

## Case Study: Productivity Improvement Assessment

### Manufacturing, Assembling & Packaging of Medical Devices (MAP)

- Enabling Difficult Decision Making

#### The Challenges

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MAP manufactures medical devices in an ISO 13485 certified facility emphasizing quality and reliability. Demand had quickly increased from 40,000 to 100,000 per week making productivity a key issue. As a result of the drastic increase, two major problems developed impacting productivity and profitability:

- Failure rates increased resulting in additional testing/rework cycles
- Assembler equipment experiencing downtime up to 40%

MAP researched changes impacting production; however the variety of influencing factors made identifying the root causes extremely difficult. Therefore the Efficiency Engineers hired to solve these very complex multi-factor problems.

#### Efficiency Engineers Solutions

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Efficiency Engineers began by completing a thorough, well-designed statistically controlled analysis. A problem assessment and development of countermeasures to prevent recurrences required an understanding of the factors impacting problem areas, so Six Sigma quality planning was initiated.

Efficiency Engineers completed the following:

- Defined the issues and factors involved in the process
- Measured the factors influencing quality and productivity
- Analyzed multivariate data and experimental designs
- Developed Corrective Action Plan
- Designed controls based on major factors impacting quality of product



Efficiency Engineers also interacted with the Quality Department to develop their analytical skills.

#### Results

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Efficiency Engineers taught the MAP team the knowledge and skills needed to make a critical decision on whether or not to invest in new equipment. They realized the current process and equipment were not capable of meeting their needs.

Efficiency Engineers also justified investing in new equipment by proving the old machinery could not meet quality requirements.