



2 0 0 2 MISSOURI TEAM QUALITY AWARD RECIPIENT

OPEN ARCHITECTURE BASED MACHINE MODERNIZATION TEAM

at Honeywell FM&T in Kansas City



PROFILE

Honeywell Federal Manufacturing & Technologies (FM&T), a prime contractor for the Department of Energy, National Nuclear Security Administration (NNSA), manages and operates the Kansas City plant, a state-of-the-art facility that manufactures a wide array of mechanical, electrical and engineered material components for our nation's defense program. Honeywell FM&T employs over 3,000 associates at facilities in Kansas City, Missouri, and Albuquerque and Los Alamos, New Mexico.

OPPORTUNITY FOR IMPROVEMENT

Throughout Honeywell, associates use the principles of Six Sigma *Plus* to deliver high-quality and high-value products to the customer.

Within the production machining area, a baseline situation existed which included:

- 1) Need to increase accuracy
- 2) Production impacted by unreliable machines
- 3) Costly, protracted maintenance repair efforts
- 4) Limited funding available for replacements.

A cross-functional work team analyzed the history of machine failures to determine root causes. They also developed a matrix of the various options of upgrading these aging machine tools instead of replacing them. Using this process, the best method for machine modernization was determined.



An implementation team was formed to realize this full potential and ensure the successful implementation of modernization on what was projected to be a large, diverse population of machines. This team's charter was to develop the methods and practices used to identify good candidates, gather customer requirements for these machines and associated processes and then develop and budget a project plan to implement the new technology and supporting work.

TEAM ACTIONS

Through the use of a structured Six Sigma process, the team has gone from managing a project that retrofitted a single machine as an experiment in new technology to a program that will modernize over 30 machines in a seven-year period. The project includes retrofitting the machines; training the involved engineers, operators and maintenance personnel; and continuing process improvements with the ease that an OA controller provides. Following the path of Realization, Define, Measure, Analyze, Improve, and Control has enabled standardization of our processes. Additional machine modernization projects are being designed using processes, resources, and technology that have already proven to be sound and cost-effective.

RESULTS

For the six machines completed during 2001, the cost avoidance realized by not buying new, equivalent machines was validated to be \$1.92 million. For this year, additional cost savings are projected to be \$1.1 million. Significant amount of savings will continue throughout the life of this program. Additionally, improvements in processes and production capabilities have been and will continue to be realized. These improvements include establishing a common "look and feel" for machine tool controls, which shortens operator and maintenance training and numerical control developmental time. They also include thorough documentation of a machine's capability so that this information may be included in process engineering decisions.

FUTURE PLANS

The team will continue to refine, build on lessons learned, and follow the processes that have been developed for OA based machine modernization. In addition, this design process is being applied to other types of machines that are in need of upgrade or retrofits at Honeywell FM&T.

For more information, contact:

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