

2004 Shingo Prizes

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For the first time, the majority of recipients were Mexican plants; the effects of globalization have come full term. All Mexican winners were from Delphi too, which has now accumulated more Shingo Awards than any other company, about 20 in all. For the past three years Delphi's corporate lean initiative has been gaining momentum.

Business Recipients 2004

ArvinMeritor Light Vehicle Systems Gladstone plant, Columbus, IN

Manufacturer of complete exhaust systems and exhaust components for leading car manufacturers. Since 2000, improvements included a decrease in customer PPMs of 72 percent, a decrease in supplier PPMs of 99 percent, and a 54 percent decrease in the cost of non-quality. Since 1999, on-time delivery has averaged 99.9.

Delphi Corporation, Delphi Electronics and Safety, Delnosa 5 & 6 Operations, Reynosa, Mexico

Delnosa ships over 24,000 vehicle electronics products daily to 72 customer locations in 11 countries. In the last three years, Delnosa has increased productivity by 41 percent;

inventory turns by 70 percent; first time quality by 76 percent; and asset utilization by 40 percent. Delnosa's 2500 employees have reached 200 percent participation in the employee suggestion program and have worked over 22 million hours without a lost workday accident.

Delphi Electronics & Safety, Kokomo Operations, Plants 7 & 9, Kokomo, IN

Headquarters for Delphi's vehicle electronics systems and safety systems, the plant employs over 1100 people making products that include audio components, power train controllers, inflatable restraint system electronics and electronic climate controllers. For the third straight year in 2003, Kokomo experienced double-digit manufacturing improvement; a 24 percent reduction in inventory and 51 percent improvement in first time quality. On-time shipping is nearly 100 percent.

Delphi Corporation, Energy & Chassis Systems, Empresas Ca-Le de Tlaxcala, Mexico

The Ca-Le plant manufactures two kinds of batteries; Hybrid (Antimony-Calcium) and Maintenance-Free (Calcium-Calcium) with 575 employees in 1,291,669 square

feet. Through the implementation of lean concepts and techniques, they work daily on *exceeding our customers' expectations*.

Delphi Sistemas de Energia S.A. de C.V., Plt. 57; Chihuahua, Chihuahua Mexico

Serving 55 customers in 12 countries, Delphi Sistemas de Energia is a top manufacturing organization. After embarking on the Delphi Production System, both machine and operator productivity soared. In 2003, employees averaged over 100 hours of training each, considered the key to rapid improvement.

Delphi Corporation, Packard Electric Systems. Plant 50, Del Parral Chihuahua, Mexico

Parral makes power and signal distribution systems for vehicles, most of which are wiring harnesses, and a complex mix; 13 families of products built on 18 production lines. The 2200 employees are super empowered, for example they are beginning DFM workshops. Since 1998, Parral has shipped single digit ppm quality to customers, 100 percent on time.

**Delphi Corporation,
Packard Electric Systems.
Plant 58, Meoqui,
Chihuahua, Mexico**

Meoqui delivers over three million wiring systems annually. Its 1800 employees work in a 151,000-square-foot facility and are committed to the Delphi Manufacturing System. Operational improvements: 20 percent reduction in customer complaints and 17 percent improvement in total cost in 2003; scrap reduction of 50 percent since 2000; first-time quality improved 72 percent since 2001; and productivity increased 35 percent over 2000.

**Delphi Packard, Plant 98,
Centro Técnico Herramental
S.A de C.V, Ramos Arizpe,
Coahuila**

Known as CENTEC, this plant makes wiring harness and connectors for 40 customers around the world. To become flexible and skillful, the plant develops all 470 employees in the Delphi Production System. Notable accomplishments: Zero incidents per million shipping record, and the Industria Limpia certification from the Mexican government for environmental soundness.

**Delphi Packard, Plant 51,
Nuevo Casas Grandes
Chihuahua, Mexico**

This plant ships 10,000,000 wiring systems annually from 165,000 square feet. Operating by the dictum of "The Best Plant by its People," this plant achieved zero lost work days, over 80 percent reduction in RPPM (Rejected Parts Per Million), more than 50 percent reduction in Customer Complaints, and 20 percent reduction in cost per shipped hour.

**Maytag Jackson
Dishwashing Products,
Jackson, TN**

The first appliance plant to win a Shingo Prize, Jackson builds over 100 dishwasher models daily, combining lean manufacturing with Six Sigma tools. Associates work in empowered High Performance Work Teams. Achievements: 64 percent reduction in OSHA recordables and 84 percent improvement in first pass quality; transformed a single line producing "any model/any day" into eight single-piece-flow assembly cells producing "any model/any hour."

**Raytheon Missile Systems,
Tucson Operations,
Tucson, AZ**

Manufacturer of a variety of weaponry, including the Tomahawk Cruise Missile and Paveway™ laser guided bomb in a huge complex with 11,000 employees. Tucson Operations have long been a benchmark inside Raytheon, and receiving the Shingo Prize has validated the firm's progress along the path to improvement.

**TI Automotive,
Cartersville, GA**

The plant sends more than 7.4 million brake and fuel bundles per year to Ford and Mercedes-Benz. TI Automotive's lean system is Common Sense Manufacturing plus a passionate belief in a simpler, better way. The plant has achieved single-digit ppm, 100 percent on time delivery, and a 30 percent reduction in inventory levels.

2004 Shingo Academy Inductees

Louise L. Francesconi, President
Raytheon Missile Systems

Brian S. Jones, President and
CEO, Nypro, Inc.

David J. Logozzo, Executive
Director, Lean Enterprise, Delphi
Corp.

Anand Sharma, President and
CEO, TBM Consulting Group

2004 Research Recipients

**Jean E. Cunningham and Orest
J. Fiume with Emily Adams:**
Book, Real Numbers

**Ross & Associates and the U.S.
EPA:** Report, "Lean Manufacturing
and the Environment"

For Academic Journal Articles:

Rachna Shah and Peter J. Ward,
Ohio State University

Steven J. Spear, Harvard University

Douglas M. Stewart, University
of Southern California, and **John
R. Grout**, Berry College

Rosemary R. Fullerton, Utah
State University, and **Cheryl S.
McWatters**, University of Alberta

*Robert W. Hall is editor-in-chief of
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