



# Offline Label Printing Advantages - Improve Overall Equipment Effectiveness (OEE)

By Michael Mora

The popularity of lean manufacturing has steadily increased since its introduction by Toyota in the early '90s. Many organizations across various industries have adopted these best practices. In particular, pharmaceutical manufacturing has embraced lean principles to streamline operations, reduce waste, enhance quality, and bolster competitiveness. However, while traditional lean principles typically discourage batch processes to minimize inventories, reduce waste, and improve quality control, it's vital to recognize that batch processing offers overlooked advantages, especially in the context of label printing.

## Drug Supply Chain Security Act



PRESSURE SENSITIVE LABELERS, LABEL CODERS, AND VIAL CODERS

### ENHANCE SECURITY AND TRACEABILITY

As the Drug Supply Chain Security Act enters its final phase, aiming to enhance the security and traceability of prescription drugs in the pharmaceutical supply chain, manufacturers are grappling with disruptions on their primary manufacturing lines. The DSCSA mandates that pharmaceutical manufacturers serialize prescription drug packages, each requiring a unique product identifier, including a serial number, for tracking and tracing. This presents the challenge of encoding more information than ever and conducting extensive inspections, often leading to machine stoppages, and rejected products.

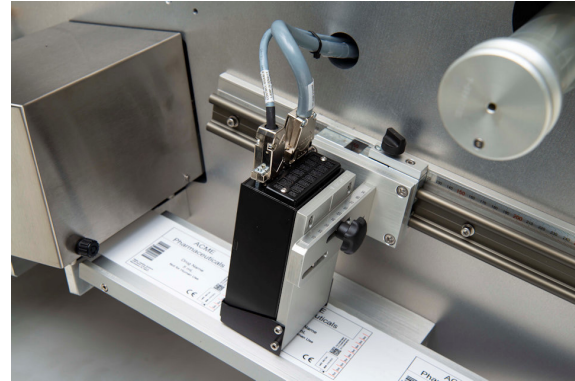
### HOW CAN WE IMPROVE OVERALL EQUIPMENT EFFECTIVENESS (OEE)?

Many manufacturers are now turning to their OEMs with a fundamental question: How can we improve Overall Equipment Effectiveness (OEE)? One solution lies in offline label printing, which can operate independently from the main production line, reducing disruptions and enabling continuous production for maximum output. Offline processes also offer superior quality via high resolution inkjet systems with advanced inspection techniques like the line scan camera. The line scan camera consists of a linear array of light-sensitive sensors (pixels) that capture one line of the label at a time. It is synchronized with the movement of labels on the carrier liner, ensuring that each line is inspected sequentially. This capability empowers manufacturers to detect and rectify defects before they reach the final assembly stage, significantly reducing waste and rework.



### OFFLINE LABEL PRINTING

Offline label printing additionally presents an upfront capital expense advantage for manufacturers with multiple label heads. It eliminates the need to install a coding system on each, streamlining resource allocation and promoting cost-effectiveness. Offline processes facilitate simplified testing and development of new label artwork or validation of new materials without disrupting ongoing production.



AUTONOMY® DIGITAL LABEL PRINTER

In summary, integrating offline processes into manufacturing - particularly with drug labeling - offers numerous advantages, including increased flexibility, enhanced quality control, reduced downtime, and improved efficiency. Manufacturers can strategically incorporate these processes to optimize their production operations and swiftly adapt to evolving market demands.

### FOR QUESTIONS

For more information on how offline printing might benefit your process, contact WLS.

#### ABOUT WLS

*Weiler Labeling Systems is an industry-leading designer and manufacturer of high-speed rotary and in-line trunnion labeling machines and serialization and coding solutions for the pharmaceutical and medical packaging markets. With nearly three decades of experience in providing labeling, coding, inspection, and precision-manufactured systems, WLS is at the forefront of delivering customized solutions backed by a culture of unwavering customer care. As part of the ProMach Pharma business line, WLS helps our packaging customers protect and grow the reputation and trust of their consumers. ProMach is performance, and the proof is in every package.*