

CASE STUDY

ERP International Reduces Help Desk Incidents by 50% Using CMMI®



THE BUSINESS NEED

ERP provides functional and technical solutions that develop, sustain, and maintain lifecycle services for the U.S. Air Force (USAF). Their Readiness Systems provide the USAF I community with the capability to quickly and effectively monitor a unit's personnel, training, and equipment readiness status. The systems also allow unit managers to manage readiness team assignments, track training, and coordinate deployments of staff members. Over 7,000 users across 325 reporting agencies use the solutions that ERP offers - they are highly visible to U.S. Department of Defense (DoD) leadership and are mission-critical for the warfighter. Because of this highly important work, it is imperative that ERP be able to provide the most efficient and effective products and solutions to meet the crucial needs of the U.S. Air Force. For this effort, ERP offers technical expertise in support of these systems that includes the following disciplines:

- Subject matter expertise in program management, risk management, and database maintenance
- Systems analysis and design
- Maintenance of automated programs to monitor performance programming/enhancing/debugging systems
- Development of reports, training, and technical manuals
- Analysis of user needs to determine requirements; functional and technical testing, user education and training, and field assistance
- Configuration management
- Network connectivity issues and computer operations support in the implementation of customer service

COMPANY BACKGROUND

ERP provides next generation IT, business process management, and health services tailored for their Federal Healthcare, National Security, and Defense customers. Their breadth of experience and proven management practices allow them to deliver value-based comprehensive business solutions, including program management, agile DevOps, Cybersecurity, and cloud (SaaS, IaaS, and PaaS) solutions that closely align to the missions of the customers they serve. Using their CMMI-DEV Maturity Level 5 appraised quantitatively managed processes, ERP delivers outcomes that maximize return on investment (ROI) and customer satisfaction. Their ability to enhance organizational vitality - for customers, communities, and the nation - is what drives them to be the best.



While ERP had existing processes in place, they found that these were not utilized consistently due to their application being in a state of ever-changing requirements and user needs. Little time was spent on process discipline, and processes were often not repeatable for any given project release. ERP's process challenges included:

- Instability of applications and databases
- Lack of utilization of a standard development process
- Lack of current documentation on legacy applications
- No historical data analysis of application problems/help desk incidents
- Inability to implement changing requirements quickly and efficiently

ERP was in need of a solution that would help them meet their goal of maintaining a high level of customer satisfaction through timely software releases, reduced application defects, reduced helpdesk incidents, and improved quality of products.

THE SOLUTION

ERP was determined to adopt a performance improvement model that would fit their organization's needs, which included:

- A method for continuous improvement and quality
- The ability to build repeatable, scalable processes
- Enabling high performing teams
- A commitment to value-based solutions
- Adopting and leveraging technology to gain a competitive advantage

ERP chose the CMMI Development model to address the areas of improvement needed in their software development and maintenance activities. They chose to implement this model in their most robust project and focused initially on process improvements that would deliver the best value for their customer. ERP was appraised at CMMI Maturity Level 2 in October 2011, and then decided to deploy those improvements across their entire organization, achieving Maturity Level 3 in May 2013. As a result of these early successes, ERP wanted to optimize their enterprise capabilities and immediately began pursuing high maturity. They were appraised at Maturity Level 4 in August 2016 and achieved the highest CMMI Maturity Rating (Level 5) in January 2017. By implementing processes that met the intent of CMMI best practices, ERP hoped to improve their quality of work, better control their schedule, and reduce overall costs.

Focus areas for ERP through this process included:

- Improve requirements clarity by > 80%
- Prioritize 2 - 3 defects found during testing and reduce that number by 10% per release
- Reduce variation of defects by controlling anomalies and lower cycle time by 19%
- Reduce model release span time for new launches by 20%
- Build prototypes for complex new requirements for at least 75% per release

Implementing and following processes that meet the intent of CMMI practices has allowed ERP to achieve their quality and timeline goals for the project, while continuously monitoring and improving processes.

RESULTS

ERP's success with continuous improvement is reflected in their ability to repeatedly meet product quality and time-to-market goals through their adoption of CMMI. Over the last six years, their organization has consistently met all scheduled milestones in the sustainment of the application, oftentimes delivering ahead of schedule. Part of this success is due to their ability to optimize the system while redirecting team member efforts as they:

- Reengineered each module in the application for efficiency, eliminating excess and dead code to increase performance and re-platform the system
- Eliminated the need for dedicated Subject Matter Experts and Database Administrators assigned to help desk issues
- Redesigned the application baseline - the customer completed their initial testing, running approximately 1,500 test steps and experiencing a 99% passing rate an improvement from the earlier application version, which had a passing rate of 74%. There was only a 1% fail rate during this testing, exceeding the contract performance threshold by 4%!

In addition to these results, ERP was able to reduce the number of help desk incidents and their response time to remaining issues. After analyzing the subject matter of the tickets, they determined both the types of customer problems being reported and their frequency, which led them to implement the following improvements:

- Each year, decrease the total number of help desk incidents, including category 1 (no work-arounds) tickets, relative to the release complexity and size of the application
- Reduce help desk incidents by over 50% after incorporating disciplined repeatable processes, analyzing their help desk data, and implementing improvements:
 - o In 2013, there were 2,850 help desk calls that had an average response time of 6.61 minutes
 - o In 2017, that number was reduced to 1,298, with an average response time of only 3.53 minutes
- Their exceptional customer service rating has put ERP in the top 5% ranking of all companies receiving the independent Dunn and Bradstreet rating

ERP's CEO and Managing Partner Melvin Petty is quite pleased with his team's achievement, stating that "being appraised at CMMI Maturity Level 5 moves ERP into an elite group of high maturity Information Technology firms worldwide. The CMMI Maturity Level 5 process improvement framework is a core component of ERP's Value-Based Solutions and our commitment to be the best for our customers, employees, and community by delivering the best."



Reflecting on ERP's adoption of CMMI and the subsequent successes they have achieved, the Director of PMO and Quality Assurance Marilyn Robinson notes that it has helped them to "bring together brainpower, insightful research, quantitative benchmarking, innovation, maturely structured problem-solving methodologies, and hands-on experience to improve our clients' business environment."

Although ERP has accumulated many benefits from their distinguished CMMI Maturity Level 5 appraisal, Robinson states that "there is no better benefit than being a recognized leader in leveraging high maturity capability to build scalable, resilient, high performance business solutions and empowering organizations to deliver on the promises of excellence."

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KEY TAKEAWAYS FOR ENABLING SUCCESS

CMMI Positions Organizations for the Future

While going through the process of adopting CMMI, ERP realized that it was more than simply a one-time effort to fix problems they experienced in the present; CMMI would also allow ERP to position themselves for future success by:

- Setting the company up for continuous performance improvements
- Improving longevity and competitive advantage with high quality and performance-measurable products
- Achieving a sterling project execution track record due to their commitment to continuous improvement
- Improving customers' mission performance through their use of quantitatively managed processes to deliver maximized ROI outcomes and platinum client references from customer satisfaction

CMMI Benefits Are Greater than Expected

ERP's adoption of CMMI has brought the organization, their customers, and their employees many tangible and intangible benefits beyond what was expected at the beginning of their performance improvement journey. These unforeseen betterments include:

- Removing a barrier for clients to choose ERP value-based solutions by providing solutions at the same price as lower quality solutions

- Generating new opportunities beyond the reach of typical small businesses
- Gaining recognition as a credible market leader in continuous process improvement
- Advancing the ability to leverage technology and innovation in the pursuit of excellence and continuous improvement
- Industry recognition of the organization as a value-based solutions provider with cost-effective and predictable outcomes
- Positioning ERP among a select group of U.S.-based companies operating at CMMI Maturity Level 5
- Engaging and supporting high performing teams, which in-turn lead to low employee turnover

High Maturity Builds Value

Disciplined processes that meet the intent of CMMI Maturity Level 5 practices allowed the ERP team to gather and analyze historical product data and set quantitative goals. In achieving those milestones, they gained the capability to predict the outcome of the timeliness and quality of the solutions they provide.



ABOUT CMMI® INSTITUTE

A subsidiary of ISACA Enterprises, CMMI Institute (cmiiinstitute.com) is the global leader in the advancement of best practices in people, process, and technology. CMMI Institute enables organizations to elevate and benchmark performance across a range of critical business capabilities, including product development, service excellence, workforce management, data management, supplier management, and cybersecurity.

For over 25 years, thousands of high-performing organizations in a variety of industries, including aerospace, finance, healthcare, information technology, software, defense, transportation, and telecommunications, have achieved sustainable business success through CMMI adoption and demonstrated their ability as capable business partners and suppliers.