

CASE STUDY

Implementing an Earned Value Management / Cost Controls System for the FAA



The Federal Aviation Administration's (FAA) Terminal Automation Modernization and Replacement (TAMR) program is a capital program that employs a phased approach to modernizing the air traffic control systems used at major U.S. airports. The TAMR program also plays a broader role in the vast effort to transform the United States' national airspace system (NAS) known as NextGen, which, at its most basic level, will evolve the current ground based air traffic control system to a satellite based system. NextGen will allow airplanes to safely fly closer together on more direct routes, resulting in unprecedented benefits for the environment and the economy.

The third phase of the TAMR program involves the modernization or replacement of the automation systems at additional air traffic control facilities to support the increasing demand for air traffic services. TAMR Phase 3 reached the Initial Investment Decision milestone in September of 2009 with an expected cost of \$2.3 Billion.

For a program of this scope and complexity, earned value management and other project controls best practices were clearly critical. Over the long program lifecycle, small changes and variances that are not appropriately analyzed and addressed could cause ripple effects with heavy cost and schedule delays that would imperil the objectives of the program. The Earned Value Management System (EVMS)/Cost Controls System for the TAMR program would need to address the unique challenges of managing a large federal program supporting critical national infrastructure. These include:

1. managing costs throughout the entire lifecycle from funding to estimates to bids/proposals through delivery;
2. the ability to make program adjustments and take corrective action based on accurate and predictive cost performance data;
3. adaptable Earned Value rules meeting different needs while adhering to ANSI 748 audit requirements.

The FAA selected EcoSys EPC to become their EVMS/Cost Controls System to confront an environment where federal agency program management is required to provide ever increasing visibility, with greater efficiency and accuracy, despite increasing pressures on resources.

Agency Profile

- An agency of the U.S. Department of Transportation, the FAA regulates all U.S. civil aviation to promote safety
- The FAA's responsibilities include the development and operation of the air traffic control and navigation system for both civil and military aircraft which supports the 7,000 concurrent flights over the U.S. at any given time

Challenges

- Disparate data and processes across multiple project and financial management systems plus Microsoft Excel resulted in manual, error-prone, time consuming reporting
- Contractors provided performance data in non-standard formats with limited visibility beyond summary views, making the validation of performance extremely inefficient
- Misalignment between FAA Work Breakdown Structure (WBS) and contractor-supplied financial and performance data made calculation of Earned Value and tracking/reporting at the vendor level tedious
- Reviewing and comparing vendor bids was a manual process with high potential for mistakes
- Scenario planning to address changes in funding lacked visibility into schedule impacts and other trade-offs

Solutions

- Establish a single, integrated system for the FAA and its contractors, with EcoSys EPC as the hub connecting previously disparate parts
- EcoSys EPC imports project data including WBS and schedules from Primavera while also regularly taking data feeds of obligations, commitments and actual expenditures from Delphi (Oracle Financials) and PRISM (contract management). EcoSys EPC automatically matches the data against forecasts and earned value performance
- Use one enterprise-wide WBS template allowing for standardized reporting and agreement between performance at the vendor and program levels and agreement between vendor invoices and program schedule
- Create resource-loaded schedule Baseline for the program in Primavera and a cost Baseline in EcoSys EPC streamlining the comparison of vendor proposals
- Replace cost estimate process reliant on Excel with EcoSys which enforces standardization of coding structure and integrates with Primavera
- Use EcoSysEPC to track federal funds received by fiscal year and multi-year life span

Benefits

- ✓ Automation of processes in the new system replaces full teams dedicated to gathering funding and expenditure data by hand, resulting in fewer errors and better use of resources
- ✓ Standardized estimates avoid version control issues, manual compilation and formatting errors
- ✓ Built-in measuring of variances between proposals and the Baseline saves time and improves accuracy in the proposal evaluation phase
- ✓ Projects within the program are updated and statused in different ways to accommodate various contracts and workflow, but automatically compiled for EVM and compliance with ANSI 748
- ✓ A “living breathing” forecast of program costs allows for proactive scenario planning in real-time
- ✓ Easily track committed or obligated funds and identify potential balances/reserve funds prior to freezing or expiration
- ✓ Allowed for immediate visibility into project performance facilitating better project management and control

TAMR Phase 3's implementation of the EcoSys planning and controls software greatly improved resource efficiency as compared to earlier phases. The labor involved with evaluating vendor proposals, compiling reports, and calculating earned value was greatly reduced. The newfound access to proactive and pre-emptive levels of information is enabling successful management of the TAMR program. EcoSys' project controls framework for the program is also establishing a foundation that the various programs in the NextGen portfolio can leverage as this massive effort further unfolds.

About EcoSys

EcoSys is the global standard for enterprise Project Controls software. Its easy-to-use web-based platform, EcoSys EPC, helps organizations worldwide plan and manage project portfolios, control project costs, and improve project performance.

EcoSys customers execute some of the world's largest projects and rely on EcoSys EPC to implement best practices for full lifecycle project controls including budgeting & forecasting, change management, contract management, progress measurement, performance and earned value management, capital planning, project portfolio management (PPM), and workforce planning.