



GRAIN TRAILER MANUFACTURER PLANS TO INCREASE MANUFACTURING BY 75% WITHOUT INCREASING STAFF

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Today's manufacturing facilities face a wide range of production challenges, many of which can be addressed through process improvements, engineering improvements, design for manufacturability, and/or automation techniques/concepts that can help streamline the process. Some companies may develop detailed solutions internally and only seek help with implementation while others may not have the expertise in-house to determine the best course of action to meet their business goals. For those customers in the latter category, AMT offers a Current State Manufacturing Analysis (CSMA) to identify possible solutions.

CHALLENGE

Timpte, a commercial grain trailer body manufacturer, was producing 18 trailers a day in their Nebraska facility, running production with a single shift up to 5 days a week. Most of the manufacturing was done in-house, with several feeder lines providing parts to the main production line.

Timpte wanted to dramatically increase production, acknowledging that it was going to be a lengthy process to get the throughput they desired. The company set a mid-term goal of 25 trailers per day and a final goal of 32 trailers per day, all to be completed without increasing headcount. To restate, Timpte planned a 75% increase in production without hiring additional staff.

While Timpte had an internal engineering staff, they struggled with having enough bandwidth to create a workable solution. AMT was hired to complete a CSMA and help Timpte gain an outsider's perspective on their manufacturing challenges.

SOLUTION

As with all CSMA projects, AMT began with an onsite trip to the manufacturing facility. AMT engineers held numerous meetings with all levels of the Timpte staff to understand not only the production and business goals but also the hierarchy of those goals. Additionally, AMT engineers spent two weeks observing and documenting every detail of the manufacturing process. Armed with this information along with 550+ GB of videos and 400+ photos, AMT began outlining the current processes.

AMT analyzed the current process in the main and secondary stations for possible areas of improvement. Automating every task in the process is usually not practical or cost-effective; AMT reviews the entire process in detail and selectively recommends automating where the customer will see the most gain. From the analysis, AMT engineers discovered that the majority of the workforce was concentrated in the first 1/3 of production, which also happened to be the easiest portion of the plant to automate. Adding in robots and automatic drilling, placing incoming parts on dunnage, and placing the trailer assembly on a rail would free up many operators who could then move to areas where automation was much more difficult, increasing the overall throughput of those stations.



RESULTS

AMT presented their recommendations, analysis, and findings to TimpTE basing the recommended solutions both on data provided by the customer and gathered during the onsite visit. AMT engineers analyzed each station, recommending areas of improvement, suggesting changes, and the next steps needed to begin those changes. AMT's suggestions included improvement to the following:

- Drilling/punching operations
- Riveting operations
- Welding operations
- Sawing/cutting operations
- Material handling
- Robot optimization
- Safety
- Ergonomics

AMT prioritized the recommendations in the order that TimpTE would see the greatest increase in production, which was their number one goal. Through this project, TimpTE gained a roadmap to achieve their production and business goals which included learning valuable information about their facility and some much-desired insight on how they can best move forward to achieve their goals.

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