOM, the Army Materiel Command, the National Aeronautics and Space Administration (NASA), and the Army acquisition and software engineering communities, the SED's commitment to improving its software engineering and acquisition practices benefits many constituencies. Scott Reed, manager of the SEI field office in Huntsville says, "Civil agencies (such as NASA) will also have the opportunity to collaborate with the SED for adoption of practices that will allow them to improve their technical and management capabilities."

## Strategy for Widespread Improvement

AMCOM SED also plans to transition technology to colleges and universities in the Huntsville area. They will then have the opportunity to build engineering curricula to better support the local needs of AMCOM and industry. Also, regional businesses will have the opportunity to collaborate with the SED in the adoption of technologies and practices that will best benefit them.

For example, a joint pilot project has been run to determine the feasibility of developing guidance and other aids to support adoption of CMMI by small and medium enterprises (SMEs). For this

pilot, the SMEs were required to be companies with 25 to 250 employees located in the Huntsville area. The two companies chosen to participate are involved in product development for government or in engineering services to support product development. Both had recent experience with ISO 9000. The pilot implemented three CMMI process areas at these companies to help codify recommendations for how to package, sell, appraise, and implement CMMI for SMEs.

The pilot project has provided the SEI with some data on articulating the business case for small companies to adopt CMMI, and has also supplied SEI CMMI projects with feedback from the field. A workshop titled “What Have We Learned from Huntsville Pilots?” is scheduled for March 29 at the Southeastern Software Engineering Conference to share artifacts, processes, and results from the pilots. For more information, follow the CMMI Workshop link at <http://www.ndia-tvc.org/SESEC>.

## **The Benefits of Partnership**

Some of the anticipated benefits of this partnership include

- improved engineering practices throughout the system life cycle, including research and development
- improved systems acquisition practices for the Army Program Offices
- improved success rates for inserting technology into Army programs
- creation of curricula in academia that support Army engineering needs
- strengthening of regional defense contractors’ engineering capabilities for better-quality products

Using transition techniques and products developed by the SEI, the SED will structure effective transition and adoption programs for Army organizations. This will help to make technology transition more predictable, a consistent stream of continuous improvement, providing benefits to a wide range of both users and developers, both regionally and within the Army.

### *SEI Strategic Impact Programs*

Since its inception, the SEI has been helping U.S. government acquisition programs in their efforts to improve their processes and minimize risks. Recently, the SEI formalized this ongoing support by creating the Acquisition Support Program<sup>1</sup> (ASP), a group devoted to addressing the unique demands and challenges of acquisition. In Fiscal Year 2002 the SEI also established strategic impact programs (SIPs) for each military service (Air Force, Army, and Navy). A SIP is a multi-year program of work, a strategic commitment to improvement and change within a particular acquisition community and industry base. The goal is to contribute to the success of acquisition programs that fall within the scope of a military service SIP. Delivery teams focus on understanding and meeting the needs of programs within a SIP. The field office in Huntsville is an important part of the Army SIP.

The Air Force SIP is working closely with the Space and Missile Center and the Electronic Systems Center. The Department of the Navy SIP is working with Navy and Marine Corps organizations, identifying support and transition opportunities. While neither of these SIPs has established a field office like the one in Huntsville, both are developing relationships to demonstrate the applicability and relevance of SEI technology to support the development and acquisition of software-intensive systems in the military.

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<sup>1</sup> <http://www.sei.cmu.edu/programs/acquisition-support/index.html?si>

