How Can Sanitation Be a Competitive Advantage?

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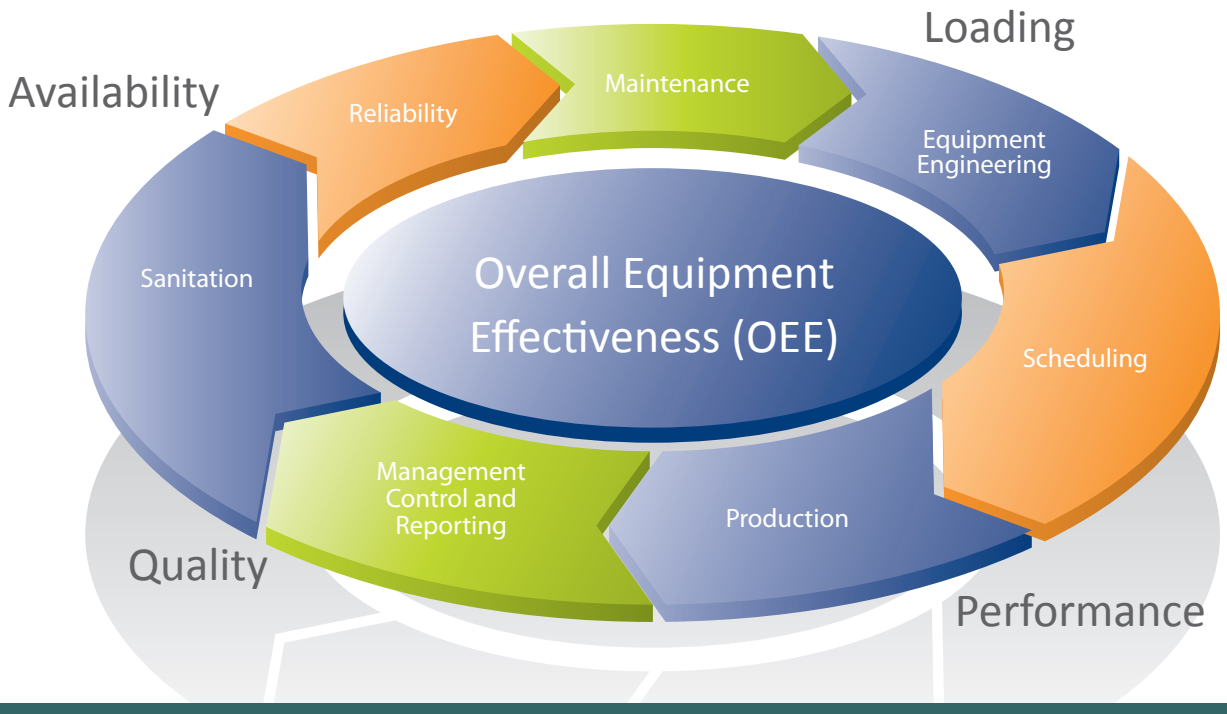
INTRODUCTION

How can sanitation be a competitive advantage and not a troublesome necessity? It's all about OEE.

For food consumers and manufacturers, food quality and cleanliness has become a priority. Media headlines and extensive coverage of food contamination has put the issue of Food Safety at the forefront. Documented SSOPs (Standard Sanitation Operating Procedures), HACCPs (Hazard Analysis Critical Control Plans), hair nets, coveralls, hand-washing regimes and master sanitation plans are vital parts of a complete strategy to ensure Food Safety. However, poor control of these Food Safety programs can be expensive in terms of overtime cost, elevated food scrap, equipment reliability failures and excessive non-value add production time. Outright lapses in execution can have devastating consequences to the business; expensive recalls, remediation costs, potential legal liability and destroyed consumer trust in individual brands.

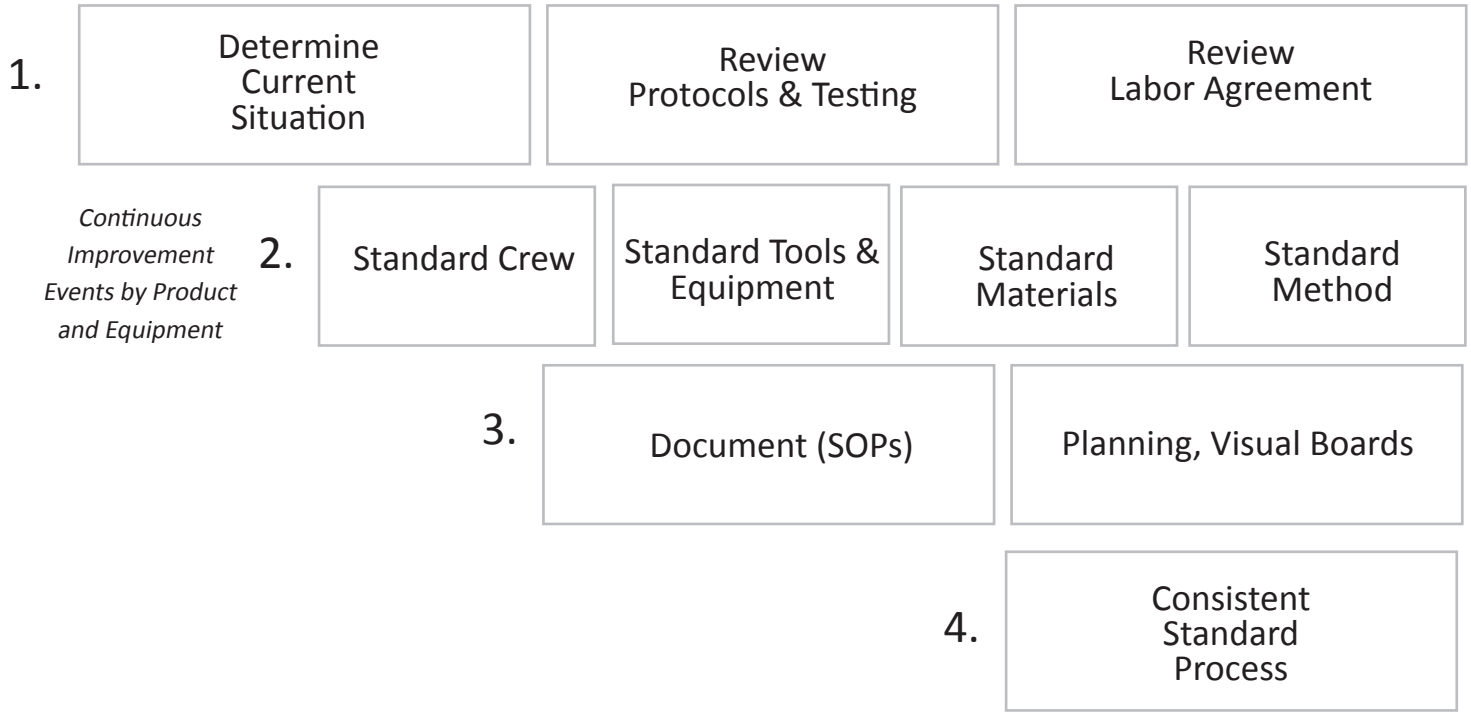
Being consistently superior at control and execution of sanitation does not need to be overly difficult or expensive. It does, however, require detailed process analysis, process rethinking/redesign, restructuring of resource assignments and installation of management control and reporting systems.

A crucial component of the control and execution of sanitation is a management mind set: *Sanitation is a critical part of the business and must be managed, controlled and executed with the same level of attention as that of the production and maintenance operations.* Undeniably, it is the close integration between production, maintenance and sanitation operations, controlled within a tight management and reporting system that provides the key to increased OEE (Overall Equipment Effectiveness). Consequently, when equipment is scheduled to run, it is running at the correct rate, using the right number of resources and at the right level of quality. If you can increase OEE, you can increase productive capacity without further investment or additional resources.



One of the most important pieces of the puzzle.

One approach to make sanitation effective, efficient, *and* increase productive capacity is to use LEAN techniques. This method identifies what should be sanitized, how the work should best be executed, how much time it should take, who should do it, what specific equipment or tools are needed, which materials and PPE (Personal Protective Equipment) are necessary and finally what testing is required. Cooperation and coordination between relevant functions is structured to ensure detailed planning, scheduling and prioritization of the work. It also allows for the efficient transition from production, into sanitation execution, incorporation of required maintenance into the minimum required downtime and finally the transition of equipment back into production in a ready to run condition. LEAN techniques focus on three areas: first, the elimination of waste; second, reduction in variability and third; increase flexibility. Each of these elements bring unique values and benefits, but they work together to uncover hidden factory capacity, ensure work is completed in a standardized way, right the first time, on time and as efficiently as possible.



GETTING IT RIGHT

Study. Streamline. Standardize.

The first step is to evaluate any systemic constraints in place, which involves evaluating existing sanitation protocols and testing requirements. Secondly, review existing labor contracts or restrictions that may be in place and determine their level of flexibility. Next, conduct a detailed study of the current process. This step involves defining each process step (or piece of equipment) in a logical area and undertaking timed observations and evaluations of their sanitation. Observations include: the effectiveness of the operations and supervisory staff, evaluation of tools, materials and the methods employed.

Results of the initial observations and studies are used to develop goals and scope of the cross functional, multi-staff level improvement workshops (continuous improvement events), which focus on improvement in one area or aspect of the operation and are the basic building blocks of the approach. Studying the existing sanitation operation, the SMED (single minute exchange of die) tool is used to identify each step, its cycle time, any waiting involved and to take note of improvement ideas and actions. It is not unusual to discover at least 30% of non-value time within the existing process, mainly due to poor planning, poor coordination or overly cumbersome methods being used.

Immediately after observations are completed, improvement ideas are identified, brainstorms raise additional viable ideas and these are developed into an implementation action plan. By working with a cross functional team (staff from the area being studied) feasible, low cost and valued-added improvement ideas are quickly generated. Swift and certain implementation of these ideas is critical to maintain commitment and realize results. Once improvements are implemented and non-value added time is minimized, the resultant process steps must be documented and become the standardized sanitation method. Based on this standard process, each piece of equipment will have a set sanitation cycle time, defined materials, resource requirements and any prerequisites. With these items documented, sanitation of each piece of equipment can be planned and scheduled as a piece of discrete work along with all the other pieces of discrete work to be accomplished in the limited sanitation period. Production, maintenance and sanitation must together determine the prioritization and scheduling of work done in the limited time available. This enables production to maximize use of available line time, for sanitation to have clear start and end times, and for crucial maintenance and reliability activities to be accomplished within the window of the down line.

TRACK PERFORMANCE

Make it visible.

Sanitation operations have sometimes been viewed as being secondary in importance, something that is done when orders are completed and finished and is customarily executed on off-shifts or on weekends. This typically means that there is limited management presence or oversight, and the work is executed in an ad hoc, poorly controlled way. This is a mistake. When management has an 'out of sight, out of mind' perspective, sanitation is not well executed. It becomes costly and the results are typically marginal. Clear expectations, clear roles and responsibilities and measured performance are the hallmarks of well executed operations. Good methods of achieving these objectives are through the use of clear and direct supervision, use of sanitation work orders, operator checklists and work location visual boards detailing progress against plan. Achievement may then be continually tracked with problem areas and actual performance highly visible to everyone.

An issue that can occur with off-shift or weekend scheduling is that sanitation work may be executed by whoever is available, often, lower level staff that may or may not clean the equipment on a regular basis. Without regular, trained sanitizers, work quality and consistency suffer. Preventive maintenance and specific cleaning routines may not be done correctly (which impacts asset life) and the irregularity of the workforce introduces additional variability into the process.

In summary, this approach uses detail process evaluation, process redesign, standardized work, clear resource assignment and expectations, cooperative planning and scheduling and real time performance tracking to not only execute sanitation as efficiently and effectively as possible, but to uncover unrealized production capacity and maximize equipment reliability as well.

DRAMATIC IMPROVEMENTS, SIGNIFICANT SAVINGS

Food manufacturers have experienced dramatic improvements in their sanitation operations using this methodology. A large US food manufacturer installed the system in five of its plants. One plant re-captured 13.75 production days annually on a capacity constrained line by actively managing and coordinating sanitation execution and changeovers in a strategic and systematic way. The plant was able to repatriate production outsourced to a co-manufacturer at a savings of approximately $500K. Another replaced its entire 50+ person sanitation crew with a subcontract cleaning crew, reducing its labor cost from $22 to $11.47 an hour, while at the same time increasing the work effectiveness of the crew and performing 15% more sanitation work within the same time frame.

A third plant studied its vendor performed sanitation operation and was able to immediately negotiate a 20% reduction in the total number of hours charged (to do the same amount of work) and additionally a 20% reduction in the hourly fee paid. The fourth plant increased its sanitation effectiveness and completed more work in less time, even while reducing its crew size by 18%.

The fifth plant studied the daily sanitation of an inline freezer and was able to improve methods and coordination resulting in gaining back two hours of additional production per day. A further study at the fifth plant resulted in improvements that saved $20K of labor hours and improved cleanliness testing first pass rates, benefits gained from a one time investment in six hours of study. For this manufacturer and for others like them, the benefits are clear: dramatic gains in productivity leading to ‘free’ increased available production capacity, increases in effectiveness and improved first pass rates.

ABOUT THE AUTHORS

Doug Newman is a Senior Vice President at Celerant Consulting and leads the consumer products sector. During his two decades in manufacturing and consultancy, Doug has undertaken a wide range of assignments across multiple industries and functional areas. His experience includes extensive work in manufacturing, supply chain, information technology, research & development, sales and innovation. His industry experience includes food, beverage, household and personal care products, as well as, work in multiple other industries including chemicals, automotive, high tech electronics and healthcare. Doug received a Master of Business Administration from Northwestern University's J.L. Kellogg Graduate School of Management and a Bachelor of Science degree in Marketing from Indiana University's Kelley School of Business.

Tim Tancred is a Manager in Celerant's Operations group. He began his career as a Manufacturing Engineer in the automotive industry at a tier 1 supplier to Toyota. His expertise in LEAN was developed by continuously improving quality, cost and delivery across the supply chain. He has subsequently spent over 12 years helping clients increase operational performance and reduce waste across a variety of industries including; consumer packaged goods, automotive, energy and chemicals. Tim received a Master of Business Administration from Georgia State University's J. Mack Robinson College of Business and a Bachelor of Science degree in Manufacturing Systems from the University of East London, UK.

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