The Efficiency Factor

It’s all about productivity and getting the most from your existing assets, and so really understanding the utilisation and efficiency KPIs of your machine resources is important. It can be the difference between making a profit and making a loss; delivering a job on time or upsetting your customer with a late delivery.

Using assumptions or estimates as your benchmark will not give you the best chance of identifying underlying causes of inefficiency or areas for improvement. The best way of obtaining accurate utilisation and efficiency figures for your specific resources within your unique production environment is to capture that performance data directly. It will help you to understand how hard your machine resources are actually working for you.

Utilisation data as fuel for productivity improvements

You make such significant investments in your shop floor resources that being able to interrogate and measure hard data relating to their activity and efficiency levels seems an obvious requirement. Why would you rely on purely manual methods to evaluate your capital investment ROI or to use as the basis for further investment? Connecting them to machine data acquisition software to automatically record each operating condition or status change in real time builds a record of productive and critical non-productive events. So as well as having a detailed picture of the individual resource, the entire shop floor is now visible and supported by a wealth of performance information that can be interrogated to suit your area of focus. Reasons for inefficiency or lost productivity can now be measured and analysed at multiple levels and the utilisation data becomes the fuel to drive productivity improvements.

Improving planning accuracy

Let’s make this data work even harder for you. If you’ve assumed an 80% efficiency across your resources but utilisation data has shown that actually it’s only 60%, then you’ve effectively generated plans that are at best overly optimistic and at worst unrealistic. And the impact is not limited to one job or resource, it can affect the accuracy of the planned delivery dates of all jobs across all resources. Whilst the immediate effect of reducing your capacity in this way may seem somewhat disturbing, ultimately your planning and scheduling will benefit from greater integrity and as a result your On-Time Delivery to Commit performance will improve. You can now focus on the smaller margins of improvement to increase your machine utilisation factors, in order to achieve your productivity and throughput targets.

Once you’ve gained this greater level of insight into your manufacturing performance, and used factual knowledge to make positive changes, you’ll never want to go back to relying on guesswork and assumptions.

Manual planning and monitoring can be time consuming, complex tasks due to the sheer volume of information needed to generate an accurate picture of your utilisation levels and to create a viable production schedule. Seiki machine monitoring and graphical planning modules give you greater visibility of your resources and activity with live, reliable data. Their combined intelligence can be used to generate schedules based on actual capacity and delivery requirements. This means that you can work to increase resource efficiency, respond quickly to changes, get early indications of problems and take corrective action to avoid late deliveries.

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