



# JMP Solutions

*Industrial Technology Partner to the Fortune 1000*



## Overall Equipment Effectiveness (OEE)

Optimizing Availability, Performance and Quality

# Overall Equipment Effectiveness



## FULL SCALE OPERATIONAL ANALYSIS FOR MAXIMUM PRODUCTIVITY

OEE is a best-practice metric for measuring the effectiveness and efficiency of a manufacturing process. Calculated as the product of three factors: Availability, Performance and Quality, it shows a percentage of the planned production time that is truly productive. An OEE score of 100% represents perfect production and the manufacturing of only good parts, as fast as possible in your given environment, with zero down time. OEE measures what could have been produced if every piece of equipment has operated at optimal capacity as part of a system, against what has actually been produced, the results of which provided as a percentage.

Implementing OEE metrics in your manufacturing operation allows you to establish an equipment and process baseline, prioritize actions to address big losses, develop a roadmap towards continuous process improvement and then monitor your gains to quantify transparent ROI or to adapt and adjust if suboptimal results are realized.

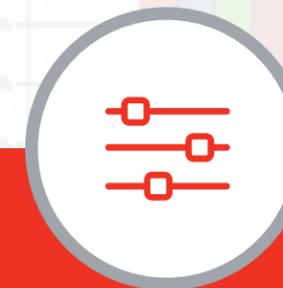
OEE is a complex analysis which offers a unique perspective by looking at your entire operation as an ecosystem, where no process or asset is independent of another and assessing the impact that any change in one area will have on the adjacent processes. Implementing an improvement in one area may be detrimental to another process downstream or create bottlenecks upstream.

With so many factors to consider, it can become incredibly difficult to determine where systems can be streamlined. That's where OEE comes into its own; providing a level of transparency that can't be attained by simply looking to improve individual stand-alone processes. By looking at overall equipment effectiveness, managers can determine the success of the operation, highlight areas which can be improved and make decisions quickly.



### EQUIPMENT AVAILABILITY

Equipment uptime, downtime and necessary transition periods during setups and tool or recipe changeovers are all taken into account in this view. OEE focuses on making necessary process and asset related adjustments to minimize unplanned downtime while reducing planned transition periods, driving efficiency and productivity.



### OPERATIONAL PERFORMANCE

Industrial equipment is designed with an optimal level of capacity, however under certain process conditions or up/downstream incompatibility, overall performance could be compromised. OEE helps to identify inefficiencies in your processes so you can focus on prioritizing correction towards optimizing efficiency.



### MANUFACTURING QUALITY

The ultimate goal towards reaching 100% OEE is heavily influenced by QA / QC metrics and their corresponding scrap rates on goods. Maximizing production of only good parts drives down scrap rate, raw material costs and overall production cost. It also ensures repeatability and consistency of completed parts.



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