



CASE STUDY

DCS Deploys DATUM at Superior Communications



Superior Communications, a North American distributor of mobile accessories, has relied on DCS for many years to help its distribution operations keep pace with rapid growth. Most recently, DCS deployed DATUM, its proprietary warehouse execution system (WES), at the automated facility. DATUM enabled Superior to significantly increase order fulfillment efficiency, improve accuracy, and expand hardware functionality and operational visibility without replacing their current warehouse management system (WMS). Commissioning was completed over a five week span while Superior's three shifts continued to fill orders around the clock.

The Challenge

Superior Communications' automated facility in Tennessee fills orders for mobile phone peripherals and accessories, shipping them throughout North America to replenish retail shelves.

Business is booming, said Chad Sheppard, Superior's Vice President of Operations "Today we're handling ten times more orders than we did just five years ago."

With consumers upgrading their mobile phones less often, stores must stock a much wider range of accessories. As a result, the number of stock keeping units (SKUs) that both Superior and its retail customers must maintain in inventory has grown significantly. That's driven Superior to double its SKU count.

Based on the high growth and increased SKU base, Sheppard and his team identified several processes they hoped to improve. These included expanding the functionality of their current warehouse management system (WMS) so the operation could analyze order data, increase work-in-process visibility, build dynamic pick waves, and provide in-depth operational insights.

Additionally, their existing conveyor hardware utilized inflexible programmable logic controller (PLC) logic. Managers couldn't make changes to replenishment tasks or multi-tote order identification. Further, the warehouse control software (WCS) that directed the facility's light-directed picking system's operation could not incorporate additional functionality.

For help, Superior connected with DCS.

The Solution

Superior's team initially suspected that they needed a new, more robust WMS that offered more features. Instead, DCS was able to implement its proprietary DATUM warehouse execution system (WES) to provide the functionality the company sought. DATUM WES blends warehouse control with tasks traditionally handled by a WMS. It was engineered with features that meet the scalability, availability, flexibility, and reliability needs of operations with increasingly complex fulfillment processes.

To address Superior's replenishment challenges, DATUM tracks all inventory through pick and reserve storage locations, collecting and analyzing movement data. Through dashboards, DATUM provides visibility into which SKUs and locations stock out most often. Replenishment requests are captured and transmitted in realtime, allowing them to be addressed much faster.

"The replenishment module in DATUM is really robust, and it's helping us be more proactive and responsive," said Sheppard. "With DATUM we have a dashboard that shows every aspect of what's happening with replenishment in detail. That allows us to manage the process tactically and get the SKU back into the picking process as quickly as possible."

Additionally, DATUM gives Superior's team accurate, real-time views of workflows throughout the entire operation. Via monitors in every picking area, supervisors can quickly see how many picks are required in each zone.

"Before, we didn't have the tools to drop work to the floor efficiently or to know where to assign labor. With DATUM, we have monitors that give us a complete dashboard view of every aspect of what's happening in that area. That lets us put people where we need them," he explained.

Further, DATUM allows Superior to automatically release work in waves — a new capability for Sheppard's team. That allows Superior to reprioritize orders or adapt to changing workloads by reallocating labor as needed.

DATUM also replaced the WCS that previously controlled the light-directed picking system, integrating directly with the controllers and each picking module. The software has simplified the process of adding another tote while picking. Now, a scan of a barcode conveys to DATUM that the first tote is full, and that another tote is needed. The software automatically releases a second tote and ensures it remains tagged to the specific order.

Additionally, DCS integrated DATUM with the existing conveyor PLCs, which simultaneously received their own upgrades and logic modifications. Between the DATUM interface and the new conveyor logic, Superior attained both visibility and direct control. The changes enable Superior's team to view graphical depictions of conveyor and related equipment. Dashboard displays pinpoint alarms, faults, or errors in real-time, allowing managers to prioritize areas needing corrective action.

In the packing area, DATUM consolidates multi-tote orders to ensure they arrive back-to-back at a designated packing lane. This eliminates intermixing of different order totes. The WES also balances work across the different lanes.

The Results

Because Superior's facility needed to maintain operations during DATUM's deployment, all testing and commissioning occurred during a four-hour window between first and second shifts. DCS was able to complete the project in just five weeks.

"We were able to give the DCS team immediate feedback about what was and wasn't working during our daily wrap-up," Sheppard said. "We would just chip away and work through all of the issues, none of which were ever major. They did a fantastic job."

With DATUM, the facility has no immediate plans to update its WMS, particularly since the WES has generated numerous increases in order fulfillment efficiency and accuracy, reported Sheppard.

"The biggest thing DATUM does is give us the ability to plan our labor better on the floor and manage work better. We're picking at a 40% higher rate than before because we can quickly see where to assign associates," he said.

Modifying and simplifying the process to add an additional tote to complete an order eliminated nearly all errors associated with picking, Sheppard continued. "From a benefit standpoint, that was probably one of the biggest improvements we experienced as far as order accuracy and completeness."

Now that all order totes arrive together in the same lane, Sheppard reported a 20% improvement in pack-out rates. To further improve packing throughput and facilitate even faster consolidation, Superior added a handful of new pack stations. Should the operation need to add more automation moving forward, DATUM can easily integrate the new technologies.

"It's obviously easier when you can do more with less, and it's been proven that we can do more with DATUM," he said, adding that the WES simplified the operation's processes end-to-end. That allowed much faster training of new hires and boosted throughput and productivity across all three shifts.

Ultimately, the operation's capacity is substantially higher than it was before implementing DATUM WES, concluded Sheppard. "We've had really, really good customer service with the DCS team. They can literally help you figure out exactly what you need to drive your business and save money."