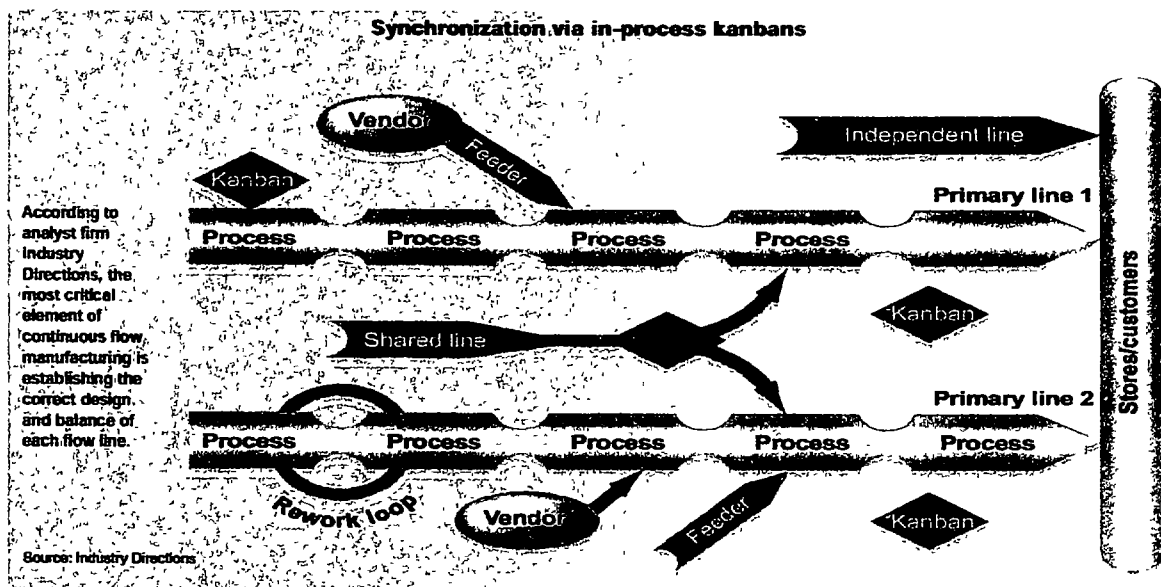


make

Flow is not just a discrete process

Food manufacturer restores order to its plant by going with flow



Anchor Foods has dispelled one of the major myths associated with flow manufacturing: the idea that these techniques only work for assembly processes associated with the building of discrete products.

In exploding that myth, the \$500-million-a-year manufacturer eliminated chronic production bottlenecks that were causing the company to carry millions of dollars worth of excess inventory and also placing a strain on relationships with its customers and suppliers. Based in Appleton, Wis., Anchor Foods supplies ready-to-eat and frozen appe-

tizers such as cheese sticks, onion rings and stuffed jalapeno peppers to restaurants, cafeterias, and warehouse stores such as Wal-Mart's Sam's Club division.

Anchor Foods' business is growing roughly 15 percent to 20 percent per year, but its management questions whether it could sustain that growth if it had not injected flow production principles into its factories. Anchor operates two production facilities: one is at its Appleton headquarters, and the second is in Pecos, Texas.

Make what they buy

Anchor's problems stemmed primarily from its production scheduling process, which relied on demand forecasts that had only a 50-percent accuracy rate. "Our production schedulers never really

knew which items they should be making first," says Craig Elonen, Anchor Foods' master production scheduler. "We were carrying extra finished goods inventory—essentially safety stock—to compensate for forecast errors."

After adopting flow production techniques, Anchor Foods has been able to accommodate its sales growth—and maintain 99-percent on-time delivery rates—while eliminating its safety stock. To achieve these results, Anchor's management had to first accept one simple fact: that a demand forecast, even at its most accurate, is still little more than an educated guess at what customers ultimately will buy.

Elonen says Anchor's long-term (yearly) forecasts generally were accurate, but its short-term forecasts

By Sidney Hill, Executive Editor

(monthly or weekly) literally were wrong half of the time. That meant Anchor was constantly scrambling to secure the right raw materials and juggle production runs to accommodate last-minute changes to orders.

This left Anchor with the choice of facing customers who were irritated at the prospect of receiving orders late, or paying high freight costs to expedite order delivery. Anchor's suppliers also were frustrated because they were constantly being asked to rush orders to Anchor's plants.

No more forecasts

This situation was exacerbated by an inventory management system that was programmed to automatically generate replenishment orders whenever stocks of various items dipped below safety levels. Thus, the confusion among production schedulers about which items to produce first.

Anchor Foods adopted flow production techniques at the suggestion of **On-Point Consulting**, a Cleveland-based firm that was called in to help Anchor eliminate this confusion. "On-Point helped us realize that we shouldn't rely completely on short-term forecasts because they typically are inaccurate," says Pat Lovese, Anchor's director of materials operations.

Now, Anchor links its production schedules directly to customer demand. Doing that required organizing its products into families that are able to use the same basic set of raw materials, with only minor changes needed near the end of the production process to create specific products.

Manufacturers of many discrete products—from automobile parts to consumer electronics and even clothing—have been able to make this transition fairly easy because their operations, by nature, involve the assembly of various components into a final prod-

uct. Until recently, however, even many flow production experts thought the technique would not work in process-oriented operations, such as food production, because the large batches of raw materials that process manufacturers typically use are not easily broken down into small components.

Anchor did not attempt to break its raw materials down into ready-to-assemble components. Instead, with the help of On-Point Consulting, it devised a way of being able to create multiple products from a single batch of raw material. It started by examining the mix of products it was selling. This examination revealed that most of Anchor's sales are to food services outlets such as restaurants and cafeterias. Stores, including the warehouse clubs, are its second largest customer group, and the rest of its business is split among six other markets.

Building product families

Armed with that knowledge, Anchor was able to establish families of products for its various markets. "The entire supply chain now is driven by a master schedule based on product families, not individual products," Elonen says. "It takes a single day to create that master schedule for the next 12 months, and it only needs to be reset once a month to reflect what we are actually seeing in terms of customer demand."

The tool that Anchor uses to create the master schedule, as well as regular production schedules, resides in a custom flow-manufacturing software package that On-Point developed for Anchor Foods.

The production scheduling process starts with assessing how much of a total family of products needs to be produced over the next month. Once that figure is determined, a set of four weekly production schedules is created. These schedules are designed to

generate the appropriate amount of products within the number of hours that Anchor's facilities are scheduled to operate over the next month. The weekly schedules also are e-mailed to suppliers so they can plan their own production and delivery schedules.

Finite production schedules—listing specific products that need to be produced within each family—go to the plant floor anywhere from a week to two days before those products have to be shipped. Elonen says the flow software package allows for changing production schedules daily, if that becomes necessary. He also says such changes would no longer be disruptive because Anchor would only need to change one or two processes at the end of the production line to accommodate changes. Previously, Anchor would have been required to go back and prepare its production machines to perform an entirely different process.

In most cases, Elonen says, the packaging that a product goes in is what distinguishes it as a particular product, and packaging is the last operation in the Anchor Foods production process.

With this system in place, Anchor Foods is confident that it can handle its ongoing sales growth without adding unnecessary overhead costs. Elonen also sees ways in which flow manufacturing will help Anchor increase profit margins as its business grows. "Because our buyers are no longer scrambling to secure materials for last-minute order changes, they are spending more time analyzing our raw material costs and looking for ways to reduce those costs.

"We already have gotten tremendous benefits from the flow techniques," Elonen adds, "but I believe we've just scratched the surface of what we will see. This provides a platform for orderly management of our entire supply chain."