

HOW TO MAXIMIZE THE **PRODUCTIVITY OF YOUR PHARMACEUTICAL LABELING PROCESS**

Labeling is a critical process in many industries, such as personal care, food and beverage and pharmaceuticals.

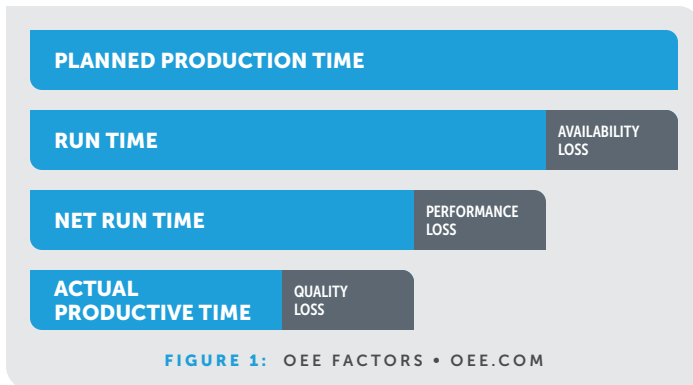
As companies strive to improve their manufacturing processes, focus often turns to the speed of production lines and packing lines – including labeling speed. Whilst this is one factor, successful labeling demands much more than just flat-out speed!

In this article, Accraply's Shaun Baker, Pharmaceutical Leader, looks at how the concepts of OEE can be usefully applied when considering labeling productivity in one of the most demanding industries: pharmaceutical manufacturing.



OPERATIONAL EQUIPMENT EFFECTIVENESS (OEE)

OEE is a widely used approach for measuring manufacturing productivity by considering the three factors that impact on productivity time: Quality, Performance and Availability.



As illustrated in **Figure 1**, to achieve 100% OEE requires the Actual Production Time to equal the Planned Production Time, which means 100% Quality (only good Labeled products), 100% Performance (labeling as fast as possible) and 100% Availability (no stopping).

The pharmaceutical industry has traditionally lived with low

OEE and poor levels of productivity. The industry is naturally risk adverse, and it comes with stringent quality standards; higher value products and product quality comes above all else.

But trends in the industry are driving pharmaceutical manufacturers to take more notice of their productivity. Such trends include:

- An increase in lower value, generic drug production – where lost production time matters.
- Shorter runs and increased flexibility of production – requiring fast and efficient changeovers between products.
- The additional demands of new technology, such as serialization.
- Ever-increasing costs.

The good news is that, with proper consideration, you can achieve high OEE without compromising on labeling quality. Of course, whilst it is relatively straightforward to determine OEE for an existing line, it is more challenging to evaluate this for a new line or a new piece of equipment. To help with this, here are some key Quality, Performance and Availability factors to consider when you're looking for your next labeling system.



QUALITY

No matter the labeling system that is used, it must be fit for purpose and meet the high-quality standards expected in pharmaceutical production. This is true not just in terms of its overall labeling capability, but also in terms of the wider solution, product, project delivery and support. Quality must be defined in a number of ways:



QUALITY OF LABELING

As a minimum, this means that the product handling must be dependable and gentle (no damage or marking of products), and labels must be applied accurately and reliably without skew, creases or folds. Rework or scrap is an unnecessary Quality Loss that must be avoided.



QUALITY OF SOLUTION

It is critical that the labeling system supplier works with you to ensure that the application requirements are fully defined and understood. A risk-focused approach reduces the risks and costs to both you and the supplier, ensuring the right quality at a competitive price.



QUALITY OF PRODUCT

Look for suppliers who use well-proven components and designs, apply cGMP standards and incorporate up-to-date technology.



QUALITY OF PROJECT DELIVERY

Dedicated project managers, high quality documentation (manuals, FDS, validation documentation), rigorous testing and acceptance all contribute towards a successful pharmaceutical project.



QUALITY OF SUPPORT

Excellent spares and service support should be demanded, because a quality labeling system will keep working for you for many years to come.



PERFORMANCE INFO

VIEW NEXT PAGE



PERFORMANCE

Performance takes into account anything that causes the manufacturing process to run at less than the maximum speed possible when it is running, including both slow cycles and small stops (www.oee.com). It's crucial to remember these points:



GUARANTEED PERFORMANCE

Work with a labeling system manufacturer that stands by the performance they have quoted.

(I've heard many companies complain about being sold one thing and then receiving another.)



TEST PERFORMANCE

Wherever and whenever possible and practical, test! Seeing is believing.



FOCUS ON PERFORMANCE

Does the labeling system supplier focus completely on labeling solutions? Does the company have the pharmaceutical labeling expertise, knowledge and experience to support you in specifying and developing your solution?



HIGH SPEED PERFORMANCE

Of course, when you need to label fast (and I'm talking about 600ppm+), then you need a supplier who has the capability to deliver this! It is just important to keep in mind that, typically, the faster the speed of labeling, the more challenging it is to get positional tolerance and labeling quality.



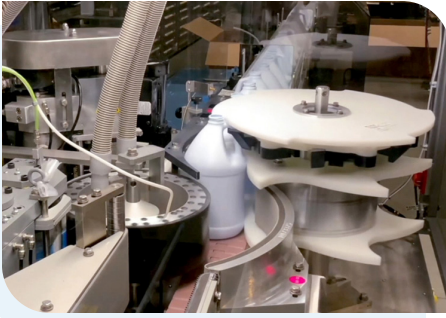
RELATIVE SPEED PERFORMANCE

It is usual that the speed at each stage of the packaging line increases as you move down the line. This gives the capability to clear any up-stream backlogs. (You can't pack what hasn't been filled/labeled). Typically, the labeling system needs to run faster than the filling process, but still slower than the packing process.



AVAILABILITY INFO

VIEW NEXT PAGE



AVAILABILITY

The main reasons for Availability Loss are unplanned stops (such as breakdowns or product/label jams) or planned stops (for example, changeover of products or labels, or planned maintenance). When the machine stops, productivity takes a dive:



UNPLANNED STOPS

This is the worst type! Too many pharmaceutical manufacturers are living with unreliable labeling systems, just accepting that the machine stops from time-to-time, containers fall over and labels jam. A quality labeling system that is properly designed, built and tested for your application can help you avoid these common issues.



OUT-OF-SPECIFICATION PRODUCTS

Vision systems and sensors can be used to automatically detect a misprinted label, a missing label on a product or a missing product from the conveyor. Don't want to stop the labeling system? Automatic systems track and reject out-of-specification product, and automatic label removal systems can remove out-of-specification labels from the web before they are ever applied to a container. Such automation can help achieve high levels of quality without compromising on machine performance.



NON-STOP LABELING

Changeover of labels – and removal of waste label web – are necessary activities when running a labeling system. But of course, if the same type of labels are used, you don't necessarily have to stop the line to carry out these changeovers. Systems for splicing a new reel of labels to the previous one, or auto-changeover labeling heads, provide for non-stop labeling.



PEOPLE

Other important elements to consider are the operators and maintenance team – they appreciate a machine that is straightforward to set up, operate and maintain. Effective training of operators and maintenance teams helps to maintain Quality, Performance and Availability of the labeling system.



FAST CHANGEOVERS

Changeovers to a different size, shape or type of label and/or product require quick, easy and repeatable changeover of machine settings (recipe settings and mechanical changeover). An understanding of the range of label and product combinations allows an experienced Labeling system supplier to optimize the process to suit your specific application.

TO SUMMARIZE...

In order to maximize the productivity of your labeling process, you need a system that is right for your specific requirements, as well as one that is reliable, easy to use and maintain and easy-to-operate at the required labeling speed. Such a system must allow for fast changeovers between products and labels, and perhaps most importantly for pharmaceutical applications, must do all of this without compromising on quality.

If you have any questions about labeling, or are looking for your next labeling system, then reach out to learn more from the experts at Accraply.