

AME Annual Conference November 4-8 Plant Tours: Tour Host Phonak, Inc. Listens to Customers

Networking

**AME Annual Conference
November 4-8 Plant Tours:
Tour Host Phonak, Inc. Listens
to Customers** 39

AME Regional Map 43

Have you heard about **Phonak, Inc.**, a company that's making a name for itself in the arena of high performance hearing aids? Since they launched a U.S. manufacturing presence a decade ago, the Swiss-owned company's gained market share in a fairly stagnant market, thanks to its innovations in hearing aid technology, customer service, and manufacturing. Associates at their Warrenville, IL operation will showcase continuous improvement operations during one of the plant tours slated for the 2002 AME Annual Conference, "Crossroads of Excellence." The November 4-8 educational event in Chicago will include more than 20 plant tours, plus several tracks of presentations.

Fast Track Sales, Strong Commitment to Customer Service

Finding ways to reduce cycle time and cost while continuing to improve customer service would challenge many manufacturing managers. Achieving these goals while sales are in the fast lane could be even more daunting.

Phonak, Inc. managers knew such commitments would ensure stronger competitiveness, so about a year ago they launched a major streamlining effort from order receipt to ship, and on through customer service. "Our orders have increased from 40 percent in the past year, and all our orders are custom," said Gary McGregor, engineering manager. "Demand fluctuates 20 percent a day. We needed more flexibility to handle the higher volume of orders and improve our level of customer service."

Incoming orders used to be stacked up in receiving, waiting to be sorted (ear canal molds for customer orders are sorted as "new" versus "remakes" for units needing adjustment or repair), and parts accumulated in assembly and later production stages. A new Kanban/lean approach gives associates the tools they need to quickly and accurately move hearing aids from one stage to the next, said McGregor.

After orders are received and entered, customer impressions are trimmed and detailed. Then colloid molds are created and filled with liquid plastic in the shell lab. The

"hearing system" shells next undergo an ultraviolet cure process, vents are built into the shells, and each unit is "serialized" (given a unique identification code). Then the units are staged for wiring and assembly. A "supermarket" system allows technicians to check order flow and pull orders needing attention in a timely fashion. Wiring, cutting, buffing, drilling, detailing, and other steps such as programming of high tech electronics in final assembly cells further refine the individual characteristics of each unit. Inspection steps within work areas assure that the units meet tight specs. The hearing aids made here are identified as full shell, canal (slightly smaller), and CIC (completely in canal) units, depending on their shell configuration. (Behind the ear units are made in Switzerland at the Phonak corporate facility.) Work cells focus on each of those configurations, and there are also two repair cells and a technician training area in the production quarters.

Production flow benefits from many innovations during the past year. For example, Kanban squares identifying specific hearing aids being processed by each technician were developed by managers and supervisors. Standard work instructions are at hand. Now it is easy for technicians to see what their next steps should be and to check the quality of their own work, said McGregor. Go-no go inspection results let associates know if they have workmanship or engineering issues to tackle.

Technicians are multi-skilled, another plus for agile production. This approach contrasts to traditional hearing aid manufacturing, where the "craftsman" approach had prevailed — one skilled worker completing all production steps



Figure 1. Brett Kuster, production manager (left), and Gary McGregor, engineering manager.

Empowerment isn't magic. It consists of a few simple steps and a lot of persistence.

Ken Blanchard, the author of

Empowerment Takes More Than a

Minute

from start to finish. "Things run more smoothly since we changed to the new way," said Fernando Munguia, a trainer in the shell lab. "Before we only did one job. The idea is to learn all the jobs, so you can work step-by-step. We train people about two hours a day for three months, in flow manufacturing and skill training."

Adding to the challenge of faster flow, high quality/service, and more orders is the need to communicate effectively in a multicultural environment. The two-shift workforce of about 135 technicians came to Phonak from more than 20 countries. Visual management (work instructions about assembly and test steps, etc.) works well, in addition to one-on-one and work area discussions. Associates can check a monitor in their work area for real-time progress against goals, including quality (customer returns, for any reason, count against the ratings) and quantity; in turn, a weekly bonus reflects performance to goals. "That's a pretty powerful tool, giving people real-time information about their work," McGregor said.

Brett Kuster, production manager, said the continuous improve-

ment and visual management efforts are boosted by two multi-functional teams working on quality and process improvements. "They work with the lines on process, engineering, and training issues," Kuster said. "We have an 'Oops' team that works on customer service issues. For example, if some options are not included in units that are shipped or there are other problems, they will check the source of the problem and look for steps that can prevent future errors."

Kuster also noted that training updates every three months hone technicians' skills in areas such as cut, trim, lacquer, and various advanced skill areas. Skill recertification is required every 18 months.

*What lies behind us and
what lies before us are tiny
matters compared to what
lies within us.*

*Ralph Waldo Emerson, quoted in
the book, Think Outside the Box:
The Most Trite, Generic, Hokey,
Overused, Cliched or Unmotivating
Motivational Slogans by Jim
Tompkins, Tompkins Press, Raleigh,
NC, 2001.*

Although Phonak associates made significant process improvements during the past year, the

challenges continue. Order-to-ship cycles average four-five days; the goal is three days, said McGregor. A surge in orders and new product introductions slowed cycle time reduction progress for a few months, but Phonak expects to reach this level by the end of 2002. Installation of a "kitting wall" to replace earlier parts "supermarkets" is planned, and Phonak is working to reduce order backlogs.

Also in the works is upgrading the Warrenton operation, already ISO 9002 certified, to the 9001:2000 level. The ISO 9001:2000 regulations focus on the tools that yield world-class customer service, rather than merely adherence to procedures. This effort is designed to continue their high level of cus-



Figure 2. Fernando Munguia, a trainer in the shell lab, noted the flexibility and other benefits from training associates in several skill areas; Kanban squares in his work area help to smooth and speed process flow.



Figure 3. Final assembly technicians. Photos by Lea A.P. Tonkin.

customer service, while keeping the procedures, work instructions, and performance measures simple and straightforward. In their own way, Phonak, Inc. in Warrenville will be using the ISO certification process to drive the implementation of lean manufacturing techniques. "Our challenge is to grow as fast as we can grow, continually improve customer service, bring in and train new people, launch new products, and introduce lean, all at once," McGregor said. "We are making progress towards our goals through cultural change and balancing resources, in addition to technical innovation."

In addition to Phonak, tour sites planned for the annual conference, according to Tour Chair Bob Hafey of Flexible Steel Lacing, include: ACCO, Wheeling, the manufacturer behind such office product brand names as Swingline, Day-Timer, Kensington, Maco, Wilson Jones, ACCO, Perma, and Apollo; changeover reduction and cell implementation will be discussed during their tour; and American Lock, Crete, the leading supplier of custom made padlocks for industrial and security markets and the largest supplier of padlocks to the U.S. government; cellular manufacturing with JIT material systems, automated manufacturing and assembly, inventory and scrap

reduction, and leadtime reduction are notable here.

You will also learn about world-class improvements at tour sites Argonne National Laboratory, Lemont; BorgWarner, Frankfort; Bretford Manufacturing, Franklin Park; Caterpillar, Aurora; Daman Products, Mishawaka, IN; Dana Corporation, McHenry; Dewald/Power Gear, Mishawaka; Elgin Sweeper, Elgin; Federal Signal Corporation, Safety Products Group, Electrical Products Division, University Park; Flexible Steel Lacing Company, Downers Grove; Ford Assembly Plant, Chicago; HydraForce, Inc., Lincolnshire; International Truck and Engine Corporation, Melrose Park Engine Plant and Technical Center; Knaack Manufacturing Company, Crystal Lake; Motorola, Schaumburg; Poly-Circuits; Revcor, Carpenters-

ville; Scot Forge; Siemens; System Sensor, St. Charles; Tellabs, Bolingbrook; UPS-Chicago Area Consolidation Hub (CACH), Hodgkins; Winzeler Gear, Harwood Heights; and Zebra Technologies Corporation, Vernon Hills. More tour sites are being considered. Register early for the conference to get a better shot at visiting your top plant tour selection.

Innovation and improvement are on the agenda for speakers in five flights of presentations, according to Program Chair Bill Baker of Raytheon and Conference Chair Bob Reynolds of Briggs & Stratton. The presentation flights include: Lean Thinking and Doing; Supply Chain Excellence; People: The Most Important Element; Knowledge Sharing, Learning, and Management; and Leadership at the Crossroads. Keynoters include Dr. Louis Stern, professor at Northwestern University (a key thought leader, focusing on marketing and customers); and Dr. Carla O'Dell, president of American Productivity and Quality Center (author of *If We Only Knew What We Know Now* and a provocative speaker on leading-edge processes and competition).

Look for more details on the Annual Conference on our website, www.ame.org — we hope to see you there!

Go for it — but do it your way!

Rita Bailey, Southwest Airlines,

Quoted in the book Peak

*Performance; Aligning the Heart
and Minds of Your Employees*

by John R. Katzenback

