What Beyond CMMI Is Needed to Help Assure Program/Project Success?

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Observations from Government and Industry

FAA

- $14B annual budget, 50,000 employees, government agency
- Provides the safest, most efficient airspace system in the world with priorities to increasing safety and capacity, being an international leader, and being an excellent performance-based organization
- Long history of using iCMM and ISO 9000
  - Many organizations are iCMM Maturity Levels 3 and 4; some organizations previously used SW-CMM, SE-CMM, SA-CMM
  - Several operating at ISO 9001:2000, including logistics, acquisition, instruction, flight standards, and flight maintenance teams

SAIC

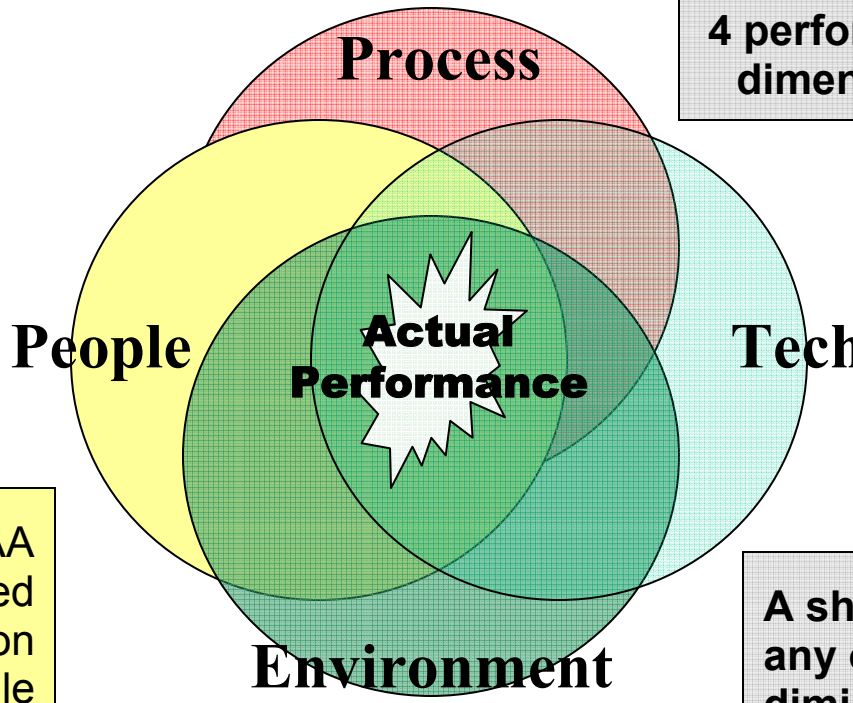
- $6.7B annual revenue, 45,000 employees, employee-owned
- A leading provider of platform-independent systems engineering, systems integration, and technical solutions to the federal government in many areas, including criminal justice, healthcare, intelligence, national defense and security, and transportation
- Long history of using CMMI, SW-CMM, ISO 9000
  - SAIC is an SEI CMMI Transition Partner with 8 authorized appraisers
  - Many organizations are CMMI Maturity Levels 3, 4, and 5; many organizations at SW-CMM Levels 3, 4, and 5; many operating at ISO 9001:2000.

No Process Improvement Framework is Enough by Itself

An FAA contractor (**people**) did not adequately understand the air traffic control domain. That contractor made inadequate engineering and management decisions despite having good **processes** and **technology**.

An otherwise well-performing FAA program misunderstood needed **technology** for a large acquisition causing significant budget and schedule overruns.

An FAA program that should have been successful, but depended on co-investment by the airlines, was suspended when airline investment dried up after September 11, 2001 (**environment**).



4 performance dimensions

A shortfall in any one diminishes performance

An otherwise well-performing FAA program that had a poor Exhibit 300 was threatened with funding cuts by OMB (**environment**).

What CMMI V1.1 Offers

SAIC
An Employee-Owned Company

+ A single standard integrated framework and roadmap for improving program and project engineering and management processes, especially those for developing large complex systems

+ The ability to focus on just those process areas most important to the business

+ The ability to compare yourself to others and possibly differentiate yourself in the marketplace

+ An expandable architecture that *could* allow new disciplines and process areas to be added

CMMI Needs a Broader Scope

- CMMI V1.1 focuses on development through “first article”.
- Full acquisition and system lifecycle for most large systems includes *manufacturing*, *deployment/transition*, *operation/service*, and *decommissioning*. All of these phases could be addressed by CMMI.
- FAA’s replacement for its multi-billion telecommunications *service* took less than two years to design (CMMI V1.1 focus), but is taking another 4 to 5 years to *deploy*. It will *operate* for yet another 10 years. Most of this program’s lifecycle is outside CMMI V1.1 scope.
- The *environmental* processes in which a program/project operates could be improved using a CMMI-like framework. For example, the investment management process of federal IT programs directly impacts program funding. FAA just finished reengineering that process.

A Program/Project is a Component of a Larger System – the Enterprise. CMMI needs an *enterprise* focus.