

# Case Study

Nearly **2K parts assembled error-free**, enabling HJI to secure Tier 1 auto OEM contract



## POWERFUL RESULTS IN NINE MONTHS:

12 workstations connected

151 workflows digitized

1,685 units shipped, all error-free

The backbone of the American supply chain are mid-sized factories. However, many of these factories still rely on paper-based methods to manage their operations. Without real-time interactive guidance, complex processes are hard to execute well and will produce quality concerns. To address these challenges, factories need technology designed specifically for them, enhancing productivity and quality while effectively training their workers.

HJI Supply Chain Solutions is a Tier 1 and Tier 2 supplier to leading automotive manufacturers including Ford Motor Company, Yanfeng, and Sumitomo. Like many other mid-sized American manufacturers, HJI is a multi-generational business. Additionally, as a Black and woman-owned business and a member of the National Minority Supplier Development Council, HJI takes a keen interest in prioritizing diversity to support its goal of being a local manufacturing leader in Louisville, KY.

Last year, HJI secured a milestone contract to supply replacement

headliners for another Tier 1 automotive OEM. Tier 1 suppliers are direct suppliers of the final product, whereas Tier 2 suppliers are suppliers or subcontractors of Tier 1 suppliers. To meet the new production and quality demands of the contract, HJI implemented Pico MES to error-proof its shop floor operations and consistently build parts in high volume, and ultimately expand its business growth.

### CHALLENGES

**A new type of assembly:** The assembly of headliners is a complex manual process of over 30 steps, and each car model has significant variation. One of the car models has around 20-30 variations alone.

“This was not a particular commodity that anyone from within our factory had experience building. So we had to learn ourselves, and then train new operators on the task,” said Maurice Stallard, Director of Engineering and Manufacturing for HJI.



A headliner is the material that covers the ceiling of a vehicle, but it does more than hide bare metal with color-coordinated soft fabric.

The headliner assembly process also requires careful instructions and time specifications. For example, “Apply sealant and hold down for 10 seconds to let the glue set correctly.” Mistakes are easy to make without automated error-proofing built into the process.

Ensuring a factory’s entire team is trained to the same standard, and ensuring that the standard of quality is maintained in high volume is a

challenge for any growing manufacturer. HJI knew that quality and consistency would be essential for continuing its partnership with the auto giant – and securing other potential high-profile contracts. “We knew that we had to demonstrate consistent processes to lock-in our customer’s confidence early on to secure any future contracts,” continued Stallard.

**Tracing part numbers:** Former suppliers to the auto giant delivered incorrect parts, often due to discrepancies in part numbers differing by just one or two digits. The wrong parts would then be placed on the wrong finished goods. “Imagine a part number that’s over ten digits long, and manually tracking everything in a binder. We knew we didn’t want to do that,” shares Stallard.

*Operators can also take pictures of the fully assembled product before it leaves the factory and provide notes and annotations. This gives both HJI and the end customer transparency in the assembly process.*



won this large automotive contract. It helped alleviate a lot of initial concerns from our customer,” said Stallard.

### IMPROVING THE WORKER EXPERIENCE

The digital work instructions empower employees to perform each step of the assembly process with confidence, enhancing quality and productivity. Its interactive visual guidance significantly reduces new operator training time and simplifies the training experience.

“Pico MES is the perfect trainer. It helps us create perfect products,” said Stallard. “We hand an operator a tablet, they follow instructions, and they don’t make mistakes.”

HJI’s floor managers can also oversee tasks in Pico MES, monitor preparation

### WHY HJI CHOSE PICO MES

#### Eliminate variation

The digital work instructions help set a consistent standard of quality in HJI’s assembly operations. The quality of each product is predictable.

#### Robust traceability

Easily trace products by serial number, operator, workstation, and more.

#### Easy to train new operators

Digital work instructions are easy to follow and everyone is trained to the same standard.

assembly processes, ensuring high-quality and accuracy throughout.

“There isn’t a training gap; the quality of work we produce is no longer dependent on the trainer or trainee because the operator guidance in Pico’s software eliminates variability,” shares Stallard. Operating in the background, Pico MES serves as a gatekeeper and a second pair of eyes to ensure that all headliners are assembled correctly.

HJI also feels confident in its robust traceability across its assembly lines. Every part is assigned a serial number which can be traced back to the exact operator, workstation, and parts. By easily tracking each part’s journey, HJI has reduced scrap and rework. “We’re hitting our quality metrics, ensuring that we deliver products our customers feel good about selling,” said Stallard.

### STARTING OFF ON THE RIGHT FOOT

Many mid-sized factories use manual or lower-tech assembly methods and consequently endure bruises along the way. HJI knew that these assembly methods would not produce the results required by this automotive OEM and that implementing Pico MES would allow them to meet high-yield, high-quality production standards.

“Demonstrating automatic error-proofing capabilities is one of the reasons we

times, balance workloads, and address any delays or issues promptly, effectively enhancing its operational visibility. In turn, HJI has reduced mental strain, stress levels, and manufacturing errors among its employees, leading to higher job satisfaction and lower turnover rates.

### OUTCOMES IN NINE MONTHS

Through Pico MES’ digital work instructions, HJI established consistent

### EMPOWERING THE SUPPLY BASE FOR SUCCESSFUL OUTCOMES

HJI overcame many common assembly and training challenges that helped solidify and grow its business. From improving quality control and standardized training to enhancing employee satisfaction and operational efficiency, Pico MES has become integral to HJI’s operations.



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