

## Lean Manufacturers Recognized for Excellence

LOGAN, UT (3/1/2005). Manufacturers of coronary stents, helicopters, circuit boards, fireplaces, laser guided bomb kits, airbag initiators, seat belts, injection molding, automotive seals, among others, are 2005 Recipients of the Shingo Prize for Excellence in Manufacturing. Dubbed the "Nobel prize of Manufacturing" by Business Week, the Shingo Prize is recognized as the premier manufacturing award and recognition program in North America.

"The recipients of the Shingo Prize demonstrate that lean enterprise leadership will truly weather economic uncertainty by not wasting precious manufacturing and business resources," said Ross Robson, Shingo Prize Executive Director. "The diversity of the 2005 Shingo Prize recipients clearly demonstrates the universal value of Lean Enterprise among the manufacturers of North America in terms of performance excellence for quality, cost, delivery, and business results."

Twelve states are now conducting state-level Shingo Prize award programs. They include Virginia, North Carolina, Massachusetts, New Hampshire, Rhode Island, Vermont, Maine, Iowa, Michigan, Tennessee, Connecticut, and Utah. In addition, a public-sector category primarily for military (Air Force, Army, and Navy) depots responsible for maintenance, repair and overhaul, have begun in 2004-2005. The mission aim of Lean Enterprise and the Shingo Prize is to clearly eliminate all non-value added activity that negatively impacts profitability and/or tax utilization.

This year's Shingo Prize Recipients are:

Autoliv Tremonton Facility, Tremonton, Utah - This plant produces initiators and micro gas generators for Autoliv's world-leading airbag and seat belt business. As the third-largest producer of initiators in the world, the Tremonton Facility relies on an engaged workforce of more than 450 people who implement the lean principles of the Autoliv Production System (APS) to continuously drive improvement in cost, quality, delivery, safety, and productivity. Results over the past three years include: 12% on-time delivery improvement during a 10% growth period; 362% reduction of customer return PPM; 38% labor efficiency improvement; 28% material costs reduction; 330% inventory reduction; and recognition for receiving Autoliv North America's top safety award.

BAE Systems, Fort Wayne Operations, Fort Wayne, Ind. - BAE Systems serves aerospace and defense end users and platform providers with capabilities and products that improve operational safety and enhance mission effectiveness. Employees are proud of the fact that every three seconds, an aircraft takes off with a Fort Wayne-manufactured product. The empowered and flexible work force has utilized lean principles to improve every aspect of the enterprise. Significant achievements include a 45% improvement in labor productivity, tripling of production inventory turns, a 50% reduction in scrap and rework costs, and a reduction in new product introduction cycle time of more than 60%.

The Boeing Company, Mesa, Ariz. - This facility produces the world's finest attack helicopter, the AH-64D Apache Longbow, for the U.S. Army and international customers. Through employee involvement and a high performance work team environment, the Apache program is recognized as a leader in world-class lean manufacturing practices. By applying lean concepts, the program has reduced final assembly, integration, and test hours per aircraft by 85% over the past five years. A 40% reduction in cycle time has been achieved over the same time period. An empowered workforce and proven, innovative processes continue to push the Boeing operation in Mesa to new levels of quality and performance.

The Boeing Company, St. Charles, Mo. - The Boeing Company Weapons Enterprise Capability Center (ECC) is recognized as a world leader in all-weather precision strike munitions, providing a wide spectrum of strike capabilities. Utilizing lean manufacturing principles has enabled Weapons ECC to reduce supplier lead times by 60% and increase inventory turns from 24 to more than 200, while increasing monthly rates by 400%. The Weapons ECC empowered workforce and continuous improvement methodologies have become the industry benchmark and

insure our continued performance. The ECC employs 1,200 people in its state-of-the-art facilities in St. Charles, Mo.

Boston Scientific, Stent and Balloon Catheter Plant, Maple Grove, Minn. - Improving the quality of patient care and the productivity of healthcare delivery drives our employees' commitment to be the best medical device producer in the industry. Boston Scientific's Maple Grove plant manufactures products that treat cardiovascular and peripheral diseases. In 2004 Maple Grove operations launched the TAXUS® Express<sup>2</sup>™ Paclitaxel-Eluting Coronary Stent system. This was the largest new-product launch in the medical device history, propelling Boston Scientific Corporation to capture #1 market share and add \$2.1 billion in revenue. The Maple Grove operations team has increased its customer quality by 65%, reduced scrap by 54%, decreased plant cycle time by 89%, while improving productivity by 103%. Our business results, customer satisfaction, and quality of our products reflect our employee's commitment to become the best medical device producer in the industry.

Celestica de Monterrey, S.A. C.V., Monterrey, Mexico - The first electronics manufacturing services (EMS) provider to receive the Shingo Prize, Celestica's Monterrey, Mexico facility specializes in providing electronics manufacturing services to leading OEMs, primarily in the telecom and networking sectors. The successful implementation of lean at Celestica's Monterrey facility resulted in space utilization improvements of 34%, reduction in set up times of 85%, and reduction of scrap by 66%. By applying lean principles, Celestica's Monterrey facility reduced customer lead times by 71%, while achieving greater simplicity and enhancing service to its customers, ultimately improving customers' bottom-line benefits and exceeding their expectations.

Delphi Ensemble de Cables y Componentes (Guadalupe II) Plant 8400, Guadalupe, Nuevo León, Mexico - This facility started operations in January, 1989 and currently employs 1,226 associates. Guadalupe II is part of Delphi Packard Electric Mexican East Operations. The Guadalupe II facility is proudly devoted to the assembly of energy distribution and signal systems for the automotive market. Through the implementation of the Delphi Manufacturing System, Guadalupe II has achieved a 61% scrap reduction, 40% manufacturing cost improvements, and a 42% increase in inventory turns. In 2004 they only had 3 customer complaints compared to 36 in 2003. It assembles the main body, engine, forward lamp, rear body harnesses for General Motors, its main customer, and ships to Oshawa Vehicle Assembly Plants in Canada. It also assembles connectors for Power and Signal and Lear.

Delphi Packard Electric Systems, Vienna Molding Operation, Vienna, Ohio - The Vienna Molding Operation is Delphi's first all-electric injection molding operation. The plant's 120 electric presses operate in a 24/7 continuous-run environment and are capable of producing 1.4 billion plastic parts annually. The highly flexible and integrated facility is tooled for nearly 500 part numbers and utilizes an overhead feed system that automatically conveys more than 70 percent of the plant's 95 material specs to the press. The priority-based scheduling system enables the plant to label and ship 55% of the product directly from the press to the customer. The 180-employee facility has reduced customer complaints by 97% and customer RRPPM by 99%. Other significant accomplishments include a 59% improvement in operational availability and 100% on-time delivery. Vienna's sister plant in nearby Cortland, Ohio, was a 2002 recipient of the Shingo Prize.

Delphi Sistemas de Energia (Plant 39) Saltillo, Coahuila; Mexico - Saltillo Operations is a manufacturing plant dedicated to build brake system components for the automotive industry. Founded in 1998, the plant's 586 employees are dedicated to building quality products for the worldwide market. Applying best practices in operation systems has resulted in substantial improvements in quality, cost, and delivery. These achievements include a 73% reduction in customer complaints, \$5 million cost savings, and a 100% on-time delivery record with OEMs for 5 consecutive years. Also notable is the plant's safety record which stands at 2.3 years without a lost work day. Saltillo's tremendous growth is the consequence of teamwork, combined with a leadership focus.

GDX Automotive, New Haven, Mo. - This plant produces vehicle sealing components for GM, Ford, DaimlerChrysler, Freightliner, Toyota, Honda, and Nissan. Through shared leadership and Common Sense Manufacturing principles, our team of nearly 600 associates has significantly improved our plant performance metrics including quality (PPM's reduced from 1832 to 3), safety (Over 1 million hours without a lost time each of the last three years) and profitability (up 184%). Our plant work ethic and engagement is world class as evidenced by our 99.4% attendance rate and our 7,292 implemented suggestions in 2004. Our culture of continuous improvement has resulted in more business for our plant and a more satisfied workforce.

Hearth & Home Technologies, Lake City, Minn. - As the world's leading fireplace manufacturer, Hearth & Home Technologies, a subsidiary of HNI Corporation is located in Lake City, Minnesota. Applying Lean Production System tools enables the Lake City facility to achieve the highest quality, lowest cost, and shortest lead times when manufacturing product for its Heat & Glo™, Heatilator® and Quadra-Fire® brands. By fostering a continuous improvement culture, member-owners enjoy a safe work environment and opportunities to make a difference each day. In 2004, the Lake City facility accomplished an average of 17 member-implemented improvements per member providing a total cost savings of more than \$5 million. Other improvements over the last three years include an increase in finished goods turns by 50%, a 17% increase in the operating contribution margin, 57% increased asset return, and over 80% of manufactured product on a build-to-load system.

Lockheed Martin, Archbald, Penn. - Lockheed Martin's facility in Archbald is a full service partner with the U.S. Department of Defense, providing high technology systems, products, and services. Products include laser-guided bomb kits and laser-guided training rounds, specialized instrumentation and control systems, and manufacturing services such as state-of-the-art metal crafting and electrical assembly. Archbald has aligned its more than 650 employees, processes, and culture to create a lean enterprise. Archbald has exceeded customers' expectations by achieving 100% on-time delivery of laser-guided system and mortar products since 2001, accomplishing first-pass yield rates approaching 98% on highly technical products, improving inventory turns by 400%, and attaining customer savings from cost reductions of greater than \$150 million.

Takata Seat Belts, Inc., Equipo Automotriz Americana, Agua Prieta Operations, Agua Prieta, Mexico - The Agua Prieta facility is the birthplace of Takata Seat Belts Inc. operations. With a focus on customer satisfaction and continuous improvement, more than 1,200 dynamic associates, who receive an average of 60 hours of training per year, strive for manufacturing excellence every day. The plant produced more than 8 million seat belts last year with less than 19 parts per million defect rate. Takata's focus on continuous improvement is evident throughout the Agua Prieta facility with a 98% on-time delivery rate and a 210% increase in production over the past three years with NO plant expansion. The plant's complete enthusiasm, teamwork, and participation are the keys to their manufacturing success.

Takata Seat Belts, Inc., Equipo Automotriz Americana, Monterrey Operations, Plant 1, Apodaca, Mexico - Plant 1 is one of three Takata manufacturing facilities located in Monterrey, Mexico. Its motivated employees manufacture seatbelts and seatbelt components for more than ten customer programs guided by the "Quality First" philosophy. The plant's success is measured by consistently exceeding customer performance goals, revealed by the reduction of customer PPM rejects from 68 in 2001 to 14 in 2004 and by manufacturing's ability to decrease scrap by 85%. Over the past three years, the plant's sales volume has more than doubled, with a 50% overtime reduction. Meeting this demand was only possible by the hard work and dedication of Plant 1's entire staff and their application of continuous improvement and lean manufacturing.

Takata Seatbelts, Inc., Equipo Automotriz Americana, Monterrey Operations, Plant 2, Apodaca, Mexico - Monterrey Plant 2 is a Honda-specific manufacturing facility that produces 85% of the Honda's seat belt requirements in North America. The enthusiastic associates of Plant 2

overwhelmingly participate in continuous improvement activities outside of their normal job scope. Improvement teams have the opportunity to compete amongst their peers, and the winning Monterrey Plant 2 teams then compete internationally against other teams from Honda's supply base. Simply, our people make the difference. As a result, this plant has reduced internal defects by 66%, attained 100% on-time delivery, and maintained a steady 10% increase in sales year-over-year. Automotive seat belt quality is absolutely critical to us as we are in the business of saving lives.

#### Finalists

Finalists, scoring close to Recipient status, include Brazeway, Inc., Adrian, Michigan; Delphi Plant 32 RBE VII, Juarez, Mexico; Delphi Sistemas de Energia, Plant 59, Torreon, Mexico; Noble Metal Processing de Mexico S. de R. L. de C. V., Silao, Mexico; and Takata Seat Belts, Inc. Equipo Automotriz Americana, S.A. de C.V., Acuña, Mexico. "Each of these plants are also outstanding in their manufacturing processes," according to Robson.

The Shingo Prize for Excellence in Manufacturing, for manufacturers in the U.S., Canada and Mexico, is administered by the College of Business, Utah State University. Awards for the Recipients and Finalists will be presented at the 17th Annual Shingo Prize Conference and Awards Ceremony to be held April 21, 2005, at the Grand Rapids Convention Center, Grand Rapids, MI. Speakers will include James Albaugh, President and CEO, Boeing's Integrated Defense System; Frank Ewasyshyn, Executive Vice President - Manufacturing, Chrysler Group; Mohsen Sohi, President and CEO, Freudenberg NOK; Harold Simons, Executive Vice President, O.C. Tanner; and Jeffrey Liker, Professor, University of Michigan, among others. For more information, visit [www.shingoprize.org](http://www.shingoprize.org).