Bourn and Koch

Converting knowledge into standard work using industry 4.0

Rockford, IL | 78 employees | *www.bourn-koch.com*

Situation

Tribal knowledge is a risk in any organization. Bourn and Koch understand this and took action to standardize their manufacturing build processes to meet customer satisfaction. With an aging workforce teetering at the retirement door, leadership at Bourn and Koch realized the risks they faced with the lack of well-documented, standardized key steps for their manufacturing build process. They needed to find a way to continuously transfer knowledge to the next generation of workers before the retirement risk became the reality. As Todd Wells, the Director of Operations, puts it "When tribal knowledge is the mode of operation, cost variances are greater, and the retirement cliff risks are greater because the knowledge is difficult to transfer." The standard work process they did have in place was not scalable and limited to only one person managing the application and data. They needed something more robust and budget-friendly and wanted to capture the process digitally.

Solution

Todd Wells and his team met with IMEC in August 2020 to explore how Industry 4.0 technologies can make their efforts in standard work more efficient and scalable for the future. IMEC began the process with an analysis of various hardware and software solutions to determine which would best suit the needs of the organization. After eight months of careful evaluation, the team decided on Tulip as the host platform with three built-in applications, along with customized support from Clear Process Solutions. Two months later, they successfully implemented a stable, scalable software that offers efficiency and an error-proof approach to capturing the key steps in build processes. Working with IMEC on this project, Bourn and Koch was able to qualify for an Advanced Manufacturing Technology Services grant, funded through IMEC and the MEP National Network.

Having recently completed a Training Within Industry program with IMEC, a software like Tulip supported by Clear Process Solutions, made sense as a logical solution. Wells states, "It is my opinion that the applications are a great compliment to the TWI program, specifically the Job Instruction (JI) module." Now the team can easily transfer knowledge, upskill current employees, and train new employees. The three applications allow them to capture text, photos, and video to properly explain the steps involved in completing a variety of manufacturing operations, ensuring the build process is standardized and streamlined.

Completing this project not only solves the short-term challenges of transferring tribal knowledge before seasoned employees retire and implementing a database with a standard approach to capture work processes, but it also lays the foundation for communicating how work is done for future initiatives while supporting the company's current apprenticeship program. According to Wells, "In the medium to long term, this is a game changer in our industry by being able to provide professional training and development while leveraging current technology and tools. The workforce of tomorrow will be attracted to these tools. Everyone wants to succeed and do well; with proper development and effective training our employees of tomorrow will come up to speed faster and better than ever before."

Employees at Bourn and Koch have embraced the new software, even the older generation of workers. So far, two of the most senior assembly leads have already standardized six build practices using the software. The team has already surpassed their year-end goal to convert a specific number of tribal practices into standard work, thanks to employee buy-in.

Results

- **Anticipated New Sales: $500,000**
- **Anticipated Retained Sales: $500,000**
- **Anticipated Cost Savings: $32,000**
- **Anticipated New Investments: $12,500**
- **Jobs created and retained: 2**

"With the TWI skills and three computer apps, our expert machine tool buildersare able to take advantage of a proven training methodology and Industry 4.0 technology to convert their otherwise tribal practices directly into a written ruleright on the shop floor. They now generate standard work without the need for support from technical writers or other office staff. Without these advancements, the knowledge would otherwise have to be relearned post-retirement."

Todd Wells, Director of Operations – Bourn and Koch

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