Citadel Computer Corp.
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'Smart' forklifts speed production

Here's what happens when a computer comes along for the ride

The good news is that the orders are coming in all day, every day. The challenge is that every order requires a different setup: different raw materials, different specifications, different final product, different loading dock. And, of course, every customer is in a hurry.

What's a production manager to do? In the case of New England Sheets, a manufacturer of corrugated fiberboard sheets, it's . . . relax. The company's new production plant is designed to expedite every order, in order, with a tracking system that's second to none. The result is impressive efficiency: Most customer orders are filled in less than 12 hours, with virtually no errors.

How do they do it?

This kind of "on the fly" production is only possible with sophisticated material automation. Run on rugged Citadel NetFORCE computers, the proprietary application automates the staging of raw materials and speeds the distribution of finished products. The result is a visibly smooth operation that maximizes the efficiency of New England Sheets' major asset: a 112-inch United Marquis corrugator, a powerful and flexible piece of production equipment.

Here's how the corrugation process works:

- 8,000-lb. rolls of raw paper stock are stacked, two stories high, on the input side of the Devens, Mass., plant.

- Forklift drivers, working from computerized work orders, load the specified rolls of paper, order by order, into the input end of the corrugator machine. They track each order with bar-code scanners attached to forklift-mounted NetFORCE computers. The operation is fast moving, with paper stock typically changing 300 to 450 times a day.

- Floor-mounted roller guides feed the 50,000-foot paper rolls into position under the belly of the 150-foot corrugator, looking for all the world like monstrous rolls of film feeding into a camera.

- The corrugator does its thing, feeding two flat outer layers of heavy kraft paper, the "bread" of a sandwich, to enclose a middle layer that is steamed and molded into the familiar fluted cardboard profile. The sheets are then cut to order.

- Forklift drivers on the output end again scan bar codes to identify each completed order. They transport bundles of corrugated sheets to one of 45 loading-dock doors. There, truck containers wait to transport each order to

New England Sheets' customers: manufacturers of corrugated boxes and related shipping containers situated across the Northeast.

Every step of the way, real-time integration of the material-handling process enables production supervisors and quality-control personnel to monitor the plant's operations via smart phones. The computerized setup maximizes speed, accuracy, versatility and efficiency.

Greater flexibility and efficiency, plantwide

The beauty of the system is its flexibility. Naturally, orders vary—from kraft-brown to clay-white paper, from thin stock to heavy, from standard thickness to custom, from standard sheet sizes to extra-wide or long, for example. In the past, New England Sheets was forced to produce these orders in like batches, often delaying certain orders while others sped through quickly. Now the manufacturer can process its orders speedily and sequentially—within hours of their placement.

The system eliminates redundant data entry, as well as the manual labor to retrieve raw material and bundles of finished sheets. Bar-coded material goes in, and bar-coded bundles come out.

Forklift operators can scan and identify both raw materials and finished bundles without having to climb out of their trucks—or even read or interpret the work-order details.

The power of wireless technology

All work orders are delivered across the plant's wireless mobile network—directly to the Citadel NetFORCE computers on each forklift. Once the finished products exit the corrugator, the forklift driver prints a slip of paper: a work-order "traveler." Tucked into the finished bundle of sheets, it travels with the order to its final destination.

"All of this is possible due to the ubiquitous explosion of 'wireless everywhere,' which empowers us to design systems that can run around on forklift vehicles and still stay connected to the manufacturing plant's wireless infrastructure," said Gregory J. Walker, president of Citadel Computer Corp., manufacturer of the NetFORCE computers.

In the race to exceed the expectations of its customers, it's placed New England Sheets squarely ahead of its competitors.

[Maybe include a sidebar listing the specifications of the system? (from your bulleted document)]

[Maybe include a sidebar about New England Sheets (owned by Schwartz, etc.)?]

Possible photo caption: The United Marquis corrugator is more than 150 feet long and can process raw stock to a maximum width of 112 inches. Running at capacity, the behemoth can produce 37,000 square feet of finished corrugated every hour.

Possible photo caption: Each forklift is equipped with a Citadel NetFORCE-12 computer and a tethered laser bar-code scanner.