Lean Thoughts

Inspired People | *Robust Processes* | *Lean Operations*

October 04, 2004

For all Consortium events – Contact Richard for more information.. For other events – contact directly

Important Consortium Dates to add to your calendar

The Team Time schedule has been established for the coming year. Team Time will start at 1:00pm at the host company. This will allow for folks to work with peers in the host site to collaborate, facilitate and implement ideas to advance the implementation of manufacturing excellence. *Participants should be prepared to work on the shop floor and come equipped with proper PPE.* The host site will advise 1 week in advance Team Time Projects. Part of the Team Time activity will include a plant tour.

- ☐ **October 14, Team Time, CTS Corp.** contact Bob Garces,. Bob.Garces@ac.ctscorp.com
- ☐ **October 18-22, AME Annual Conference, Cincinnati.** contact www.ame.org for details
- ☐ **November 11, Team Time, Morrison Lamthe.** contact Tony Vita, tvita@morrisonlamthe.com
- ☐ **January 06, Team Time, Alumabrite Inc.,** contact Richard Kunst, Bob.Krouse@Alumabrite.com
- ☐ **February 10, Team Time, Kromet International.** contact Richard Kunst, Richard.Kunst@Kromet.com

Consortium Practitioner Circles

- **Creating Cells and Flow Syncronization**, **Host Kraft, TBA** contact Hanif hjivrage@kraft.com
- **Creating the Visual Factory host, Eaton Cutler-Hammer, Sept 09** contact, Joe Fisher JoeRFisher@eaton.com
- **Effective Health & Safety host Alumabrite date TBA** contact Bob Krosue Bob.Krouse@alumabrite.com
- **5S+1 Implement, Enhance and Sustain host, Nestle Waters** contact Mariela Castano mcastano@perriergroup.com
- **First Time and Sustainable Quality host, CTS of Canada** contact Bob Garces Bob.Garces@ac.ctscorp.com
- **Advance Part Quality Planning (APQP) or new part introduction Host, Kromet International** , contact Richard Kunst Richard.Kunst@Kromet.com

The Lean Consortium Share Showcase.

By Cindy Grolleman.& others

Consortium Members are all operating in a manufacturing capacity. This Consortium is dedicated to sharing best practices among a group of 'like-minded" organizations and promotes a passion to enhance our competitive positions within our specific market sectors. The Consortium Share Showcase event is designed to highlight and recognize our people who will be showcasing their ideas implemented during the past year that have advanced manufacturing excellence within our organization. The Consortium Share Showcase is our annual event which provides an opportunity for employees to demonstrate best practices and innovative ideas for other like-minded individuals.

The 2nd annual Consortium Share Showcase took place on Saturday September 25th 2004 at Eaton Cutler-Hammer in Milton Ontario. Participants were greeted and given large loot bags stuffed full of products, and many other great treats from all the consortium companies. There was a tremendous amount of enthusiasm and excitement as the teams set-up their displays in the exhibition area and prepared to win the votes of all the guests with their outstanding initiatives.

In total there were 13 teams representing the consortium companies with presentations ranging from 5S+1 and Continuous Improvement to kanbans and morning market.

This years Consortium Share Showcase surpassed all of our expectations and really proved that motivated and empowered employees really are our greatest resource. With over 250 attendees *(double the attendance of last year!),* a delicious BBQ and an awards ceremony, it will definitely be hard to beat next year!

Congratulations to all who participated – You've definitely set the bar for next year's competition!

As for the winners…

Best Example of 5S, or Visual Systems -

"Messier Dowty's 5S Team."

Most Innovative application of a Lean Tool -

A tie between --- "Nestle's Lock Squad" and "The CTS team."

Best example of a Continuous Improvement

Eaton Cutler-Hammer

Peoples Choice for "Best In Show" -

Stackpole AGD "Sintering Superstars"

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Get Your Camry in Two Weeks; Toyota Now Builds Cars to Order

Can a high-volume manufacturer like a car company build products to order in a short period of time? For most companies, even those that have implemented lean production, the challenges are so great that the answer has always been no.

Until now.

After six years of preparation, Toyota is rolling out a system that enables it to make and deliver individual cars ordered from dealers in two to four weeks- instead of two months or more. By making improvements in information technology and manufacturing technology, and - most importantly - by improving its business processes, the leader of lean manufacturing believes it has achieved a goal that has eluded every other automaker. Its system should be in place throughout North America in the next year-and-a-half to two years.

When the rollout is complete, most cars will still be manufactured to stock. But the impact of Toyota's effort is significant. Since the rollout began in March of last year, the proportion of Toyotas built to order has grown from about three percent of the company's vehicles to almost 10 percent. An eventual figure of between 15 and 20 percent is a "realistic target," according to Roy Vasher, general manager with the initiative.

Toyota itself believes this new direction is its future source of competitive advantage.

"Since Toyota's main competitive edge has been quality, and other companies were starting to catch up (on quality), we needed to have a competitive order-to-delivery lead time," Vasher explains. "We feel that competitively, there is a certain percentage of customers we are losing now or have in the past because we couldn't give them what they wanted (from dealer stock). This will increase sales and make them happier."

To achieve its goal, Toyota tackled several major challenges:

It put in place a Web-based IT network linking its own operations with suppliers and dealers, making it possible for dealers to order individual vehicles over the Web.

It restructured its supply chain, establishing several cross-docking facilities and switching to ordering daily from suppliers rather than weekly.

It improved manufacturing technology, including a change that dramatically shortened painting time.

And it created new ways to implement the lean principle of heijunka - the balancing of the production line through smoothing or sequencing orders evenly, in a repetitive pattern.

A New Flexibility

Vasher is the first to say that heijunka is the foundation of the Toyota Production System.

"For every week of the month, and every day of the week and hour per day, you have the same mix of vehicles and options going down the assembly line. That really streamlines the supply chain," he notes. "When you introduce flexibility, that is a contradiction to heijunka."

To deal with that contradiction, Toyota revised its scheduling procedures to accommodate some flexibility for each part or color - for example, 10 percent on sun roofs or 20 percent on color.

Specifically, "from the order forecast several weeks in advance, we forecast (installing) 100 sun roofs a day," Vasher explains. "Ten percent flexibility means maybe we can vary from 110 to 90 per day." A variety of factors affect the degree of flexibility for any given part, including where suppliers are located, for example. If a supplier is in Japan, "we may have to have some buffer stock to absorb that fluctuation," he adds.

Another change in the heijunka system is that, for the first time, the destination of the finished car is being taken into account. If the Toyota plant in Georgetown, Ky., is making some cars for nearby Cincinnati and others for distant Seattle, the Seattle cars may be made first.

That adjustment came after changes in internal communications. "There was kind of a wall between logistics and manufacturing. They didn't talk to each other," Vasher states. Now, he adds, executives ask the question "What can manufacturing do to streamline the efficiency of logistics?"

The size of the dealership is also now a factor. For example, a location in New Mexico might receive 10 Camrys a week, while Los Angeles gets 100 per day. Even though it runs counter to the principles of heijunka, the New Mexico cars might now be manufactured in a batch, rather then two per day, so that they can be

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shipped more quickly. And Vasher notes that the New Mexico batch "is probably not going to have such a unique mix" that it would significantly affect production plans.

The flexibility Toyota has built into the system is for dealers as well as consumers. Vasher notes that the custom orders Toyota now receives are not just from drivers seeking particular cars. "Some percentage of those changes are the dealers anticipating the need to balance inventory," he explains. "They may not have a real customer. They see they just sold their last white Camry, and they have two black ones on order. They may go online and change that to white."

Supply Chain and Technology

Toyota has also made significant adjustments in supply chain operations. For one thing, "we changed the way we order parts from suppliers. We used to order weekly. Now, with the dynamics changing, we had to go to daily orders," says Vasher, noting that the change affects "pretty much all suppliers."

In addition, "we developed a series of cross-docks that permitted even low-volume suppliers to ship at least daily." For example, there might be 10 suppliers located in North Carolina who had been shipping parts directly to several Toyota plants. Now Toyota operates a milk run; its truck regularly visits many of the suppliers and transports the parts from each to a cross-docking facility in Knoxville, Tenn. At that location, the parts are sorted by destination. Parts from different suppliers that are all intended for Georgetown go on one truck, those for the Toyota plant in Indiana go on another truck, and so on.

Technological changes were also important. One was not specifically tied to the new initiative, but helped to cut the time it takes to build a car. Toyota used to paint vehicles in batches to reduce the number of changeovers. Cleaning one color of paint from a sprayer before using another color takes time, so the company minimized the number of times it had to do that. Now the company uses paint cartridges that can be exchanged almost immediately.

One of the more expensive series of improvements involved establishing the IT infrastructure that electronically links Toyota with dealers and suppliers. Instantaneous communication is an essential part of making the system flexible.

Vasher notes that this is partly "why we've been working on it for six years. A lot of these technological things were implemented on a step-by-step basis."

While Vasher declines to be specific, he admits that, overall, Toyota's investment in this initiative amounts to "tens of millions" of dollars.

"Most of the infrastructure, from a systems standpoint and a business process standpoint, is in place now," he comments. "The next step is to make everybody in the supply chain aware and smooth out the wrinkles, all the way out to the dealer."

Toyota's sales organization will work with its dealers to promote the new system, though exactly how it will be promoted has not yet been determined.

And Toyota is not necessarily planning on hammering down the order-to-delivery time even more.

"Our focus is more of giving a predictable lead time vs. the shortest possible lead time," Vasher explains. "If it's under 30 days, that's pretty reasonable for most customers. That's a very predictable time."

Takeaways

Supply chain changes are necessary to build high-volume products to order.

Supply chain issues must be considered in applying heijunka.

Instant communication across the supply chain is critical.

Submitted by Joseph Matthews from Whirlpool Corporation … author unknown

5S refresher note …

5S is perhaps the simplest of the lean techniques and an ideal starting point for any company wishing to embark on the journey towards being lean. Many people consider the 5Ss to be 'just tidying up' the factory, but to implement it properly, there is much more to do!

The 5Ss are Japanese words:-

Seiton, which translates to **SORT**

Seiri, which means **SET IN ORDER**

Seiketsu, meaning **SHINE**.

Seisi, translates as **STANDARDISE**

Shitsuke, meaning **SUSTAIN**

Simply, this can be translated to mean :-

Everything should be in the correct place , all the time, in a clean environment.

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