

HOW ONE MEDICAL MANUFACTURER INCREASED PRODUCTION WHILE REDUCING THEIR FOOTPRINT BY 44%.

EXECUTIVE SUMMARY

A leading medical device manufacturer located in North America needed to increase production to keep up with market demands. After evaluating existing production processes, the decision was made to switch from traditional conveyance and begin to incorporate more automated processes. By utilizing the SuperTrak™ Conveyance platform during implementation, not only was the overall system cost reduced, they also successfully reduced their footprint and increased productivity.



ABOUT THE CLIENT

A leading medical device manufacturer in North America. Their original process consisted of two linked processing cells, utilizing traditional conveyance methodology. Nested fixtures interacted with robots to load and unload a part nest to processing stations throughout the system. The two cells were linked with a buffer conveyor between them resulting in a limited amount of decoupling of the two automated processes. Their overall goal was to add an additional line without incurring more space requirements than the initial process.

THE CHALLENGES

As product demand continued to increase, the customer sought to quickly ramp up production but didn't have additional space on the manufacturing floor to add additional machinery in the incumbent design. While willing to invest in automation, the technology had to be flexible enough to adapt to their business needs and show a greater ROI than the initial process.

THE SOLUTION

By combining two critical processes and maintaining a line rate of 60 PPM, the customer could reduce the footprint of their overall process to make room for additional lines, thus increasing output. As they continued to develop their processes and production rates stabilized, they realized the need for higher speed operations and ultimately invested in SuperTrak GEN3™ as the primary foundation for their automation. The flexibility of the SuperTrak platform allowed the customer to ramp up production as needed and control their capital expenditures. The individual shuttle control, fast indexing time, and precision positioning control, combined with the expertise and experience offered by the SuperTrak team made this approach possible.



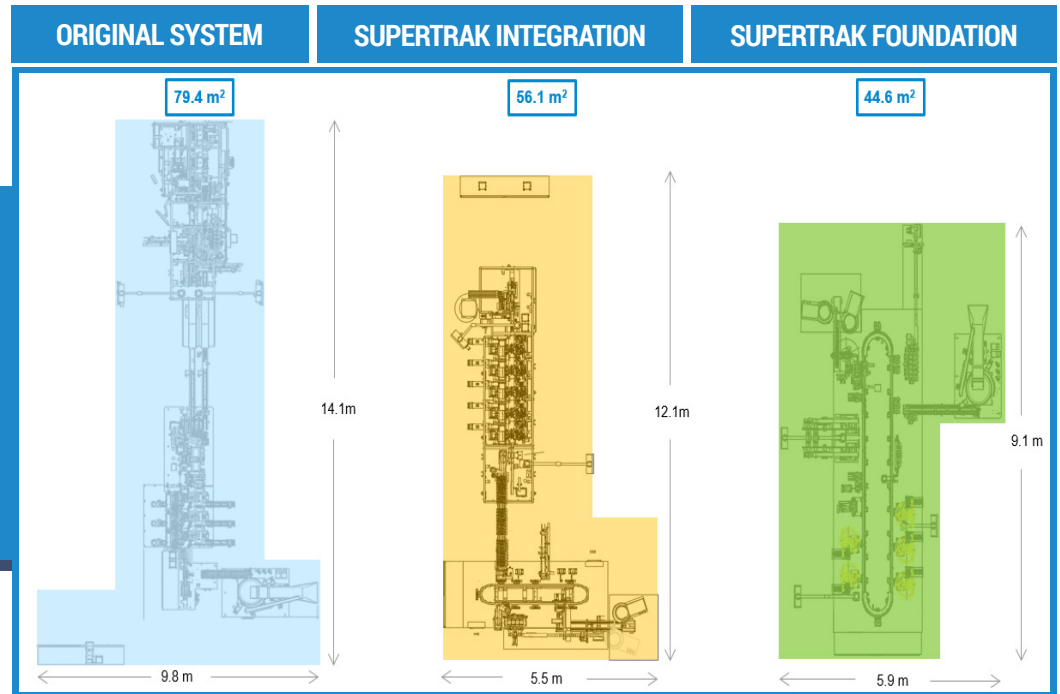
RESULTS

After final implementation the customer saw a 44% reduction in floor space with the new cell when compared to the existing equipment. The initial integration phase, using the SuperTrak Conveyance platform, allowed the manufacturer to decouple two cells. In doing so they were able to accomplish two main things. First, the asynchronous capabilities of the platform allowed for greater time in process equaling more throughput and resulting in increased overall equipment effectiveness (OEE) of the system by 5%. Second, it allowed the customer to eliminate the need for redundant stations and realize a

30% reduction in floor space. Individually controlled shuttles allowed for varied part spacing throughout the line which ultimately increased the productive time of each station.

Utilizing SuperTrak GEN3 as the sole foundation for their processes resulted in a further 14% reduction in system size. The reduction was achieved by further eliminating additional redundant equipment and achieved the primary goal of increasing throughput and reducing the overall system cost.

AS THE OPERATIONS OF THE CUSTOMER CONTINUE TO GROW THEY HAVE SINCE IMPLEMENTED MORE AUTOMATION CELLS UTILIZING SUPERTRAK CONVEYANCE PLATFORMS.



- Traditional Conveyance Design
- Cell 1 & 2 Buffered
- 30% Floor Space Reduction
- 5% OEE Increase
- 14% Floor Space Reduction
- System Cost Reduction

SQUARE FOOTAGE REDUCTION WAS THE PRIMARY TARGET OF THIS IMPLEMENTATION, HOWEVER, THE SUPERTRAK™ CONVEYANCE PLATFORM YIELDED BETTER PERFORMANCE IN THE FOLLOWING AREAS AS WELL:

1 Transport Precision

The original system had to be mechanically docked at working stations for location. Over time, these locating features began to wear resulting in the loss of location accuracy. The SuperTrak Conveyance implementation allowed for precision repeatability of stop locations for the shuttles and eliminated the need for the mechanical stops at processing. With no mechanical mechanism for stopping, the impact of mechanical wear on accuracy is now non-existent.

2 Process Speed

High acceleration, low settling time, and individual shuttle control means that processing stations were now able to be located closer together on the SuperTrak Conveyance platform.

3 Cleanliness

The cleanliness of the new system eliminated the shrouding that was required for the traditional conveyance system. The lack of debris created by the SuperTrak platform minimized maintenance associated with cleaning.

4 Future Flexibility

Due to the high level of control on shuttle motion and modularity of the SuperTrak Conveyance platform, the customer felt confident in their investment knowing that the system could easily adapt to part, process and component changes over time.

5 System Value

The customer quickly realized the ROI in their new system with a 5% OEE increase. Producing higher throughput with a minimal footprint, the SuperTrak Conveyance platform offered the highest value but lowest total cost system.

QUESTIONS?

Call or email us to speak to a member of the SuperTrak team and discover how SuperTrak Conveyance can be used in your applications.

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