

Lean Thoughts

Inspired People

Robust Processes

Lean Operations

June 14, 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.

- June 10, Team Time, Stackpole CSD**, contact Gerry Ward, gerryw@stackpole.ca
- June 19, Community Splash Open House, Nestle Waters**, contact Mariela Castano, mcastano@perriergroup.com
- July 08, Team Time, Eaton Cutler-Hammer** contact Joe Fisher, JoeRFisher@eaton.com
- August 12, Team Time, Messier-Dowty**. contact Richard Evans, Richard.Evans@Messier-Dowty.on.ca
- September 09, Team Time, CGL Manufacturing** contact Dave Desker, daved@cglmfg.com
- September 25, Consortium ShareShowcase, Eaton Cutler-Hammer** contact Joe Fisher, JoeRFisher@eaton.com
- 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 06, Consortium ShareShowcase, Eaton Cutler-Hammer** contact Joe Fisher, JoeRFisher@eaton.com
- November 11, Team Time, Morrison Lamthe**. contact Tony Vita, tvita@morrisonlamthe.com
- December 09, Team Time, Inscape**. contact Joe Cyr, jcyr@inscapesolutions.com
- January 06, Team Time, Alumabrite Inc.**, contact Richard Kunst, Richard.Kunst@Kromet.com
- February 10, Team Time, Kromet International**. contact Richard Kunst, Richard.Kunst@Kromet.com

**"Dogs have owners
while
Cats have Staff**

Spotted on a bumper sticker while in Australia

Consortium Practitioner Circles

- o **Create Flow in a High Mix Low Volume Environment, Host: Messier-Dowty, Sept.01** contact Richard Evans, Richard.Evans@Messier-Dowty.on.ca

- o **Formal Problem Solving, Basic, Six Sigma and Jidoka, Host: Morrison Lamothe Sept.08** contact Mike Richards mrichards@morrisonlamothe.com
- o **Creating Cells and Flow Synchronization, Host Kraft, June 22** contact Hanif hjivrage@kraft.com
- o **Preventative Maintenance and TPM, Host Stackpole AGD, July 22** contact Cindy Grolleman cindyg@stackpole.on.ca
- o **Value Stream Mapping and Creating Actionable CI, Host Kromet, June 17** contact Todd.Jarrett@kromet.com
- o **Advance Part Quality Planning (APQP) or new part introduction Host, CFN Precision July 20,** contact Barry Wood bwood@cfn-inc.com
- o **Set-up Reduction host Stackpole CSD Aug. 19** contact Don Barber Don.Barber@stackpole.ca
- o **Creating the Visual Factory host, Eaton Cutler-Hammer, Sept 09** contact, Joe Fisher JoeRFisher@eaton.com
- o **Effective Health & Safety host Alumabrite date TBA** contact Bob Krosue Bob.Krouse@alumabrite.com
- o **5S+1 Implement, Enhance and Sustain host, Nestle Waters** contact Mariela Castano mcastano@perriergroup.com
- o **First Time and Sustainable Quality host, CTS of Canada** contact Bob Garces Bob.Garces@ac.ctscorp.com
- o **Hyjunkia & Creating the Lean Office host, Kodak of Canada** contact Joanne Heighway Joanne.Heighway@Kodak.com

Team Time

Last week's team Time session was hosted by Stackpole CSD with the theme being how to create the a Kaizen Culture. The objective was how to harvest and implement ideas from operators on the shop floor. This is a timely topic which should add value to our first **Practitioner Circle** hosted at Kromet on how to create Actionable Continuous Improvement.

The following appeared in the SME Newsletter

The Birth of the Kaizen Blitz

Yoshiki Iwata and Chihiro Nakao were part of the original team picked by Taiichi Ohno, VP of production at Toyota, to convert all of Toyota's top tier suppliers to JIT. In the late 1980s, Norman Bodek learned that they wanted to come to America to start their new consulting practice. He offered to bring them to America and help get them started.

After being rejected by some shortsighted companies, Norman met George Koenigsaecker, the plant manager of Jake Brake, a Danaher company located in Connecticut. Jake Brake agreed to host the first kaizen blitz (the word "blitz" was not used then). The event was conceived as a "Five Days and One Night" workshop. To Bodek's surprise, 50 participants quickly agreed to pay \$5,000 each for the privilege of working and learning at the factory

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for five long days with very little sleep.

To begin the program, Iwata lectured on Jidoka, seeing the factory as something like the human nervous system. He also spoke about other principles of the Toyota Production System (TPS). The next day, five 10-person teams went into the factory, each looking at a manufacturing process to convert from lines to cells.

Using the TPS principles, team members carefully observed the process, calculated cycle time for each job, determined the takt time, figured the value-added ratio, looked at the elimination of waste, and learned how to complete standard worksheets.

On Wednesday morning, teams returned to the plant and completely mapped out processes showing cycle times and takt times. They began to plan how machines would be moved, workers would be positioned, and listed the many problems that would need to be solved.

That night they moved 50 sizable production machines into five new manufacturing cells. They added more problems to their lists. These problems would be work projects for the company's engineers, managers and workers to solve in the coming months. The kaizen created intentional chaos, shaking things up to change the company.

On Thursday morning, the participants started working with the Jake Brake employees to explain how to work in the cells. A worker would run many machines rather than one, and work standing up rather than sitting.

One of the concepts in TPS is adding human judgment to automated equipment. In a traditional factory, one worker watches one machine, loads and unloads parts, and makes machine adjustments. Brains are left at the door. An improvement is likely to be a robot or other automation.

In the first version of Jake Brake's new cells, the worker took the part from machine to machine as each process was performed. The worker followed the parts around the cell. In future improvements to the cell, the worker would start by loading a machine that would hold the part and perform an operation. The worker would then pick up a part that had already been processed at that station, take it to the next machine and load it.

The emphasis shifted from keeping the machines constantly running to producing only those parts needed by the customer at that time. This resulted in keeping the workers moving and not worrying about the machines being idle, as long as the takt time was met.

At the end of the five days, each team made a presentation about what they learned. Bodek was struck by the impact of the learning. For hosting the program, Jake Brake had five people from the facility participating in the training at no charge. These people remained at the plant as lean process implementers.

Lowering inventory is often compared to lowering the water level in a lake. Problems, like rocks, are uncovered and need to be corrected. This was certainly true for Jake Brake. For the next three months, the plant was late on shipments and plagued by problems. Workers, having received only morning-after instruction, needed more

training. As time passed, however, the company was able to reduce inventory substantially and deliver to customers exactly on time. The kaizen blitz brought lasting improvement.

Over the years, Bodek learned more about the place of kaizen in the Toyota Production System. It became apparent to him that learning together makes teams jell. Learning is about making mistakes, and encouraging people to make mistakes they can learn from. Even a failed kaizen is valuable if a team learns something they can apply the next time. In our culture, we tend to blame or criticize someone who makes a mistake, so they stop trying to improve, give up, or leave their employers.

In the workshop at Jake Brake, managers and engineers learned about lean. In practice however, the real power of kaizen is realized when the workers make the improvements. The key is not a gadget called a "kaizen," but the thinking that becomes part of the job for factory workers. Bodek points out that the power and simplicity of lean lies in changes that evolve when the minds of the workers are engaged. He talks about "quick and easy kaizen," where workers continuously test small changes in a cumulative drive to improve. He says it is one of the secrets of Toyota's success.

Jidoka, the concept Iwata started the Jake Brake workshop with, is subtle. A worker finding a defect and "stopping the line" has been talked about since the early days of JIT. In Japan, the worker blows a whistle or turns on an andon light and everyone comes running. (At some Boeing plants, the trouble call can launch a recording of Aretha Franklin singing "Rescue Me.")

References to the human body as a metaphor for this immediate response are unimpressive at first. Having white blood cells rushing to the site of a wound doesn't seem that remarkable. The subtlety comes not from the fact that blowing a whistle brings a response. It is that each person, like each white blood cell, is autonomous. Nothing tells a white blood cell to go stop an infection; it just does it. It's a system far more complex than the type of information system we may tend to rely on.

In the Japanese factory, workers have incorporated the lessons of lean so completely that instinct can take over when there is a problem. They do not wait for a supervisor. Their training and culture has given them implicit knowledge about who should respond, how to recognize and solve the problem, and how to prevent it from happening again. Jidoka takes time to grow.

What happens when productivity improves to the point where fewer people are needed? Bodek says a layoff is a mistake. He says that Toyota, rather than eliminating the poorest performers, takes the best performers from a cell and gives them something more creative to do. It's the human side of lean that provides the payoff.

Norman Bodek is the author of two books, both available from SME -- [The Idea Generator: Quick and Easy Kaizen](#), and [Kaikaku: The Power and Magic of Lean](#). He was the founder of Productivity, Inc. The veteran of many trips to Japan, he met the originators of the Toyota Production System and published their books in English.