CASE STUDY

Competitive Business Solutions

Contract Demand ≠ Work Cell Capability

An electronics/defense organization located in Camden, NJ, was struggling to meet increasing customer demand. The client was the sole source for a critical classified component, and pressure to increase production throughput caused leaders to contact Competitive Business Solutions (CBS) to help solve the issue. Over a six-week period, CBS analyzed, designed and deployed with their team a series of improvements that increased throughput to meet customer demand.

INDUSTRY
Electronics/Defense

SOLUTION AREA
Operational Excellence

THE CHALLENGE

CBS was invited to help improve production capacity and throughput for a component for the Joint Strike Fighter (F35) program. The component was classified and assembled in a secure area. The starting demand was 20 parts per month. When CBS engaged, the plant could barely maintain 15 “good” parts per month—so, they were already behind in deliveries to their customer. Future demand was increasing by 60% per month within 90-120 days, and eventually, to 40 per month after 6 months.

Other observed conditions at the beginning of this project:

- Only 2 assemblers plus the area test engineer were trained and capable of assembly. The test engineer whose primary role was to oversee final testing and troubleshooting was also utilized as an assembler to meet customer demand due to program schedule position. There were no standards for the flow of materials or assembly instructions for the operators. Moreover, without dedicated work areas for specific assembly steps, tools and parts were often missing or not available for timely assembly.
- Monthly buckets of parts and components were delivered in crates and boxes with the parts co-mingled, creating an additional burden on the assemblers to collect the needed parts.
- Initial burn-in and thermal tests greatly exceeded the normal pace of production (TAKT time)—requiring a buffer stock or Standard Work in Process (SWIP) plan to ensure continuous flow.

OUR APPROACH

After meeting with leadership and clearly understanding the challenges of the client's delivery, performance, and conditions as well as the goals of the assignment, CBS determined that deploying a proven approach following the DMAIC (Define-Measure-Analyze-Improve-Control) methodology would be the best course of action. Additionally, CBS utilized Kaizen to implement the improvements to help drive employee engagement and speed of implementation. Our approach included the following:

- Observing and collecting data to understand customer demand, current work processes and current challenges, such as quality and workmanship issues
- Measuring the current process times for each process step
- Creating a Pareto chart of current defects/rework
- Analyzing the data and creating a load chart with process times vs. TAKT time
- Developing an improvement plan with the employees in the work cell
  - Balancing the work steps to ensure workflow
  - Designing cell layout and process flow with the team
  - Piloting flow and layout—adjusting and implementing
  - Building a training and cross-training matrix and planning to create the need capabilities and flexibility to run the cell
  - Implementing an SWIP plan to maintain a level of inventory before the test operations
  - Negotiating a solution with the warehouse/material handling team to organize and deliver parts and components to the work area

RESULTS

The new work cell easily met the new demand with a team of 3 dedicated assemblers, which would flex to 4 assemblers when demand grew past 32 parts per month. The test engineer was no longer required for assembly operations. He was able to focus on test and repair/rework activities. The new standard work greatly improved the quality of the output as well. Overall, the new work cell and process flow exceeded the customer's expectations and allowed them to easily meet the growing demand for this component. Specific results included:

- Increased production capability over 162%, going from 16/month to 42/month
- Accelerated productivity by 42%, going from approximately 20 hours per assembly to just over 11 hours per assembly.
- Improved quality by 30%, reducing workmanship issues

Ready to optimize the transformation of your organization? We can help.
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Our operational problem-solvers bring unmatched industry experience, creative thinking and a collaborative approach to every client engagement. Call us at **973-509-0110 x147** for a private consultation to learn how we can help you with your continuous improvement efforts.

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