

Initiative aims to help smaller aerospace manufacturers.

► BY KIP HANSON

Opportunity for Improvement

Manufacturing parts for the aerospace sector is serious business. After all, the quality of these parts is responsible for the well being of millions of lives.

But making aerospace components proves too challenging for many machine shops, according to a report published in 1998 by the Air Force Re-

search Laboratory Materials and Manufacturing Directorate. It states that “most smaller suppliers lack the capabilities needed to respond adequately to the needs for affordability and quality improvement.”

Furthermore, supply-chain managers at larger companies are delegating functions to their suppliers at an ever-

increasing rate. This means additional supplier responsibilities for product development, inventory management and quality.

In short, job shops doing aerospace work are being asked to reduce their prices and product lead times, increase quality and shoulder greater accountability than ever before, in addition to fabricating some of the most complex parts around.

For this reason, the U.S. Department of Defense’s Manufacturing Technology Division (ManTech) has instituted a number of programs designed to help these smaller manufacturers. Through cooperative efforts with companies like Phoenix-based Honeywell Engines, Systems and Services, ManTech is embarking on a proactive, sustained effort to help suppliers improve their capabilities. The effort focuses on areas such as training and improving processes.

The stated objective of Honeywell, under the Defense Department’s Small/Medium Enterprise Initiative, is to “present an opportunity to participate, through Engines, Systems and Services, in the DOD-sponsored program (SMEI) to reduce product costs through development and implementation of productivity-improvement projects.”

Honeywell’s implementation of the SMEI program involves Internet-based training, mentoring, partial funding of “breakthrough” projects and business analyses.



Step By Step

As part of the initiative's improvement process, suppliers follow a series of steps. The first step is agreeing to participate. This may seem simplistic, but it's significant since participation requires a major commitment of funds and employee involvement. Despite this, SMEI is still an easier and more cost-effective path for a supplier than the alternative of working alone.

The next step is to "scope the effort" by finding the best way to utilize the resources being offered and identifying areas that need improvement. Some of the breakthrough projects Honeywell suppliers have undertaken cover shop-floor scheduling, CAM software, evaluation and selection of ERP (Enterprise Resource Planning) software, lean-manufacturing cells and implementing MRP (Materials-Requirements Planning).

Once Honeywell and the supplier agree on a project, the supplier establishes a team to develop a solution white paper outlining the problem or opportunity and the best angle of attack. The white paper is then submitted for approval.

Upon approval, a purchase order is sent to the supplier to cover the non-recurring expenses detailed in the white paper. (The supplier is expected to cover at least 50 percent of the project's costs.) Over the course of the project, which can last several months, a Honeywell representative monitors the progress. The supplier must demonstrate regular progress by meeting previously agreed-upon milestones. At the project's conclusion, a cost-benefit analysis is performed and a final report, detailing the project's outcome, is submitted.

These projects make good business sense and provide valuable reference resources. As Honeywell's supply chain improves, so, presumably, will Honeywell.

Job Shop Involvement

One participant in the SMEI program is Allied Tool & Die Co., an ISO 9002-certified job shop and Tier 1 supplier to Honeywell.

Allied Tool, Phoenix, has recently

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undertaken an MRP-selection project, said Dieter Haase, the company's general manager. The 14-week project includes hiring an outside consultant to help evaluate various MRP systems to replace the shop's outdated DOS-based system. The consultant will also help develop an implementation plan once the most-appropriate MRP system has been chosen.

As part of the project, Allied has assigned two employees to participate in software demonstrations and analyze the company's needs. After the project is completed, Allied plans on purchasing the software and upgrading its computer systems as part of the project's cost-share requirement.

This project gives Allied an opportunity to drastically improve its bottom line. Honeywell benefits, too. Once the new MRP system is online, Allied will be better equipped to handle volatile lead times and quick turnaround times for Honeywell components. It will also permit Allied to better utilize existing equipment, allowing the shop to take on more work.

Honeywell's stated goal is "vendor improvement." In addition to the breakthrough projects, the aerospace concern is actively helping vendors improve their manufacturing methods and become more efficient through lean-manufacturing and Six Sigma quality programs. In other words, it's helping to bring big-business techniques to small companies.

According to Honeywell, its Six Sigma activities have resulted in a cumulative savings of more than \$2.2 billion. And, it claims that average system-wide turnaround times for engine and component repairs have declined more than 40 percent since 1995.

For these reasons, Honeywell has made Six Sigma and lean manufacturing a big part of SMEI. During the course of the breakthrough projects,

company employees are encouraged to visit the Honeywell Aerospace Academy Web site, an online learning resource at www.aerospaceacademy.com. With mentor support, employees work their way through the Internet-based, lean-manufacturing and Six Sigma modules, gaining access to valuable tools that have a proven track record of company improvement.

Some of Allied's employees have even attained "Green Belt" (expert level) certification through Honeywell's Six Sigma *Plus* quality strategy. Internally, Honeywell requires at least that level of certification for its managers, supervisors and other professionals, and there are higher certification levels for those whose jobs require advanced skills. This total-dedication-to-quality effort represents a substantial commitment in time and money by both Honeywell and Allied.

The relationship among Honeywell, the Defense Department and a small but growing number of job shops is representative of a new trend in manufacturing. Gone—or at least fading—are the days of strong-arm business tactics. Now there's an opportunity to develop harmonious, mutually beneficial relationships between partners dedicated to providing quality components at a fair price.

About the Author

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