MANUFACTURING

EPICOR

Digital Transformation Outcomes

3 Examples of Real-World Results Using Connected Process Control

INTRODUCTION

In the world of modern manufacturing, the strategic application of digital process control has proven to accelerate real improvements on the factory floor. We'll showcase how three companies leveraged Epicor Connected Process Control (CPC) software, offering insights into their specific use cases and implementation, as well as their outcomes.

From standardized workflows, to connected IoT devices, and data-driven decision-making, we'll review the results achieved by each company and get a feel for how Connected Process Control is reshaping the manufacturing environment.

Case Study #1: Leveraging Data for ROI and Asset Allocation

The Client

Industrial Pump Manufacturer

The Problem

The company had two areas they were focused on for improvement needs, one being assembly benches and the second being their kitting cells. Their production model involved primarily manual processes and paper instruction, which provided no control of the process. This resulted in high failure rates in testing, which led to excessive product rework. They were also incurring excessive time and labor requirements through their kitting cells. While the engineers had a theory on results and corrective measure needs, they lacked data insight and documentation to validate those theories.

The Solution

Set up a prototype bench with Connected Process Control, including connected tools, for operator guidance and quality monitoring. By leveraging the collected analytics, the engineers could prove their theories, create a business use case to extend not only software usage from the prototype bench to production cells, but for additional IoT devices as well. Additionally, they leveraged CPC in a kitting cell, starting with a small section of bins to establish time for picking of components. Again, using the collected analytics to measure productivity gains for the business case enabled them to cost-justify implementing pick lights across kitting cells.

The Results

- Records were easily generated of both historical and real-time data, providing new insight into average takt times, rework metrics, and quality reports.
- The system yielded significant reductions in rework and labor costs, with a subsequent increase in first time quality (FTQ).
- The kitting cell experienced an almost 45%-time reduction when pick lights were added.
- Consequently, the customer was able to use the system to justify cost spend and the business use case.
- Because they now have 100% historical process data, it is easier for them to validate additional use cases moving forward.

Case Study #2: Addressing Training Burden for New Hires and Existing Operators

The Company

Electronics manufacturer

The Problem

The company was struggling with a costly and consequential training burden, including long training times that often resulted in a 35-to-40-day period before new operators were proficient enough to hit expected takt. Also, reskilling existing workers to takt when there were long periods between repeat orders required excessive time. All of this was complicated by (and perhaps contributing to) a high level of employee turnover.

The Solution

Replace paper-based training with digital work instructions, enabling strict linear process control based on the product. This walked new hires or reskilling of operators through the process of only the product they were working on at that moment, based on their skill level. Utilizing analytics, the manufacturer could then determine production readiness and adjust skill levels as necessary to be able to move operators throughout the assembly area and advance to more complex products.

The Results

- An 80% reduction in training times for new hires. Manual, paper-based training that previously took an average of 35-40 days was replaced by digital training that reduced it to an average of 5-7 days.
- An 80% reduction in training times for existing operators for reskilling. Average training time decreased from 4-5 days down to 1 day on average.
- The customer was able to record real-time training data with average takt times.
- By adding CPC, they were no longer dependent on senior, veteran operators to run certain products. Digital training enabled new hires to handle more complicated processes in the manufacturing environment in a much more condensed time.

Case Study #3: Increasing Throughput

The Company

Electronics manufacturer

The Problem

The company had little-to-no control of its existing production process, with operators commonly assembling the product as they saw fit. Time tracking was done by hand, with a stopwatch, which resulted in inaccurate readings and high fluctuations. Consequently, when the client was bidding on a high-volume project, they didn't know for sure if they could deliver in the expected time window. They were given a small pilot run of the product to prove they could meet their customer expectations.

The Solution

Implement Connected Process Control, creating a strict process flow with operator guidance and real-time data capture and analytics. CPC provided management with exact details of time and quality through the pilot build order. Using the analytics, they were able to create a report showing what their true takt times were, along with a quality summary.

The Results

- The company was bidding against two competitors for the project. The customer had intended to divide the contract amongst 2 of the 3 bidders because they did not expect anyone to be able to hit their production expectations. By putting in strict process control for the pilot build, the company became so efficient that they won the entire contract.
- The company was able to secure the entire contract, showing their customer detailed build times and analytics. When visiting the factory, they were also able to showcase their modern production environment with digital screens at each bench with operator guidance. Showing how the quality standards were met and measured delivered a "prestige" factor that impressed the company's customer and aided in the decision to award them the contract.
- ROI analytics revealed that the improvements the client made were lasting and substantive. A hoped-for 10% increase in throughput and $1 million in annual savings was shown to be a 38% increase and $3.8 million estimated annual savings.

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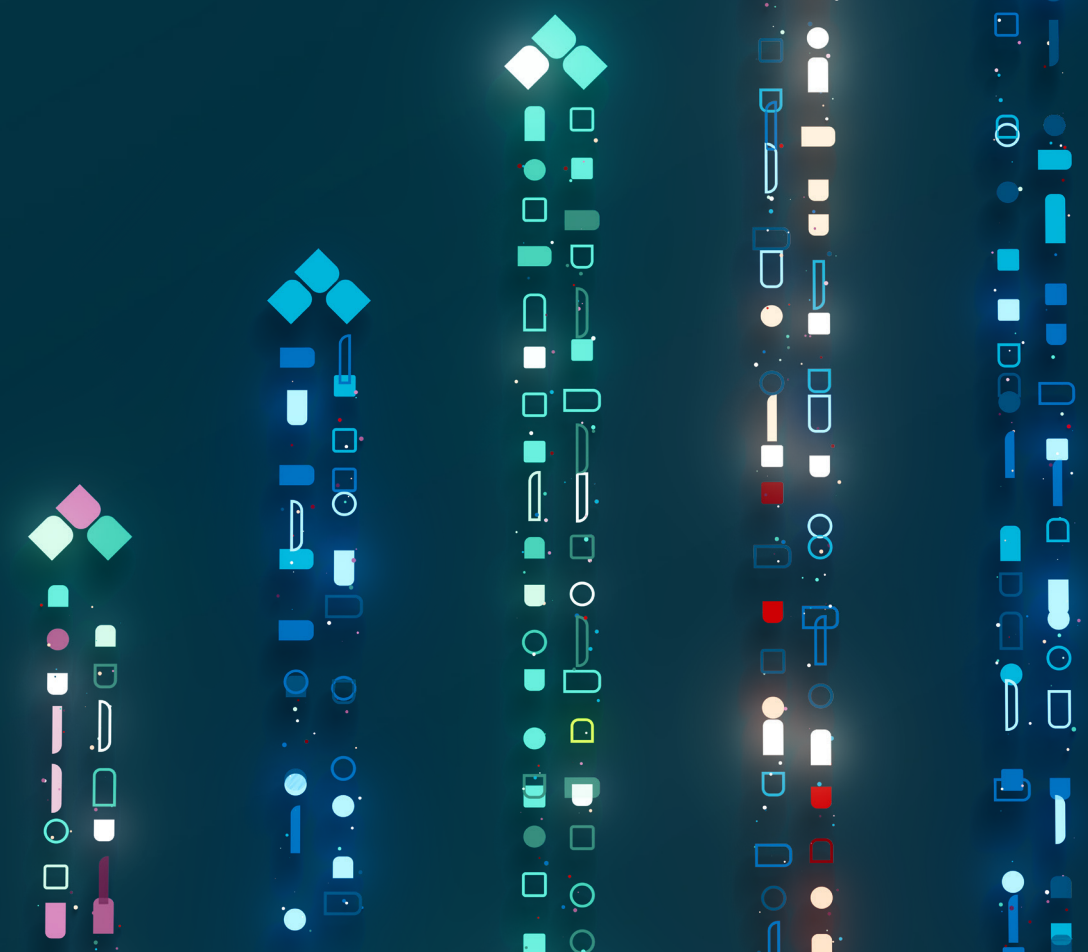

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