Update on Excellence

Sparkling Kaizen Results: Rochester, NY Blitz

Working together as equals toward common goals.

Lea A.P. Tonkin

You'd probably wonder just how much improvement you can achieve, collaborating for a few days' time with a crew of folks you've never worked with before on a process you may not know diddly squat about. As "outside" participants in the AME Kaizen BlitzSM in Rochester, NY learned alongside host company blitz team members, there's something to be said for this rapid improvement process as part of an organization's overall strategic plan for improvement. Nail the kaizen improvement techniques though initial training and document existing processes. Then get started on brainstorming, implementing, and measuring improvements. Then start watching for falling WIP levels, better cycle times, and other gains.

Well, maybe that description's a bit simplified. But the changes made by blitz teams at host companies Diamond Packaging (Rochester),¹ STS Biopolymers (Henrietta, NY) and STS duoTEK, Farmington, NY)² zapped waste and improved the organizations' potential for better customer service. Following are selected highlights from the event.

Diamond Packaging: Great Expectations

"We had two blitz objectives," said Dan Gurbacki, productivity improvement leader. "First, we wanted to improve WIP flow by eliminating non-value-added (NVA) activities – resulting in cycle time reduction. Second, analyze the nature of scrap and commit to fix ten percent of the problem in the three days of the blitz." Aggressively improving operations is what employees at Diamond Packaging (Rochester, NY) expect, noted Eric Voss, vice president of operations. "We are not hosting this blitz to see if we are on the right track," he said. "We're starting to lay the track." The Diamond Packaging philosophy is to set the standards by which others are measured." (See the box, "Diamond Packaging Revamps Its Training Plan," for information on another improvement initiative at the facility.)

Diamond Packaging employees and outside kaizen blitz participants worked together as equals toward common goals, added Dan Gurbacki. "People opened up their minds to reach their improvement goals," he said. "The enthusiasm and energy level were unbelievable. People who didn't normally come forth with suggestions came out of their shell. They were empowered. That was quite a rush in itself."

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Flow Misters Improve WIP Material Flow

Seeking ways to reduce cycle time through better WIP material flow, the "Flow Misters" blitz team (led by Dave Rydell) scoured the Diamond Packaging operation for NVA processes. After reviewing their video tape of existing operations, drawing a spaghetti chart of existing product flow, assessing 5S (housekeeping), and sorting through improvement suggestions, the team split up tasks. They documented training and education needs related to the difference between batch and flow processing. Next, they defined expectations/requirements for each department about what they will require of suppliers — internal or external including a time line and associated cost. Additional steps included:

- Determine economic order quantity (EOQ) or economic lot size or run size (to avoid excessive carrying cost)
- Develop an implementation time line for flow processing and other changes
- Develop an emergency contingency plan
- Implement a pilot test program.

Convinced that excessive WIP hid many problems, the team cited additional issues. For example, they suggested creating open lanes in queue areas that say "fill me;" bleeding off WIP in the plant from 500 pallets on the floor to 250; smaller lot sizes (maximum 12 pallets); color coding all areas that pallets will be stored in (the same as the related machine); creating "Red Hot Job Packets" for hot jobs going through the plant (and designating only one person to initiate a hot job; and many other areas.

After these changes are implemented, Rydell said, "We will then be able to correct the underlying causes of excessive WIP instead of adding buffer stock to hide the problems." He noted that process steps trimmed by the blitzers reduced walking distances 20 percent on one line.

MSH Team: Zapping Scrap

Meanwhile, the MSH (Make Stuff or – Happen) blitz team (led by Dan Gurbacki) attacked scrap problems at Diamond Packaging. Gurbacki noted that various categories of waste (waiting, transportation, etc.) were



reviewed, but the group mainly focused on raw materials.

"A big part of the plan was just to find out accurately what is causing the waste," he said. Waste previously was reported as "printing" or another general category; the real cause was not captured.

Blitzers videotaped the path followed by material and found a host of overproduction examples: a planning sheet matrix for makeready/setup, order entry, etc. They uncovered additional transportation wastes such as material handling and layout. Machine setup, equipment breakdowns, and other processing wastes showed up. The team also found communication gaps, inventory wastes (such as raw stock and finished goods inventory), wast-

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Dan Gurbacki, Diamond Packaging

ed motion (finding and retrieving material, for example), and waiting (jobs pushed back, inappropriate product quantity), and other NVA causes.

The MSH blitzers devised several action items:

• Weigh all waste and put relevant information about it on a spreadsheet (what department it came from, cause (mechan-ical breakdown or other), shift, operator, etc. Also, weigh die cut pallets before and after die cut to identify the

Diamond Packaging Revamps Its Training Plan

When senior managers reviewed the Diamond Packaging strategic plan and corporate initiatives in 1997, they targeted areas such as customer success, profitable growth, employee satisfaction, and corporate citizenship. Next, they developed second tier initiatives. Under the employee satisfaction initiative, they decided to launch a company-wide training plan. Pattie Holzgartner, director of human resources, accepted the team leader position for this effort. Dan Gurbacki, then manufacturing manager, soon joined her in the project. They met with each company manager, encouraging them to select a creative, open-minded representative for the new Training Team. Their objectives would be:

Transition from a vertically-integrated work force to a cross-functional work force wherever possible

. Development of a work force that is efficient, consistent, and competitive to maintain growth and market share

· High performance standards in all areas of the operation

A mind set that, if put on paper, would read, "Does whatever it takes to get the job done and keep the customer happy."

The ten-member Training Team began meeting each month to lay the groundwork for a new training program. They persevered despite roadblocks such as coordinating busy team members' schedules, reducing or eliminating disruption in production while trying to get employees trained, employees' fear of the unknown and other job descriptions they would be trained in, fear of computer systems, equipment limitations, and fear that the plan wouldn't work. "Some of these challenges slowed us down, but we never lost the drive and determination to get where we want to be! At times we take 12 steps backwards to move two steps forward," said Pattie Holzgartner. "That's where the team really comes together. The encouragement and support for each other are unconditional.

"Together we strategize on how to communicate and achieve our desired state," she continued. "Several key elements in our success are respect for each other, no wrong answers, and a good sense of humor."

The team developed a matrix to use as a template in measuring the success of the training program. Cross-training matrixes are used by shift leaders to staff equipment based on the availability of people trained in specific tasks; they are also excellent reference tools when employees are on vacation. A matrix example is shown in Figure 1; each department has its own version.

Tom Simmons, logistics manager, and the logistics team (Figure 2) stepped up to the need for a department that the training team could work with as a pilot. They started with seven different vertically integrated functions. After documenting the tasks and capabilities of each team member, they committed to cross-training for their various jobs. They split cross-training activities into two groups, clerical and production, and set a completion date (the team formed and began training in May 1998 and completed training by the end of December 1999). They also designed and implemented a job rotation schedule. Soon they created one job description: Level 3 manufacturing associate. Eight months later, this group of seven individuals had been fully cross-trained in each others' responsibilities.

Logistics team members now rotate tasks on a weekly basis, performing various assignments two days a week. This approach provides hands-on experience and flexibility, according to Simmons.

He noted that the logistics team conquered fear of the unknown, the computer system, and falling behind, and other concerns. Continuing challenges include keeping the plan in force. Advantages and benefits from the new way range from breaking down "personal conflict walls" to employee "ownership" of training in their department, increased individual skill levels and team capabilities, easier vacation scheduling, less stress for managers, and greater mutual appreciation and respect.

Cross-training initiatives continue company-wide. Continued support, reassurance, and encouragement are needed along the way. "Check back with us in a couple of years — we'd love to share our experience," said Gurbacki.

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percentage of waste.

- Look for overage in lots greater than 50 sheets.
- Run back-to-back colors on certain jobs to reduce make-readies and wash-ups and save on paper board.
- Utilize waste materials.
- Revise a waste matrix to allow for varying size runs.
- Design and implement a pull signal between sheet and print operations, moved inventory, designated an empty skid area, released jobs by ink color.

Taking Off the Blinders

Asked about lessons learned from the blitz, Dan Gurbacki said, "We all walk around with horse blinders on for one reason or another. Maybe the way we do things is just because of the way we were taught or we learned otherwise, but that's isn't necessarily the best way to do things. When an outsider comes into our facility in a kaizen event, they see things differently. They ask, 'Why are you doing that?' or, 'Have you considered this?'' Their experience may be greater than ours or they know a better way to do something. We get to use their knowledge to help us look at things in a new way. It's fantastic!''

STS Biopolymers, Inc.

A blitz team including representatives from applications development, process engineering, and production (operators from the contract coating area) plus three outside participants focused on streamlining processes in an STS Biopolymers, Inc. (Henrietta, NY) work cell that applies SLIP-COAT[®] coating to a stainless steel guide wire. They also looked at house-keeping and 5S organization of the clean room and visual tracking of the coating process.

Constraints were tight because the medical device processing requirements are highly controlled in the coating area. The team's original goal was to increase work cell efficiency through setup reductions. After studying the area, they determined that greater improvements could be achieved through scrutiny of process flow and the sequence of operations. They achieved significant improvements in labor efficiency and labor capacity, while WIP and operator travel distance decreased.

Visual parts tracking improved, allowing instant identification of parts in the multi-step coating process. The area's 5S rating also rose.

Gluing Technician Cross Training - 2nd Shift

Name	Current machine	#36	#37	#38	Pack #39	Feeder #39	Packer #32	Feeder #32	Gulliotine safety	Stripping	Strip and pack	Baler room control board	Shop floor computer data	Case Sealer	Case Label Maker
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	#38														
	#39														

Assistant Gluing Technician Cross Training — 2nd Shift

Name	Current machine number	#36 _	#37	#38	#39	#39	Packer #32	Feeder #32	Gulliotine safety	Stripping	Strip and pack	Baler room control board	Shop floor computer data	Case Sealer Maker	Case Label
	#39														
	Stripping						•								
~	#37														
	#37														
	Case Label Maker														
	#39				1										
	Bale room														
	Case sealer														
	Stripping														
	#38														
	#38														
A = Adequate 1) = In process 2) = Minimal assistance			N/A wil	A = No I not t perfor	ot appli be expe m this	cable, ected job.	N.	I/T = Nee	ds training.	F	= Fully	/ trained.			

Figure 1. A sample cross-training matrix used at Diamond Packaging.

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STS duoTEK

The STS duo TEK contract packaging operation in Farmington, NY also hosted a blitz team. Targeting setup time reduction (in highly-controlled medical device-related processes), they achieved significant improvements such as:

- Eliminated several skids of unneeded material in the production areas
- Removed unused tables and cabinets
- Reduced setup time and travel distance by moving setup materials to a central location
- Changed the way material is pulled so that it is only pulled when needed
- Color coded rooms and staging areas for easy visual identification and tracking
- Reduced material identification code numbers by eliminating items that didn't need to be tracked
- Changed the process flow in one work cell to reduce labor
- Established a Kanban system for one raw material stream.

Among their follow-up suggestions were splitting device master records so they could be stored closer to production areas where they are used (reducing travel distance), refining the new Kanban system and related procedures, and reviewing inventory tracking methods to improve accuracy and reduce the need for repetitive counts.



Figure 2. Logistics team members, from left to right: John Berg, Donna Lockwood, Eric Piraino, Maggie Brimacomb, Tom Simmons (department manager), Bill O'Dell, Kathy Karpowicz, and Ione Blood.

- Diamond Packaging, Rochester, NY, provides packaging products and services throughout the world. The award-winning carton plant is ISO 9001 certified and the Packaging Services Division is 9002 certified.
- 2. STS Biopolymers, Inc., Henrietta, NY develops, manufactures, and applies advanced medical device surface treatments. Its products include biocompatible, antimicrobial, lubricious, antithrombogenic, antiflammatory, and ultrasound echogenic coatings. The duoTEK Division of STS duoTEK, Inc. contract packaging and assembly plant in Farmington, NY provides fill and seal, form, tray and lid, blister, pouching, liquid/powder filling, shrink packaging, and other product and kit assembly safety, cytotoxicity, and other testing/services.

Lea A.P. Tonkin is the editor of Target magazine.

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