

How a medical technology company dramatically strengthened its competitive position

Although this manufacturer of sophisticated scientific instruments and processor of complex chemical reagents had been quite successful, its management team recognized several opportunities for increasing productivity and reducing cost. As a result, they decided to undertake a significant initiative to improve both their manufacturing and processing operations to enhance their competitive position.

“Our goal,” according to the company’s vice president and general manager, “was to design and implement a series of upgrades to existing management tools and techniques to achieve significant short-term improvements in employee involvement, productivity, cycle time, and production cost.

“At the same time, we wanted to introduce a cohesive management operating system based on Lean management techniques to improve the link between sales and operations planning and plant capacity planning, and to drive our long-term continuous improvement activities.”

To help meet these objectives, the company turned to USC Consulting Group (USCCG), a firm specializing in process improvement with strong credentials in Lean, Time-phased Scheduling, and Six Sigma. It was assigned the task of identifying key areas for improvement and then providing the necessary know-how and resources to deliver the desired results.

USCCG began by working with the client’s management team to pinpoint areas in the reagent and instrument production processes that would yield high-value performance improvements. After a series of diagnostic studies, six key areas became the focus of the assignment:

- streamline the manufacturing process by implementing Single Piece Flow;
- reduce inventory;
- improve process control in manufacturing and move toward achieving zero defects;



Key Metrics

Reduction in instrument manufacturing cycle time	33%
Increase in instrument manufacturing productivity	32%
Improvement in reagent processing productivity	20%
Improvement in reagent processing schedule attainment	12%
Annualized savings	\$1.35 million

This USCCG-led engagement produced dramatic results in only 22 weeks.

- increase the use of visible, near-real-time measurements;
- improve the scheduling and coordination of resources to reduce production delays; and
- reduce manufacturing cycle times.

As is typical with most USCCG engagements, the first and most important step was involving the client's employees early in the improvement process. In this case, it began with an Associate Involvement Prototype, designed as a "Kaizen laboratory," to implement changes as quickly as possible.

A joint USCCG and client team then developed a high-level business process map that covered activities ranging from sales and operations planning through production and delivery to the customer. This began with the "as is" and eventually evolved into the "to be" management operating system. In addition, employees' skill sets were enhanced to optimize use of the management operating system through a documented management control system.

Another essential component of the project was disciplined progress evaluation designed to ensure that tangible improvements were actually occurring. This included an implementation timetable for such key elements of the operating system as capacity planning and closed-loop problem-solving to track progress in upgrading the system.

During the engagement, the majority of existing processes in both the reagent and instrument manufacturing groups were either enhanced or fundamentally changed. Said the company's vice president for manufacturing operations, "The coordination of equipment, resources, and effort in each department has dramatically improved. With the new operating system in place, we will be able to continue to improve our product, our service, and the contributions of our associates."

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Vice President,
Manufacturing Operations
Medical Technology
Company



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