## **CPICOR**

## Four Steps to Accelerate Training & Onboarding with Digital Work Instructions

Quick Tips for Digital Transformation

## **The Problem**

### Staff shortages, high turnover, and long training and onboarding timeframes continue to drive up labor costs and hinder efficiency

At a time when manufacturers continue to invest in and leverage exciting new technologies, one of the spaces where even forward-thinking tech adopters often lag behind is in their ability to address structural labor challenges.

The growing skills gap continues to keep the pressure on. An oft-cited 2021 study from Deloitte and The Manufacturing Institute forecasts that the manufacturing skills gap not only isn't going away, it's getting worse—to the tune of a projected 2.1 million manufacturing jobs going unfilled by 2030. With 75% of manufacturers surveyed expecting to continue to have hiring and retention struggles in the near future, the situation is likely to get worse before it gets better. It is also creating a kind of self-reinforcing cycle, as staff shortages mean manufacturers have limited bandwidth for job shadowing, further slowing the onboarding and training process. Unfortunately, traditional paper-based training in a classroom setting can take weeks to complete. Work instructions are frequently not up to date and are time-consuming, tedious, and costly to adjust. Antiquated training frameworks do not do a good job of preserving the tribal knowledge and best practices that takes place on the plant floor, and that knowledge is often lost as employees retire or leave. And because real-world performance can be difficult to replicate with paper-based training, it can also be exceptionally difficult to determine employee readiness once training is completed.

None of this is breaking news to anyone who works in manufacturing. What is needed is a way to get new hires onboarded quickly and to upskill existing employees effectively and efficiently.



## **The Opportunity**

### Better and faster training options are available right now

The good news for manufacturers facing labor challenges is that those much-needed new tools already exist—at least for manufacturers that have completed a digital transformation. The digital work instructions that are part of the constellation of connected process control technologies manufacturers are using to make their production environments more efficient, consistent, flexible, and transparent can also be an outstanding training tool.

When digital solutions are initiated at the training level, whether in a dedicated space in the production environment or in structured training areas such as a classroom, tech lab or off-site facility, learning can be expedited and be made both more effective and more fulfilling. With training tools based on digital work instructions and connected process control platforms, training programs are dramatically easier



to implement and to keep all training materials up to date. Training is not only more cost-effective, it can be dramatically more effective overall, as it becomes significantly easier for employees to learn and retain information. Hands-on learning with prompted visual guidance has shown to be an order of magnitude more effective in training scenarios. In one case, a client reduced their average training time for new hires from two weeks to two days.

New hires are not the only beneficiaries of training modules that utilize digital work instructions. These systems can also make retraining and upskilling much easier, enabling experienced operators to continue building and expanding their existing skillsets in a structured manner. Operators can test on new processes or products with hands-on training and digital guidance from systems that can verify that each step in the training process has been completed before moving forward. Training can be conducted offline through established courses or programs and can be connected to appealing financial and professional incentives that boost retention and lead to workers who feel both valued and empowered.

When implemented correctly, the result can be a potentially significant increase in training effectiveness, efficiency, and productivity for new and existing hires—not to mention greatly improved employee satisfaction and retention metrics.

## **The Solution**

# Accelerate training with digital work instructions and connected process control

Digital-work-instruction-based training programs can be designed and deployed to virtually any type of training or scenario where new or expanded skillset are beneficial. Here are the four steps required to make that happen in an effective and expeditious manner:

#### Step #1: Properly Define the Process

As with anything, starting with a high degree of granularity and breaking a training program down into small and easily achievable steps is a great place to start. Manufacturers should define different pathways through those steps that are specific to different trainee levels. A new hire will likely benefit from the fully detailed process, while experienced operators can often benefit from a less granular process, by only requiring value added interactions with the system. These different skill levels can be defined and adjusted in the user settings, making it possible to go from one user to the next without ever having to touch the configuration again. Station access can be granted at a task level, further streamlining training for different skill levels and capabilities. Because training is completed in the same ecosystem, new hires more readily translate

their newly acquired skills to the production environment, and experienced operators can immediately recognize how their training will translate to the plant floor.

#### Step #2: Digitize Work Instructions

When digitizing work instructions, it is essential to recognize what you are giving your people and stick to the following best practices:

#### Less is more

Use images and visual guidance as much as possible. Images can be extremely effective at conveying a great deal of information that trainees/ operators can grasp clearly and quickly. But using imagery is not a cure-all: the wrong image can be just as confusing as poorly worded text. Avoid depicting complex engineering drawings or schematics. Instead, look to present operators with a simple, powerful image that clearly describes the task at hand. The goal should be to achieve the same level of visual clarity and easy-to-follow instruction that can be found in a LEGO instruction manual or IKEA assembly pamphlet.



#### Value simplicity and clarity

It isn't just the imagery that should be clear and concise. Each step in the work instruction should be clear, comprehensible, and complete.

### Recognize the difference between engineering and manufacturing

One common point of friction in digitizing work instructions is the frequent disconnect between engineering and manufacturing. Recognize that disconnect and think like a manufacturer. Avoid complex schematics or images and instructions that include extraneous or overly technical details.

#### Step #3: Connect IoT Devices

Although not mandatory, connecting IoT devices into your training can assist with training the operator through a stricter process. This eliminates the need to pull top people away, such as line leads or senior operators to assist in training—saving money and boosting productivity in the process. In a connected training ecosystem, operators don't have to make a series of difficult or complex decisions because the automated system guides them. The device is not enabled until the step is needed and then disables when the step is completed, and the system verifies that all specs and tolerance levels have been met.

Device integration is also the key to ensuring quality, by collecting data at the point of use. Traditional manufacturing operations have many quality checks and gates built into the process to monitor and assess quality standards and compliance. With IoT devices connected, the same transparency is applied to training performance and quality outcomes, consistent with poka-yoke principles of refinement and mistake-proofing.

#### Step #4: Visualize Data

With the automated and detailed data collection available through connected process control technologies and digital work instruction-based training, management can get a significantly more sophisticated understanding of how someone is doing during the training process. It is possible to monitor and report, with precision, how long it takes to perform specific steps and where any errors or problems may be occurring. With detailed reporting, trainers and management can use these analytics to advance an employee's skill level tags and accelerate training at the appropriate time. They can also refine required process steps based on skill level, and even modify training procedures when needed.

In other words: this level of data-driven visibility into the training process doesn't just make digital work instructions a powerful mechanism for problem-solving and operational refinement, but also for precisely calibrated training programs. Manufacturers with access to connected process control technologies can design and modulate training based on need and capabilities an extraordinary new level of customization that leads to ongoing optimization. As training performance increases and variability decreases, manufacturers can steadily reduce work instruction granularity to enable operators who have proven that they can walk, learn how to run.

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## **The Summary**

### Setting operators up for success with highly effective new training tools

With high turnover and rising labor costs making recruiting and retention a constant challenge, digital work instructions can be a genuine game-changer as an invaluable training and onboarding tool. The same tech platform utilized to great effect in production environments can be readily leveraged for a wide range of training



applications. The granularity, detail, and customizable step-by-step walkthroughs are ideal for fast and effective training, often leading to dramatic improvements in faster onboarding and improved productivity metrics.

Most importantly, upgrading training sets operators up for success from the get-go. Whether training new employees, retraining employees that haven't ran a specific product in some time, or upskilling current employees, step-by-step visual guidance and connected process control supports faster learning and improved performance.

Knowing that products are built right every time boosts operator confidence. Automated data collection across your operation provides the insight you need to improve training materials, process execution, and operational efficiency. And, in an industry where operator performance is one of the great variables and where mistakes and inefficiency can be costly and consequential, that represents a powerful and potentially game-changing upgrade in training and upskilling capabilities.

In that context, it's not hard to understand why leading manufacturers trust Epicor to help drive their digital transformation. Request an online demo today to see how easy it is to get started.

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