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# 7 SHOP METRICS EVERY MANUFACTURER SHOULD KNOW



Instituting Key Performance Indicators (KPI's) for your operation can be a formidable task.

But without those basic measures in place, you're flying blind, and can unknowingly experience slippage in costs, production and even market share. Remember, you can't manage what you don't measure.

Measuring performance, however, isn't only about top line growth. Managing the bottom line can help you be more price competitive, but no successful operation can compete on price alone, and you should be paid for the value you create for your customer.

Instead, focusing on better bottom line management by lowering your costs to increase your margins plays a significant role in meeting performance indicators.

**Consider these 7 fundamental performance metrics every manufacturer should monitor...**



**1**

## THROUGHPUT

It's likely that this basic indicator is already being tracked in your facility. If it isn't, it is easy to start. Throughput is merely production over a specified time period.

If your facility produces units of finished or semi-finished goods, throughput is relatively simple to calculate. If you do not produce a finished product, you can simply substitute any other production indicator in its place. This could be lengths, pounds, or any other measure that you can track consistently.

$$\text{Throughput} = \frac{\text{Number of Units Produced}}{\text{Time}}$$

**2**

## INVENTORY TURN

For businesses that stock product, it's important to know how often that inventory turns over. In this way you can determine issues with excess inventory, which should be a business expense. Space in your facility has a cost that can be measured, for example, in square footage. Turn can also indicate poor demand planning.

$$\text{Inventory Turn} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

**3**

## CYCLE TIME

Regardless of whether you produce completed products or individual components of a product, you can (and should) measure the cycle time of both. Doing so allows you to gauge where efficiency can be gained for both the component and final product.

$$\text{Cycle Time} = \text{Process End Time} - \text{Process Start Time}$$

**4**

## CAPACITY UTILIZATION

Knowing the percentage of production capacity in use allows you to maximize both your equipment usage and labor. This KPI is key in predicting lead times, the ability to take on new customer orders, and even predict when expansion may be necessary.

$$\text{Capacity Utilization} = \frac{\text{Actual Factory Utilization}}{\text{Total Productive Capacity}}$$

**5**

## CHANGEOVER TIME

Often, time to switch tasks is not tracked in manufacturing. But breaking down steps and finding efficiencies is the path to profitability. In this case, facilities should count this lost time in order to manage change.

$$\text{Changeover Time} = \text{Net Available Time} - \text{Production Time}$$

**6**

## MACHINE DOWNTIME

Hand in hand with changeover time, machine downtime allows you to paint a picture about your output and may also point to problematic cells within your facility. This predictor is a balance between scheduled and unscheduled downtime and can help improve throughput.

$$\text{Machine Downtime} = \frac{\text{Downtime Hours}}{\text{Downtime Hours} + \text{Operational Hours}}$$

**7**

## DOWNTIME TO OPERATING TIME

Two factors that can be directly influenced in a manufacturing environment are machine time and labor time. Both need to be measured in order to squeeze more production and profitability through your business. Unplanned machine downtime can lead to higher labor costs, so tracking any downtime (as described above) can help identify lost productivity that could be improved.

$$\text{Downtime to Operating Time} = \frac{\text{Downtime}}{\text{Operating Time}}$$

### UTILIZING THE DATA

Once you begin to track these fundamental metrics, a historical record will emerge. Keeping a repository of them and reviewing them regularly with your team can strengthen your processes and create a common goal for improvement. Posting KPI's at each cell allows everyone to be engaged in the outcome.

Much like safety metrics for overall plant operations, encouraging your entire team to be a part of a bigger solution can improve your culture and profitability.

For more recommendations on identifying and managing your KPIs,  
contact us at: [www.bonnellaluminum.com](http://www.bonnellaluminum.com).



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