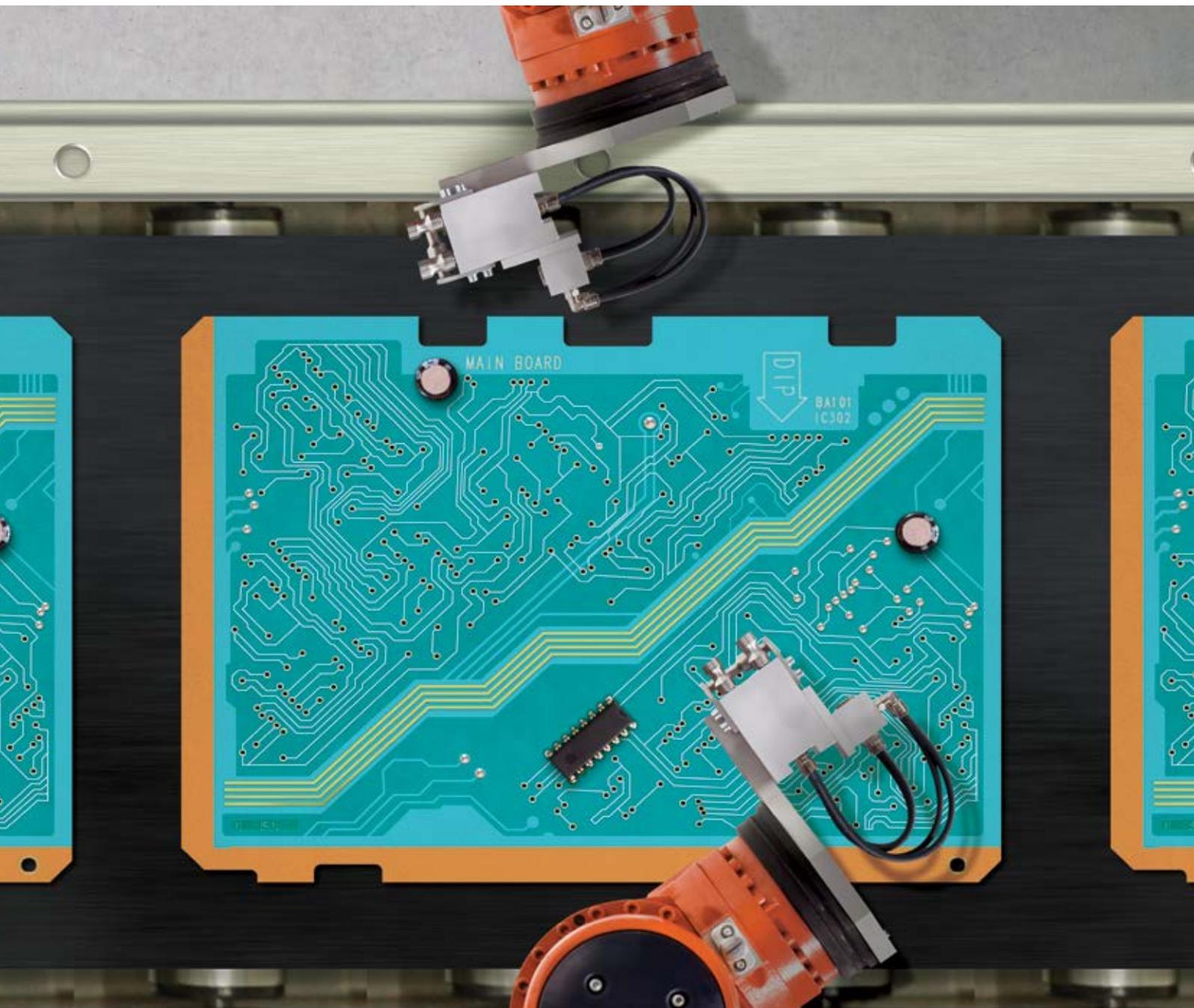


An Epicor® White Paper

Four Quick Ways To Unlock Hidden Manufacturing Capacity





Introduction

Many of today's manufacturers are experiencing growth and increased production. Volume is steadily rising for many, and manufacturers are often dealing with how to meet increasing demand.

With your manufacturing operations already running close to capacity, some of the traditional ways of gaining new capacity are to make large capital investments or to outsource some of the new manufacturing demand. These are challenging tactics, because getting new resources in line will take time, and there's no guarantee that the numbers will continue to climb.

However, you do have a third option. You can meet increased demand by freeing up needed resources within your current operations. The key is having access to real-time manufacturing information and using it to identify areas of improvement within your existing operations.

The steps

Step 1—Reduce unplanned and operational downtime

In an industry where reliability is key and unplanned downtime can cost thousands of dollars per minute, reducing unplanned and operational downtime can yield great results. In addition to financial savings, reducing changeover time and operational downtime leads to proportional increases in manufacturing capacity. Best practices implemented on a single line can be easily transferred to other similar lines, thus multiplying the impact and creating even more needed capacity.

Efforts to reduce unplanned and operational downtime routinely have a high probability of success. Sometimes it is possible to eliminate an entire loss category with a simple change in work practice. For example, many companies have discovered that it can be very effective to stagger break and lunch intervals. Others have eliminated a specific loss category entirely by replacing small parts or increasing the frequency of routine maintenance.

Step 2—Reduce minor stops

Minor stops are short-duration breaks that are usually less than five minutes—short enough to be unnoticed, but long enough to disrupt the business and productivity. These can add up to a significant loss of manufacturing time, especially if you don't know how many of these breaks are being taken and for what reasons. However, if you have the necessary tools in place, it is reasonable to expect a 50–75% reduction in minor stops, but you must remain cautious because minor stops can reappear. To sustain gains, world-class manufacturers use root-cause analysis and continue to make adjustments as necessary.

Step 3—Eliminate production variability and quality loss

Production consistency translates into a more reliable and predictable supply chain, increasing the rate of first time “perfect orders” and cutting time lost to rework. Stable lines run at higher production rates consistently, resulting in higher volume.

Quality loss and rejected product impact both material and labor. A standard overall equipment effectiveness (OEE) calculation includes a production reject as a lost opportunity for production, which impacts capacity. Therefore, when calculating OEE, it is important to consider the cost of both material and labor.

There is no “typical” operation, and the range of quality variation can be from 1%–5% or even as much as 10% of total production.

It's important to consider that the cost of material can be four times the cost of labor. From a pure cost perspective, a 1% first-pass reject rate translates to 4% loss. You can vary the analysis to reflect production improvement, cost reduction, and probability of success.

Step 4—Establish improvement priorities in a financial context

It is important to realize that not all downtime is equal. Applying cost information with the same analysis may reveal an entirely different perspective—the cost of downtime. A cost-of-downtime analysis can be used to establish priorities with a financial context. Moreover, a probability-of-success analysis across loss categories will prepare operations professionals to prioritize efforts and achieve sustainable improvements.

Operations professionals generally focus on lean practices to establish production priorities. When they consider cost factors as part of the evaluation, they have the ability to focus on those areas that will have the highest impact on the financial performance of the company.

To quantify the financial impact of each category, it is necessary to understand material and labor cost components. Labor-intensive operations have a greater risk of downtime throughout the entire manufacturing process. Meanwhile, operations with high material costs usually experience significant material loss near the end of the production line. Waste and material loss resulting from rework may be more significant than the cost of labor.

Conclusion

The best and easiest way to create capacity is to scrutinize operations with manufacturing intelligence applications that monitor and analyze manufacturing operations in real time. These applications provide crucial information to help you quickly find the capacity you need without costly investments for new machinery, additional labor cost, or contract manufacturing.

About Epicor

Epicor Software Corporation drives business growth. We provide flexible, industry-specific software that is designed around the needs of our manufacturing, distribution, retail, and service industry customers. More than 40 years of experience with our customers' unique business processes and operational requirements is built into every solution—in the cloud or on premises. With a deep understanding of your industry, Epicor solutions spur growth while managing complexity. The result is powerful solutions that free your resources so you can grow your business. For more information, [connect with Epicor](#) or visit www.epicor.com.



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