



The MPI Group
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2012 MPI Manufacturing Study

Please provide a response to each question based on a single manufacturing plant. If you do not know the answer to a question or if a question does not apply or is unclear, simply leave that answer blank. **Study deadline is Oct. 16, 2012.**

PLANT PROFILE

1. Please indicate if this plant is part of a public or private company: (check one) 1,1 Public 2 Private
2. In which state is the plant located? _____ 114
3. What is the nature of manufacturing operations for primary products at this plant? (check one)
3,1 Discrete (measured by numeric quantities) 2 Process (measured by weight or volume) 3 Both or hybrid
4. What is the primary product that this plant produces (e.g., axles, software)? _____ 4
5. How many years has it been since plant start-up? (check one)
5,1 Less than 5 years 2 5 - 10 years 3 11 - 20 years 4 More than 20 years
6. In which of the following industry value chains does this plant primarily participate? (check one)
7,1 Aerospace 5 Consumer packaged goods/nondurables 9 Pharmaceuticals, biotechnology, medical
2 Automotive 6 Consumer product durables 10 Printing and publishing
3 Chemicals 7 High tech 12 Defense industry
4 Construction 8 Industrial equipment and machinery 11 Other
7. Which criterion below best describes the volume and product mix of your plant's operations? (check one)
115,1 High volume/High mix 2 High volume/Low mix 3 Low volume/High mix 4 Low volume/Low mix
8. What is the approximate annual revenue of the plant's corporate parent? (independently owned facilities should respond for the entire company) \$ _____ 300
9. What is the approximate annual revenue of this plant? (if plant is a cost center, please report as the value of shipments)
Past year (2011) \$ _____ 601
This year (2012) \$ _____ 301
Anticipated next year (2013) \$ _____ 422
10. How much progress has the plant made toward achieving world-class manufacturing status? (check one)
40,1 No progress 2 Some progress 3 Significant progress 4 Fully achieved

HUMAN RESOURCES

11. How important is human-resource management to your plant's success over the next five years? (check one)
423,1 Not important 2 Minor importance 3 Somewhat important 4 Important 5 Highly important
12. Approximately how many employees (all staff) are at this plant location?
Past year (2011) _____ 602
This year (2012) _____ 303
Anticipated next year (2013) _____ 424
13. What percentage of plant production workers are represented by a union(s)? (check one)
250,1 0% 2 1 - 25% 3 26 - 50% 4 51 - 75% 5 76 - 99% 6 100%
14. What is the plant's annual labor turnover rate for the most recent year? (number of voluntary and involuntary separations ÷ typical staffing level)..... % 10
15. What percentage of production employees participate in empowered or self-directed work teams?
15,1 0% 2 1 - 25% 3 26 - 50% 4 51 - 75% 5 76 - 99% 6 100%
16. What are the average annual hours of formal training received by each plant employee? (check one)
13,1 Less than 8 hours 2 8 - 20 hours 3 21 - 40 hours 4 More than 40 hours

17. What percentage of positions have documented skill standards supported by training aligned with those standards?

(check one)

- 603-1 0% 2 1 – 25% 3 26 – 50% 4 51 – 75% 5 76 – 99% 6 100%

18. What are the approximate wages for production employees? (hourly rate without overtime)

Average wage \$ _____ 16

Starting wage \$ _____ 305

19. Which of the following human-resource practices/programs are used at this plant? (check all that apply)

- | | | |
|---|--|--|
| 311 <input type="checkbox"/> Formal employee training program | 312 <input type="checkbox"/> Apprenticeship program | 313 <input type="checkbox"/> Teaming/team-building practices |
| 314 <input type="checkbox"/> Leader/supervisor development | 315 <input type="checkbox"/> Recruiting and hiring program | 316 <input type="checkbox"/> Paid medical benefits |
| 317 <input type="checkbox"/> Paid sick and/or personal days | 318 <input type="checkbox"/> Formal safety/health program | 319 <input type="checkbox"/> Paid vacation days |
| 320 <input type="checkbox"/> Annual review and raise program | 321 <input type="checkbox"/> Employee-ownership options | 322 <input type="checkbox"/> Profit or revenue-sharing plan |
| 323 <input type="checkbox"/> Bonus plan | 324 <input type="checkbox"/> Education reimbursements | 325 <input type="checkbox"/> None of these |

20. For the past year, how many: (total number in plant)

Job-related injuries and illnesses _____ 370

Job-related injuries and illnesses resulting in lost work days _____ 371

OPERATIONS

21. Please indicate which of the following improvement methodologies are followed at the plant: (check all that apply)

- | | | | |
|---|---|---|---|
| 326 <input type="checkbox"/> Agile Manufacturing | 327 <input type="checkbox"/> Lean Manufacturing | 328 <input type="checkbox"/> Theory of Constraints | 329 <input type="checkbox"/> Six Sigma |
| 330 <input type="checkbox"/> Total Quality Management | 331 <input type="checkbox"/> Toyota Production System | 332 <input type="checkbox"/> Other methodology(ies) | 333 <input type="checkbox"/> No methodology |

22. Please describe the depth and breadth of adoption of your chosen methodology(ies)? (check one)

- 604-1 None 2 Minimal 3 Moderate 4 Extensive 5 Complete

23. How important is process improvement to your plant's success over the next five years? (check one)

- 425-1 Not important 2 Minor importance 3 Somewhat important 4 Important 5 Highly important

24. What percentage of your workforce is fully engaged in your improvement methodology(ies)? %⁴²⁶

25. Which of these programs and/or practices occur at this plant? (check all that apply)

- | | | |
|---|---|--|
| 138 <input type="checkbox"/> Benchmarking | 140 <input type="checkbox"/> Total productive maintenance | 142 <input type="checkbox"/> Quality certifications (e.g. ISO) |
| 139 <input type="checkbox"/> Continuous-improvement program | 173 <input type="checkbox"/> Open-book management | 337 <input type="checkbox"/> Strategy/policy deployment |
| 421 <input type="checkbox"/> Waste elimination (i.e., seven wastes) | 339 <input type="checkbox"/> Value-stream mapping | 340 <input type="checkbox"/> Kaizen events/blitzes |
| 172 <input type="checkbox"/> PDCA problem-solving | 144 <input type="checkbox"/> None of these | |

26. Please estimate the following operation/production measures for your plant:

| Measures | Current Year | 3 Years Ago |
|--|-------------------|--------------------|
| a. Manufacturing cycle time (start of plant production to completion of primary product) | hrs ⁴⁹ | hrs ¹⁷⁴ |
| b. On-time delivery rate (% of goods delivered on time) | % ⁵³ | % ¹⁴⁸ |
| c. Perfect delivery rate (% of goods on time to customer-requested date, perfect quality, and to customer specifications) | % ³⁷² | % ³⁷³ |
| d. Finished-product first-pass quality yield (% of product that passes final inspection) | % ⁴⁶ | % ¹⁴⁷ |
| e. Scrap and rework (as % of plant sales) | % ¹⁷⁶ | % ¹⁷⁷ |
| f. Warranty costs (as % of plant sales) | % ¹⁷⁸ | % ¹⁷⁹ |

27. How has total production output (unit volume) changed in the past 12 months? (check one)

- 146-1 Decreased more than 20% 2 Decreased 11 - 20% 3 Decreased 1 - 10% 4 Stayed the same
 5 Increased 1 - 10% 6 Increased 11 - 20% 7 Increased more than 20%

28. What are the plant's costs as a percentage of costs of goods sold (COGS)? (indicate % for each category)

| | |
|--------------------|-----------------|
| a. Labor | % ⁴¹ |
| b. Overhead | % ⁴² |
| c. Material | % ⁴³ |
| Total COGS = | 100% |

29. What is the plant's cost of goods sold as a percent of plant revenue? (annual COGS ÷ annual revenue)..... _____ % ⁴⁴

30. What are the approximate sales per employee for the most recent fiscal year?
(include all employees, not just direct labor) \$ _____ per employee ⁶⁰

31. How have sales per employee changed in the past year? (check one)

- ¹⁴⁹⁻¹ Decreased more than 10% ² Decreased 6 - 10% ³ Decreased 1 - 5% ⁴ Stayed the same
⁵ Increased 1 - 5% ⁶ Increased 6 - 10% ⁷ Increased more than 10%

32. How have per-unit manufacturing costs, excluding purchased materials, changed in the last 3 years? (check one)

- ⁴⁵⁻¹ Decreased more than 20% ² Decreased 11 - 20% ³ Decreased 1 - 10% ⁴ Stayed the same
⁵ Increased 1 - 10% ⁶ Increased 11 - 20% ⁷ Increased more than 20%

33. Which of the following practices are used to manage inventory? (check all that apply)

- ¹⁸⁰ One-piece flow techniques ¹⁸¹ Pull systems with kanban signals ¹⁸² Parts/goods supermarkets
¹⁸³ Quick equipment changeovers ¹⁸⁴ RFID and computerized inventory tracking ¹⁸⁵ Production leveling/heijunka
¹⁸⁶ Just-in-time supplier deliveries ¹⁸⁷ Vendor-managed or -owned inventories ¹⁸⁸ None of these

34. What are the plant's inventory turn rates for the following categories of material?

(If your plant has no inventory for a category because goods move just-in-time, report as 365 turns)

| | |
|--|------------------------------|
| a. Raw material (annual COGS ÷ average value of raw material on hand) | turns per year ⁵⁵ |
| b. Work-in-process material (annual COGS ÷ average value of WIP on hand) | turns per year ⁵⁶ |
| c. Finished goods (annual COGS ÷ average value of finished goods on hand) | turns per year ⁵⁷ |
| d. Total inventory (annual COGS ÷ average value of total inventory on hand) | turns per year ⁵⁸ |

35. Approximately what percentage of the plant's total inventory is obsolete? _____ % ³⁴¹

36. How has the total inventory turn rate changed in the last three years? (check one)

- ⁵⁹⁻¹ Decreased more than 20% ² Decreased 11 - 20% ³ Decreased 1 - 10% ⁴ Stayed the same
⁵ Increased 1 - 10% ⁶ Increased 11 - 20% ⁷ Increased more than 20%

SUPPLY CHAIN

37. How important is supply-chain management to your plant's success over the next five years? (check one)

- ⁴²⁷⁻¹ Not important ² Minor importance ³ Somewhat important ⁴ Important ⁵ Highly important

38. Which of the following best describes your relationship with suppliers and customers? (check one for each column)

| | Suppliers | Customers |
|---|---|---|
| Buy and sell (e.g., cost and quality focus) | ³⁷⁴⁻¹ <input type="checkbox"/> | ³⁷⁵⁻¹ <input type="checkbox"/> |
| Certification (e.g., broad qualifications established) | ² <input type="checkbox"/> | ² <input type="checkbox"/> |
| Cooperation (e.g., sharing product ideas, best practices) | ³ <input type="checkbox"/> | ³ <input type="checkbox"/> |
| Partnership (e.g., sharing resources, intellectual property, cost savings) | ⁴ <input type="checkbox"/> | ⁴ <input type="checkbox"/> |

39. Which of the following criteria are assessed and documented for material/component suppliers? (check all that apply)

- ⁶⁰⁵ Quality/reliability ⁶⁰⁶ Delivery (to schedule) ⁶⁰⁷ Productivity ⁶⁰⁸ Total cost
⁶⁰⁹ Adherence to specifications ⁶¹⁰ Service/responsiveness ⁶¹¹ Labor practices ⁶¹² Ethics
⁶¹³ Environmental performance ⁶¹⁴ Criteria of supplier's suppliers ⁶¹⁵ Other ⁶¹⁶ No criteria

40. How have the following (on a per unit basis) changed in the past 12 months? (check one in each row)

| | Decreased more than 10% | Decreased 6-10% | Decreased 1-5% | No change | Increased 1-5% | Increased 6-10% | Increased more than 10% |
|-------------------------------------|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| a. Price for your products | ¹⁵⁴⁻¹ <input type="checkbox"/> | ² <input type="checkbox"/> | ³ <input type="checkbox"/> | ⁴ <input type="checkbox"/> | ⁵ <input type="checkbox"/> | ⁶ <input type="checkbox"/> | ⁷ <input type="checkbox"/> |
| b. Component/material costs | ³⁴²⁻¹ <input type="checkbox"/> | ² <input type="checkbox"/> | ³ <input type="checkbox"/> | ⁴ <input type="checkbox"/> | ⁵ <input type="checkbox"/> | ⁶ <input type="checkbox"/> | ⁷ <input type="checkbox"/> |
| c. Employee wages | ³⁴³⁻¹ <input type="checkbox"/> | ² <input type="checkbox"/> | ³ <input type="checkbox"/> | ⁴ <input type="checkbox"/> | ⁵ <input type="checkbox"/> | ⁶ <input type="checkbox"/> | ⁷ <input type="checkbox"/> |
| d. Employee benefits | ³⁴⁴⁻¹ <input type="checkbox"/> | ² <input type="checkbox"/> | ³ <input type="checkbox"/> | ⁴ <input type="checkbox"/> | ⁵ <input type="checkbox"/> | ⁶ <input type="checkbox"/> | ⁷ <input type="checkbox"/> |
| e. Logistics/transport costs | ³⁴⁵⁻¹ <input type="checkbox"/> | ² <input type="checkbox"/> | ³ <input type="checkbox"/> | ⁴ <input type="checkbox"/> | ⁵ <input type="checkbox"/> | ⁶ <input type="checkbox"/> | ⁷ <input type="checkbox"/> |
| f. Utilities/fuel | ³⁴⁶⁻¹ <input type="checkbox"/> | ² <input type="checkbox"/> | ³ <input type="checkbox"/> | ⁴ <input type="checkbox"/> | ⁵ <input type="checkbox"/> | ⁶ <input type="checkbox"/> | ⁷ <input type="checkbox"/> |

41. To what degree are the following activities outsourced? (check one for each activity)

| | All | Some | None |
|---------------------------|--------------------------------|----------------------------|----------------------------|
| a. Fabrication | 376-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> |
| b. Assembly | 377-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> |
| c. Electrical | 378-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> |
| d. Design and/or R&D | 379-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> |
| e. Maintenance | 380-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> |
| f. Information technology | 381-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> |

| | All | Some | None |
|------------------------|--------------------------------|----------------------------|----------------------------|
| g. Purchasing | 382-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> |
| h. Transportation | 383-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> |
| i. Customer service | 384-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> |
| j. HR management | 385-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> |
| k. Sales and marketing | 386-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> |

42. Please estimate the following customer and supplier measures for your plant:

| Measures | Current Year | 3 Years Ago |
|--|--------------------|--------------------|
| a. Customer reject rates (parts per million) | ppm ²⁰⁸ | ppm ²⁰⁹ |
| b. Customer retention rate (% customers retained from previous year) | % ²¹⁰ | % ²¹¹ |
| c. Overseas sales (as % of total dollar volume) | % ²¹² | % ²¹³ |
| d. Imported material/components (% of dollar volume purchased outside home country) | % ¹⁵³ | % ²¹⁴ |
| e. Imported material/components from China (% of dollar volume from China) | % ²¹⁵ | % ²¹⁶ |

43. Which of the following supply-chain programs and/or practices are in place? (check all that apply)

- | | | |
|--|---|--|
| <input type="checkbox"/> 389 Certification of major suppliers | <input type="checkbox"/> 70 Supplier-management program | <input type="checkbox"/> 390 Sharing forecasts with suppliers |
| <input type="checkbox"/> 391 Collaborative design with suppliers | <input type="checkbox"/> 71 Customer-satisfaction surveys | <input type="checkbox"/> 392 Kitting/preassembly for customers |
| <input type="checkbox"/> 393 Collaborative design with customers | <input type="checkbox"/> 72 Access to customer forecasts | <input type="checkbox"/> 394 None of these |

44. Please indicate how the following have changed in the previous 12 months:

- Insourcing (production work brought back to plant from outside suppliers as % of total volume) % ⁶¹⁷
- Outsourcing (production work moved to external suppliers as % of total production volume) % ⁶¹⁸

CAPACITY / EQUIPMENT / IT

45. Please estimate the following capacity/equipment measures for your plant:

| Measures | Current Year | 3 Years Ago |
|---|------------------|------------------|
| a. Production volume (as % of designed plant capacity) | % ⁷⁸ | % ²¹⁷ |
| b. Machine availability (as % of scheduled uptime) | % ⁷⁹ | % ²¹⁸ |
| c. Overall equipment effectiveness (% machine availability X % quality yield X % of optimal rate that equipment operates) | % ⁸⁰ | % ¹⁵⁶ |
| d. Percentage of unplanned maintenance as a percentage of total maintenance (% based on annual maintenance expenses) | % ⁶¹⁹ | % ⁶²⁰ |
| e. Return on invested capital (net operating profit after taxes ÷ by capital invested) | % ⁶³ | % ¹⁵¹ |

46. Please rate your plant's capability to monitor and measure the following: (check one in each row)

| | 1= No capability | 2 | 3 | 4 | 5= Real-time capability |
|---|--------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Process-specific quality | 560-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Process-specific productivity (i.e., value vs. waste) | 561-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Process-specific pace or speed | 562-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Process-specific safety | 563-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Process-specific sustainability performance | 564-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Location-specific inventory levels | 565-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Individual equipment or machine performance | 566-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| In-plant material-handling performance | 567-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| External logistics/distribution performance | 568-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| Supplier performance | 569-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |

47. For which functions are effective information technology (IT) applications and/or systems currently in place? (check all that apply)

- 570 Enterprise management 571 Planning/scheduling 572 Design/development 573 Procurement/purchasing
 574 Production/operations 575 Logistics/distribution 576 Human resources 577 Accounting/finance
 578 Supply-chain management 579 Asset management 580 Customer service/support 581 None of these

48. For which functions are applications and/or systems likely to be purchased in the next 12 months? (check all that apply)

- 582 Enterprise management 583 Planning/scheduling 584 Design/development 585 Procurement/purchasing
 586 Production/operations 587 Logistics/distribution 588 Human resources 589 Accounting/finance
 590 Supply-chain management 591 Asset management 592 Customer service/support 593 None of these

49. Approximately what percentage of IT systems and applications are cloud computing (SaaS)? % 621

50. What are the following investments/expenses as a percentage of plant sales for the current year, and how is that percentage likely to change next year?

| | Current % | Increase | Same | Decrease |
|--|-----------|--------------------------------|----------------------------|----------------------------|
| a. Capital-equipment spending | % 159 | 401-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> |
| b. Information technology spending | % 160 | 402-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> |
| c. Process improvement initiatives | % 395 | 403-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> |
| d. Employee costs (all wages, benefits, etc.) | % 396 | 404-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> |
| e. Utilities/energy | % 397 | 405-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> |
| f. Material and components | % 398 | 406-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> |

51. How did the following affect your company's profitability in the most recent year? (check one in each row)

| | Major increase | Some increase | No change | Some decrease | Major decrease | Not applicable |
|--|--------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| a. Use of improvement methodology(s) | 334-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> | 6 <input type="checkbox"/> |
| b. Application of new capital equipment | 347-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> | 6 <input type="checkbox"/> |
| c. Implementation of new IT | 348-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> | 6 <input type="checkbox"/> |
| d. Development of new products/services | 419-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> | 6 <input type="checkbox"/> |
| e. Investments in the workforce | 420-1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> | 6 <input type="checkbox"/> |

GREEN/SUSTAINABILITY

52. How important is green/sustainability to your plant's success over the next five years? (check one)

- 439-1 Not important 2 Minor importance 3 Somewhat important 4 Important 5 Highly important

53. Which of these Green programs and/or practices occur at this plant? (check all that apply)

- 440 Energy management 442 Recycling/reuse programs 444 Use of renewable energies
 441 Formal Green corporate program 443 Carbon footprinting 445 None of these

54. Please estimate the following green/sustainability measures for your plant:

| Measures | Current Year | 3 Years Ago |
|--|--------------|-------------|
| a. Green products (% of plant products that are recyclable/reusable) | % 387 | % 388 |
| b. Carbon footprints (% of plant products with documented carbon footprint) | % 446 | % 448 |
| c. Green components and materials (% of purchased components or materials that are recycled/regrind/etc.) | % 447 | % 449 |

55. By approximately what percentage has energy per unit of product output been reduced in the past year? (indicate an increase in energy with + symbol) % 450

56. By approximately what percentage have the plant's greenhouse gas emissions (CO2, methane, etc.) been reduced in the past year? (indicate an increase in emissions with + symbol) % 451

————— Thank you for completing the MPI Manufacturing Study —————

To receive your **free Executive Summary** of this year's study findings and **free online access to customizable benchmarks** from four years' of the study data, go to www.MPIBenchmarks.com and provide the necessary contact information.

If you would like to send a hard copy of your questionnaire, please mail to MPI Manufacturing Study, P.O. Box 4330, Dublin, OH 43016, or fax the questionnaire to 614-389-3816.