

Five ways to deliver on increasing customer demand in a capital constrained environment

Is your company's capital plan for new equipment lagging the growth curve, thus making it difficult to meet customer demand? Does the uncertainty about the economy or market segment limit funding for process and equipment investments? Before committing to spending money on new devices, here are some ways to first reevaluate and improve equipment utilization and process efficiency:

1. Enhance and preserve your equipment:

By implementing Total Productive Maintenance (TPM), unplanned downtime will become nonexistent and performance will improve daily. A good tool commonly used to measure and monitor equipment performance is OEE - overall equipment effectiveness. You'll first want to measure Availability, Performance, and Quality and then calculate OEE.

$$\text{Availability} = \frac{\text{Operating Time}}{\text{Planned Production Time}} \quad \text{Performance} = \frac{\text{Ideal Cycle Time}}{(\text{Operating Time} / \text{Total Pieces})} \quad \text{Quality} = \frac{\text{Good Pieces}}{\text{Total Pieces}}$$

$$\text{OEE} = \text{Availability} \times \text{Performance} \times \text{Quality}$$

2. Reduce the time it takes to changeover machines:

The amount of waste during a changeover can be shocking. First video and map the changeover process. Then identify how it should work and standardize procedures. By implementing the Single Minute Exchange of Dies (SMED) technique, you can reduce changeover time by 50% or more. Add on some clever devices like quick disconnects, powered assist tools, visual aids and readily accessible materials and as much as a 75% improvement can be accomplished.

3. Eliminate non-value added activities:

If the machinist, assembler, welder, or any employee has to search for materials, tools, or parts, they are wasting time. By utilizing 5S (Sort, Shine, Set in Order, Standardize, and Sustain), NVA (non-value added) activities are eliminated helping to ensure process efficiency. Many companies add safety to the 5S process and call it 5S+1 or 6S.

4. Implement standard work for the same job functions:

Multiple techniques used to perform the same job create variability and inefficiency. A proven process for implementing standard work is TWI (Training Within Industry). Through TWI best practices are documented, understood, and demonstrated by multiple people with the same jobs, resulting in the reduction of quality issues, improved production time, and efficiency within the production process.

For more information on how GaMEP can help improve equipment utilization & process efficiency:

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5. Provide relief for lunch and breaks to keep operations running continuously:

A simple, but effective way to gain additional capacity is to adjust shift structure. By providing relief during lunch and breaks, you will be able to alleviate bottlenecks, keeping your operations running at a steady pace. Another opportunity is to structure the shifts to enable a shift overlap. A more radical approach to increasing capacity is to implement a weekend crew or restructure to a four shift operation. This will enable a 30%-40% increase in output and reduce overtime.

For quick results, start with the easier tools – i.e. 5S, SMED and relief during lunch and breaks. Next, begin planning for the implementation of TPM and TWI. And perhaps most importantly, make sure all tools that are used and implemented are sustained. In addition to improving asset utilization, the cumulative result will dramatically improve safety, quality, cost and delivery.

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