matrixAtc automation technology & consulting

Combining OEE and Automation for Improved Performance A crucial part of remaining competitive

Overall equipment effectiveness (OEE) calculations can turn rivers of Big Data into nuggets of actionable information. OEE is a metric designed to evaluate how efficient a production operation truly is, based on the real-world availability of the equipment used. The key for the many facilities is leveraging automation with real-time monitoring controls. Many users combine the use of automation and OEE tracking as part of their lean improvement efforts. OEE can also became an important bridge towards improving problem solving and developing a continuous improvement culture. Use OEE to measure and improve operational efficiency.

OEE in action. Seeing your goals is meeting your goals

- Use simple, very large graphical displays visible to the operators on the line with ongoing performance vs. planned performance.
- Automatic trend analysis can show the reasons contributing to most of the stoppages and downtime.
- Direct translation to lost processing time and lost money is the next step.
- Use alarms when a trend has been detected.

Empower operators – calculate the OEE

- of the line,
- of the machines, and
- the availability of material handling systems.

Generate detailed reports to show operators downtime. Pareto charts of:

- the machines and
- conveyors, including quality and KPI reports.

Use SCADA on the plant floor to show operators the alarms and warnings of the machines they are operating to help them react immediately if a fault occurs. This system can help improve the efficiency of the line and also reduce operations staff.





Maintain reporting integrity.

As simple as the calculations can be, OEE provides many reports so that plant and management who have certain targets in mind cannot manipulate any nuances. Honesty in reporting validates the program. Data logging and measurement are simple. OEE is relatively standard. It is based on how you define your system and efficiency. Once set up right, it consistently tracks the system and results.

Top Losses				? 🖯	
Zoom: 1d	1w 1m 1q 1y	All 🔺 🕨	Last 30 Days (May 21, 2014	- Jun 19, 2014) 🔻	
View: Shift v > Shift 2 v			Show Only Down Time Losses 💌		
Your top 5	▼ down time loss	es account for 7:15:00 of los	t time (25.49% of all losses). Your OEE over this time	period was 82.3%.	
		Your top loss is Down T	lime > Breakdown.		
1	1h:55 6.7% of losses	 This loss increased at a There have been 46 oc Learn about practical w 	a rate of 87.5% over the selected time period. currences (averaging 0:02:30 each). rays to reduce down time	• Trend: +87.5%	
2	1h:44 6.1% of losses	Your next largest loss is This loss increased at a There have been 48 oc	s Down Time > Down (Misc.). a rate of 32.7% over the selected time period. currences (averaging 0:02:10 each).	• Trend: +32.7%	
3	1h:14 4.3% of losses	Your next largest loss is This loss increased at a There have been 33 oc Learn about categorizin	s Uncategorized Down Time. a rate of 117.6% over the selected time period. currences (averaging 0:02:14 each). Ig losses	• Trend: +117.6%	
4	1h:12 4.2% of losses	Your next largest loss is This loss decreased at There have been 37 oc	s Down Time > Cleaning. a rate of 51.2% over the selected time period. currences (averaging 0:01:56 each).	• Trend: -51.2%	
5	1h:10 4.1% of losses	Your next largest loss is This loss increased at a There have been 36 oc	s Down Time > Autonomous Maintenance. a rate of 119.6% over the selected time period. currences (averaging 0.01:56 each).	• Trend: +119.8%	



Integration with batch controls.

Integrating an OEE system and its measurement Parameters with other existing software that control batch production is important for assessing automation ROI.

OEE applies equally to the batch processes in your plant, as continuous improvement has lessons for continuous process as well.

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How, When and What to Measure

Equally suitably usable for operations with limited personnel resources and numerous low volume production runs.

Can be set up to track production lines performance as well as a total unit by each production asset individually.

Measuring and capturing relevant data provides the ability to evaluate the line at each machine center to formulate real-time impressions of the improvement opportunities, while the background data can be pulled from the system for point-in-time analysis. Having this data, accurate downtime reason codes can be implemented for root cause analysis.