

# QUALITY LEADERSHIP

# 1000

## TEAMWORK LEADS TO ULTIMATE TROPHY.

BY QUALITY MAGAZINE STAFF

Much like it takes the commitment and dedication of an entire team to win the Super Bowl, World Series, NBA Finals or Stanley Cup, it takes the same tireless effort throughout a company to achieve quality.

The mantra is changing from senior management must buy into quality to everyone must buy in to the quality program. Teamwork is prevalent at the top five companies in this year's *Quality Leadership 100*—Quality Bolt & Screw

Co., Wieland Designs, HCC Inc., Thule Inc. and Paulo Products Co. As a matter of fact, HCC Inc.'s motto is "excellence through teamwork."

One key aspect of teamwork is ongoing training. Most survey respondents indicate that, on average, employees receive between one to four hours of training in quality per month, but a growing number of companies offer 10 or more hours of quality training per month.

Quality programs that employees take part in to improve the manufacturing process include continuous improvement, internal quality programs, lean manufacturing, preventive maintenance, problem solving, Kaizen and Six Sigma.

The majority of respondents indicated that their companies are registered to a quality system. The most cited standards include ISO 9001: 2000, ISO 13485, ISO 14000, ISO/TS 16949 and ISO 17025.

### SURVEY CRITERIA

More than 800 manufacturers participating in the *Quality Leadership 100* were surveyed on criteria such as scrap and rework as a percentage of sales, warranty costs as a percentage of sales, rejected parts per million shipped and

contribution of quality to profitability and shareholder value.

Companies also were evaluated based on the number of quality programs in place; registration to various standards; percentage of employees

dedicated to quality responsibilities; average number of hours monthly that employees receive quality training; and the role quality professionals play in the acquisition of test, measurement and inspection tools, software and services.

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**Paulo Products Co.**  
St. Louis, MO

Paulo Products Co., with five plants operating in three states, delivers engineered heat treating, brazing and metal finishing solutions to a range of customers in the automotive, aerospace and commercial industries. The culture is driven by its small family roots. President Ben Rassieur III and Executive Vice President Terry Rassieur continue to lead the business their grandparents created in 1943. Paulo takes a conservative approach to growth and is committed to maintaining a strong business.

Paulo's overall strategy is to address quality, service and productivity. The quality portion focuses on consistent delivery and less variation. Productivity is enhanced using its information system capabilities. "We are very information oriented," says Ben Rassieur. "Based on our methodology, we developed our production information client-server system (PICS), which tracks



Source: Paulo Products Co.

the development process, production and analysis of production." PICS tracks every order from receipt, through processing, inspection, shipment and billing.

"You can build engineering models with certain time and process parameters," Ben says. From these models, Paulo develops process controls that are real time. These controls reduce part variation to requirements, through automatic adjustments to process parameters.

"Cross-functional teams are assigned around certain processes," Ben says. "Everyone is involved. Depending on the project, we will vary the people working on the team to best fit the goal. We draw from practical experience, not just one method."

One of Paulo's business and quality objectives is, "Always be willing and ready to learn new ways to do the job." This is promoted through its leadership skills training—designed around the essential skills necessary to continuously improve service, production and quality standards. Organized problem solving, for example, is stressed at all levels of the organization, and best practices are documented and shared with all Paulo plants.

Important trends, such as the movement of manufacturing to low-cost areas, are measured in the long term. "This creates supply chain issues due to long transportation times, especially from overseas," Ben notes. This creates the need for Paulo to run smaller lot sizes more efficiently for its customers. The company also measures long-term plant performance trends in the areas of quality and service.

Contact Paulo at [www.paulo.com](http://www.paulo.com), [contact@paulo.com](mailto:contact@paulo.com), or 314-647-7500.

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|---|--|---|--|---|
| 1. <b>Quality Bolt &amp; Screw Co.</b><br>Brecksville, OH | 22. <b>Beckett Bronze Co. Inc.</b><br>Muncie, IN                       | 42. <b>Hasbro Global Operations<br/>ELM Site</b><br>East Longmeadow, MA | 61. <b>International Rectifier</b><br>El Segundo, CA     | 82. <b>Advanced Instrument<br/>Development Inc.</b><br>Melrose Park, IL |
| 2. <b>Wieland Designs</b><br>Goshen, IN                   | 23. <b>Emhart Technologies,<br/>Automotive Div.</b><br>Mt. Clemens, MI | 43. <b>Thomas Built Buses</b><br>High Point, NC                         | 62. <b>Manitowoc Co.</b><br>Manitowoc, WI                | 83. <b>General Dynamics</b><br>Falls Church, VA                         |
| 3. <b>HCC Inc.</b><br>Mendota, IL                         | 24. <b>Lockheed Martin Corp.</b><br>Bethesda, MD                       | 44. <b>Aydin Displays Inc.</b><br>Birdsboro, PA                         | 63. <b>Eaton Corp.</b><br>Cleveland, OH                  | 84. <b>Molex Fiber Optics</b><br>Lisle, IL                              |
| 4. <b>Thule Inc.</b><br>Seymour, CT                       | 25. <b>Panduit</b><br>Tinley Park, IL                                  | 45. <b>Taber Bushnell,<br/>a Lake Air Co.</b><br>Minneapolis, MN        | 64. <b>Seats Inc.</b><br>Reedsburg, WI                   | 85. <b>Textron Systems-<br/>Wilmington</b><br>Wilmington, MA            |
| 5. <b>Paulo Products Co.</b><br>St. Louis, MO             | 26. <b>Ingersoll Rand</b><br>Montvale, NJ                              | 46. <b>Champion Aerospace</b><br>Liberty, SC                            | 65. <b>Linemaster Switch Corp.</b><br>Woodstock, CT      | 86. <b>Dura Automotive<br/>Systems Inc.</b><br>Rochester Hills, MI      |
| 6. <b>Vibro/Dynamics Corp.</b><br>Broadview, IL           | 27. <b>Delphi Electronics &amp; Safety</b><br>Kokomo, IN               | 47. <b>Johnson Controls Inc.</b><br>Milwaukee, WI                       | 66. <b>PTA Corp.</b><br>Oxford, CT                       | 87. <b>Affinia Brake Parts</b><br>McHenry, IL                           |
| 7. <b>Precision Pattern Inc.</b><br>Wichita, KS           | 28. <b>Nascote Industries Inc.</b><br>Nashville, TN                    | 48. <b>Bendix</b><br>Troy, MI   | 67. <b>Moen Inc.</b><br>North Olmsted, OH                | 88. <b>Harris Corp.</b><br>Melbourne, FL                                |
| 8. <b>Portec Flomaster</b><br>Canon City, CO              | 29. <b>Leupold &amp; Stevens Inc.</b><br>Beaverton, OR                 | 49. <b>Fuel Systems Inc.</b><br>Brookfield, WI                          | 68. <b>Dart Controls Inc.</b><br>Zionsville, IN          | 89. <b>Vocollect Inc.</b><br>Pittsburgh, PA                             |
| 9. <b>Bollinger Shipyards</b><br>Lockport, LA             | 30. <b>Custom Tool &amp; Mfg.</b><br>Lawrenceburg, KY                  | 50. <b>Arrow Engine Co.</b><br>Tulsa, OK                                | 69. <b>Bridon American Corp.</b><br>Wilkes Barre, PA     | 90. <b>Black and Decker Corp.</b><br>Towson, MD                         |
| 10. <b>EI Microcircuits</b><br>Mankato, MN                | 31. <b>Electro Prime Group LLC</b><br>Toledo, OH                       | 51. <b>Intercomp Co.</b><br>Minneapolis, MN                             | 70. <b>Danfoss Flomatic Corp.</b><br>Glens Fall, NY      | 91. <b>Homogeneous Metals Inc.</b><br>Clayville, NY                     |
| 11. <b>Falmat Inc.</b><br>San Marcos, CA                  | 32. <b>Worthington Precision<br/>Metals</b><br>Mentor, OH              | 52. <b>Civco Medical<br/>Instruments</b><br>Kalona, IA                  | 71. <b>Dynamic Air Engineering Inc.</b><br>Santa Ana, CA | 92. <b>Osborne Industries Inc.</b><br>Osborne, KS                       |
| 12. <b>Milcom Systems Corp.</b><br>Virginia Beach, VA     | 33. <b>Scotsman Ice Systems</b><br>Vernon Hills, IL                    | 53. <b>Lear Corp.</b><br>Southfield, MI                                 | 72. <b>Mueller Co.</b><br>Decatur, IL                    | 93. <b>Tri Map International Inc.</b><br>Stockton, CA                   |
| 13. <b>Wolf Appliance Co. LLC</b><br>Madison, WI          | 34. <b>BSI-Balance Systems</b><br>Statesville, NC                      | 54. <b>Advanced Transit<br/>Manufacturing Inc.</b><br>Canistota, NY     | 73. <b>Organ Recovery Systems</b><br>Des Plaines, IL     | 94. <b>Northrop Grumman</b><br>Los Angeles, CA                          |
| 14. <b>Cook Group Medical</b><br>Bloomington, IN          | 35. <b>DaimlerChrysler</b><br>Auburn Hills, MI                         | 55. <b>The Gund Co.</b><br>St. Louis, MO                                | 74. <b>Planet Products</b><br>Cincinnati, OH             | 95. <b>U.S. Steel Corp.</b><br>Pittsburgh, PA                           |
| 15. <b>Elkhart Products Corp.</b><br>Elkhart, IN          | 36. <b>Dixon Automatic Tool</b><br>Rockford, IL                        | 56. <b>Whirlpool Corp.</b><br>Benton Harbor, MI                         | 75. <b>Rohm and Haas Co.</b><br>Philadelphia, PA         | 96. <b>Seals Eastern Inc.</b><br>Red Bank, NJ                           |
| 16. <b>Hobart Welding Products</b><br>Troy, OH            | 37. <b>GE Aviation</b><br>Cincinnati, OH                               | 57. <b>Ametek</b><br>Paoli, PA  | 76. <b>Teledyne Monitor Labs</b><br>Englewood, CO        | 97. <b>Esterline Hytek<br/>Finishes Co.</b><br>Kent, WA                 |
| 17. <b>Lufkin Industries</b><br>Lufkin, TX                | 38. <b>Plexus Corp.</b><br>Neeah, WI                                   | 58. <b>Mold-Rite Plastics Inc.</b><br>Plattsburgh, NY                   | 77. <b>TNCO Inc.</b><br>Whitman, MA                      | 98. <b>Exide Technologies</b><br>Alpharetta, GA                         |
| 18. <b>PBR Knoxville</b><br>Knoxville, TN                 | 39. <b>Red Lion Controls</b><br>York, PA                               | 59. <b>GE Fanuc Embedded Systems</b><br>Albuquerque, NM                 | 78. <b>Zumtobel Lighting Inc.</b><br>Highland, NY        | 99. <b>Bowe Bell + Howell</b><br>Wheeling, IL                           |
| 19. <b>TRW Automotive</b><br>Livonia, MI                  | 40. <b>Tosoh SMD Inc.</b><br>Grove City, OH                            | 60. <b>Intel-Massachusetts</b><br>Hudson, MA                            | 79. <b>Cruisers Yachts</b><br>Oconto, WI                 | 100. <b>Lennox International</b><br>Richardson, TX                      |
| 20. <b>Tyco Valves &amp; Controls</b><br>Stafford, TX     | 41. <b>Magna Tool Inc.</b><br>Cypress, CA                              |   | 80. <b>Ferro Magnetics Corp.</b><br>Bridgeton, MO        |   |
| 21. <b>Wefab Inc.</b><br>North Billerica, MA              |  |   | 81. <b>S.P. Kinney Engineers Inc.</b><br>Carnegie, PA    |   |