Manufacturing Management & Technology Institute

Takt Times

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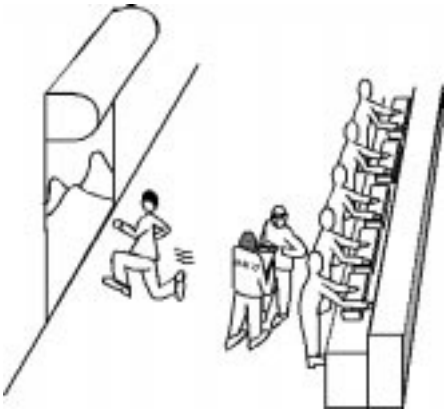
In this issue



While some consultants rush to apply lean methods to banking, insurance or airlines, we stay on the shop floor..

A newsletter/technical bulletin

by *Michel Baudin*

Welcome to the inaugural issue of *Takt Times*, the technical bulletin from MMTI. Our plan is to produce it at a takt time of one month, and to load it with entertaining and informative stories on the progress of lean production in the world, and on our activities. Please feel free to contribute war stories, tidbits, or opinions you would like to share. If the response is good, we may even print hardcopy!

Our "teachable point of view"

Our clients have experienced our work style, but we have never spelled it out, until now. In the March-April 1999 issue of the Harvard Business Review, Noel Tichy describes what he calls a "teachable point of view," a two-page statement of "what a person knows and believes about what it takes to succeed in his or her own business as well as in business generally." According to the article, Ford executives, from Jac Nasser on downwards are writing their teachable points of view and going over them with their teams.

We're smaller than Ford, but we like Tichy's format, more as a way to communicate with you than among ourselves, and this is our crack at telling you how we envision what we do for a living.

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Lean production in Israel

A postcard from Crispin Vincenti-Brown

With a new Prime-Minister who has a Masters from Stanford in Systems Engineering and a fairly strong process-driven view of life, lean has a social if not always logical attractiveness in Israel at the moment.

There are articles in the Hebrew press on the subject. I should stress that I can only recognize the fact that these are about lean because they are still borrowing the English words into the Hebrew text (which is still challenging my code breaking skills).

Major industrial companies are embracing lean. In keeping with local custom and practice this is usually preceded by much loud argument ("rac-rega" meaning "hold-up, just a moment!" is an early vocabulary word for any advisor). Also in keeping, these apparently violent arguments are often quickly followed by strong friendly gestures and a rapid move to action.

Sometimes the action is a little too quick, sometimes frustratingly slow, which is not a country-specific observation. The results have been encouragingly impressive. Lead time reductions from 20 days to 3 for major adhesively bonded assemblies, turn-around-time reductions from 20 days to one shift for hydraulic component overhaul and repair, output per man doubling in assembly, purchased part

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Internally developed production monitors smooth rates at Korry Electronics

Tom Berghan and John Waite have turned surplus hardware into production monitors that enforce takt times.
Above the assembly lines, the following displays tell operators in real time how they are doing with respect to their goals:

The goal calculation takes into consideration breaks and lunches. The monitor logs completion times, and lets managers chart cumulative production against the goal throughout the day, as follows:

"No way! Your production cannot be that smooth," said a visitor from Allied Signal. "Just watch the line for a few minutes," said Tom. "This line has *very* smooth production, which it didn't before. Such is the power of a *visual target*."
Now the operators work to the display, and know smooth production is important. Tom's message is "I don't want you to hurry. I want you to make quality parts steadily and predictably."
The lines have seen 18 to 25 percent drops in labor costs and rework is a thing of the past. The system runs on surplus 486 machines and 15-in displays.

Our "teachable point of view" (continued from page 1)

What we do

We help manufacturing companies implement lean production, which is the most effective, highest performance approach to manufacturing today. Specifically, we help our clients improve their delivery, cost, and quality performance, by identifying opportunities, contributing ideas, providing training, and guiding employees through implementation. As improvements in material flows, operator job designs, and processes materialize, operators find their workplace safer and their jobs both richer and more secure. The company's stronger competitive position means that there is more work to do, but it has more variety, it is conducted at a steady but sustainable pace, and operators participate in its design.
Since we started in the '80s, many names for this approach have come and gone. What started out as the Toyota Production System became JIT, lean production, lean manufacturing, demand-flow technology, etc. The continuing relevance of the same concepts under these different labels is a testimonial to their soundness and their power. In the past few years, American industry as a whole has begun to see the value and the potential of lean production, and many new consultants have appeared offering help, most commonly on the basis of a successful implementation in a company where they were employed.
Today, manufacturers no longer need missionaries to tell them why they should become lean, but advisers and teachers who can show them how to do it. It is no longer enough to know what the components of lean production are. To be effective, consultants need to know how to adapt them to the specifics of each plant, and understand the implementation sequence that matches its technical and managerial dynamics. It is not enough to know the rules of the game; you also have to know how to play it.
As our name indicates, we address both the management and the technical issues of lean production. We focus on the shop floor first, and work our way up to management issues. We have an engineering background and have participated in this effort for many years, learning in Japan and implementing in many locations, in the US, Europe, and South America. The philosophy we have developed on this basis differs from that of many of our colleagues in the consulting business, who are no sooner exposed to lean production that they want to apply its concepts outside of manufacturing, in the office, in insurance or in airline operations. Instead, we are focused on manufacturing, and will remain so even after all the benefits of lean production have been reaped. While most of our work requires us to be on site, walking the shop floor with our clients, we are also actively searching for ways to use technology -- and in particular the web -- to help them better.

Our values

We are a small group with low overhead and, as a result, not under pressure for billability. As a rule, we limit our paid engagements because we find that we need free time to hone our skills through independent research that keeps us up to speed on the most effective methods and technology. Also because we are a small group, the members our clients interact with before bringing us in are the same who come to do the work afterwards. We do not have groups of junior associates to send in our place.
We are not stingy with our time or our ideas. We do not believe in holding back. We do not sell ideas but our ability to generate them. Between visits to clients, we support them as best we can by phone, FAX or e-mail, and free of charge unless the request is a major project. While at client sites, we are on the floor at any time of the day or night as needed to interact with employees working on projects.

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Lean production in Israel (continued from page 1)

number count reduced by 60% on a major vehicle program etc.; all up to the expectations of lean in the US or Europe. So Israel becomes a venue for the lean traveller. More especially it remains a venue to enjoy a fascinating country, friendly people ....and (currently) very hot weather.

Our "teachable point of view" (continued from page 2)

We charge by the day for our time at client sites, and if our clients make $10 for each $1 they spend on us, more power to them! That is the way we want it to be, and that is what keeps us in business. We like simple business arrangements, and this one qualifies; charging for a percentage of savings does not. We find that simple business relationships are most conducive to clear expectations and satisfaction on both sides.

While we tailor our recommendations to each factory's situation, we make the calls as we see them. Clients pay us to say what we think and not necessarily what they want to hear. A relationship with a consultant should be like that with a medical doctor or a lawyer. As long as they trust our judgment, they should follow our advice; the minute they doubt us, we should go.

Working with people

Some of the other consultants in the field that we most respect are Toyota alumni who have worked directly with Taiichi Ohno or Shigeo Shingo. Their approach to consulting, although effective in many cases, has earned them the nickname of "insultants." While contrary to the generally accepted management theory on working with people, management by verbal abuse has its successful adherents in this country and in Europe as well as in Japan.

We were never comfortable with this approach and felt that we could be at least as effective treating our client's managers, engineers and operators with courtesy and respect. What we find among our client employees is a hunger for understanding that we try to satisfy. Under pressure, they will implement methods they don't understand, but they will never feel comfortable about it. Although many of the concepts of lean production can only be truly understood by experiencing them through implementation, we believe in supplementing this up front by rational explanations, which experience then confirms. As stated above, having a gentler bedside manner does not mean that we compromise on content.

We want the changes we bring about in our clients' plants to take root and endure past the end of our involvement. With this goal in mind, we believe that improvement projects should be owned and run by the line managers in charge of the affected areas, that they should incorporate ideas from shop floor personnel wherever possible, and that detailed technical issues should be resolved by client engineers supporting the project managers. We make recommendations, provide technical information, review design proposals and answer questions, but we do not assume ownership of the projects or carry out project tasks except as examples for illustration purposes.

We come for short visits at periodic intervals, allowing project teams in between to assimilate our input and move forward on their own. We have found that our being on site too often led client personnel to perceive the projects as ours rather than theirs, and to treat us as a temporary extension of the engineering department. When this happens, projects appear to move forward efficiently, but without any transfer of know-how, and the organization inexorably reverts back to its old ways when we leave.

The basis for our recommendations

We have methods in our work, but we don't have a rigid 12-step methodology to apply to every factory. Our focus is on our clients' business results, not on process conformance. Like everyone, we use lists to jog our memory, but we do not believe in "checklist audits," formally rating a plant by check marks or points on its technical and managerial practices. A company can do everything "right" according to such a standard and still go bankrupt, while a more open-minded competitor prospers.

Our recommendations for an improvement plan are based on the client's business strategy and on an analysis of the company's position within its supply chain, its process capabilities, equipment capacities, material flow patterns, quality practices, production control methods, and organization structure. Then, as projects move forward, we encourage clients to measure their impact on their key business metrics.

Not every practice from the automobile industry is applicable everywhere else. Every industry requires adaptation and the development of new concepts, but it doesn't mean that a plant manager can cherry-pick some parts of lean production while ignoring others. There are subtle dependencies between, for example, shop floor layout, production control, and human resource management that cannot be ignored when deciding which projects to undertake and in what sequence.

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Web site update

We have received many compliments on the MMTI web site, and, as we update it, we want to keep its current focus while offering more services and more content. We have lived by the following principles and plan to continue doing so:

- For us, pictures and graphics are for communication, not decoration. Whenever we feel that a point is made more eloquently by a cartoon, a technical drawing, or a photograph, we include it, but we spend no time on flashy displays.
- Our site is free of advertising banners and will remain so. We have been approached by companies wanting to advertise on our site but, as consultants to manufacturers, we do not want to jeopardize our objectivity by accepting money from equipment suppliers. We want our clients to feel secure that when we happen to tell them that a particular product is good, it is only because we think it is.
- On other websites, we have always found "this page under construction" messages to be not only annoyances but a downright unethical practice. As a webmaster, if you don't have anything to show on a subject, then you shouldn't pretend on your storefront that you do, because it misleads visitors. This is our policy, and our links always point to something. Sometimes, for a variety of reasons, links break and we don't notice it right away, but we repair them promptly when visitors point them out.

Our primary objective in updating the site is to provide more content for our visitors: more articles, more monographs for sale in our store, more press clippings and more links to outside resources.

Our on-line store currently offers only two publications and we are working to provide you with more choices. For this reason, we would appreciate your help in assigning priorities to the documents we currently have in preparation, and in finding out which subjects we have not thought of that you need help on. In progress are the following:

- *An overview of lean production for implementers.* This is a concise account of the look and feel of lean production for those who implement it. It is not aimed at convincing executives that lean production is worthwhile, but instead at helping the managers and engineers who make it work.
- *Special issues of Engineer-To-Order manufacturing.* Industrial goods that are engineered to order are common. For their manufacturers, this document presents strategies to uncover repetitiveness in their work and apply lean production on the shop floor.
- *Consolidation centers in the automotive supply chain.* Consolidation centers receive parts from multiple suppliers and deliver them to assembly. Such a "middleman" is useful to shield the factory from dealing with overseas suppliers with lead times in months or domestic suppliers who won't work with Kanbans or appropriate returnable containers.

We have also been planning to add links to suppliers of such lean production paraphernalia as flow racks, Andon lights, production monitor boards, or pick-to-light systems. Again, to preserve our neutrality, we will endorse none of these products and list more than one supplier for each.

One goal we have had since the web site was created is to make it more interactive. This, however, requires a change in the level of internet service we are receiving and we are working on it.

Finally, we will try to update the site more frequently. All we need for that is more time.

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