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Introduction

The Manufacturing 2011/2012 Executive Summary examines manufacturing-plant-level performances and practices for facilities in the United States and internationally, and is based on the 2011 MPI Manufacturing Study. This Executive Summary also compares 2011 study findings vs. data collected in the 2010 study.

The MPI Manufacturing Study is conducted by The MPI Group with the support of Thomas International Publishing Company. The study is intended to help manufacturers in the United States and internationally to benchmark their operations, and to better understand how to improve.

Executive Summary highlights include:

Plant revenues and workforce sizes to increase: Plants expect their annual revenues and their employee numbers to increase in 2012, rising from $11 million to $14 million (median) and from 66 employees to 70 employees (median).

Production volumes rising: Two-thirds of plants (66%) report that their total production output (unit volume) increased during the past 12 months; in 2010, just 43% of plants had reported a rise in output. Similarly, plants report that production volume (as a percentage of designed plant capacity) was 70% (median) in 2011, up from 64% (median) in 2010.

Cautious spending: Plant spending levels for capital equipment, information technology, and process improvement initiatives remained unchanged or decreased in 2011 vs. 2010, with many plants reporting that they’ll maintain similar investment levels next year.

Cost pressures: Half of plants (49%) report that their manufacturing costs (excluding purchased materials) increased over the past three years. In addition, a large majority of plants report that all cost groupings surveyed by the MPI Manufacturing Study increased during the past year. For example, 88% of plants report utilities/fuel costs increased (up from 70% of plants in 2010), and 87% of plants report that logistics/transport costs increased (up from 62% in 2010 study). One consolation for manufacturers is that 70% of plants report that the prices for their products increased (up from 43% in the 2010 study).

Plant performances: Many plant performances — production measures, human-resource measures, supply-chain measures, etc. — have improved over the past three years and even vs. 2010. To remain competitive amid increasing cost pressures, manufacturers must continue to make products better, faster, and more efficiently.

World-class status: The Manufacturing Performance Institute annually asks plants to rate their progress toward world-class manufacturing status. Those plants nearest to world-class status are consistently more likely to implement best practices and outperform their non-world-class competitors; this year is no exception. Within each sector of the Executive Summary you’ll find tables and analysis highlighting findings for plants near or at world-class status vs. those plants furthest from world-class status. These findings offer clear insight into how plants can improve.

For more information on U.S. and global manufacturing, read on.

John R. Brandt
CEO
Manufacturing Performance Institute
A total of 322 manufacturing plants in the United States (70% of plants) and around the world (30%) participated in the 2011 MPI Manufacturing Study.1 A majority of plants are owned by a private company (84% of plants), have been in operation for more than 20 years (65%), and describe the nature of their operations as "discrete" (67% of plants). Almost half of the plants are low-volume/high-mix (47%), with another 24% high-volume/high-mix (Figures 1–5).

Corporate parent revenues of the plants are $20 million (median); plant-level revenues are $11 million (median) in 2011, and projected to increase to $14 million in 2012 (Figures 6–7).

**Figure 1**
Plant location:

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>70.2%</td>
<td>69.7%</td>
</tr>
<tr>
<td>International</td>
<td>29.8%</td>
<td>30.3%</td>
</tr>
</tbody>
</table>

**Figure 2**
Please indicate if this facility is part of a public or private company:

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>16.0%</td>
<td>15.6%</td>
</tr>
<tr>
<td>Private</td>
<td>84.0%</td>
<td>84.4%</td>
</tr>
</tbody>
</table>

**Figure 3**
How many years has it been since plant start-up?

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5 years</td>
<td>6.3%</td>
<td>8.0%</td>
</tr>
<tr>
<td>5 – 10 years</td>
<td>9.8%</td>
<td>10.3%</td>
</tr>
<tr>
<td>11 – 20 years</td>
<td>18.9%</td>
<td>17.0%</td>
</tr>
<tr>
<td>More than 20 years</td>
<td>65.1%</td>
<td>64.9%</td>
</tr>
</tbody>
</table>

**Figure 4**
What is the nature of manufacturing operations for primary products at this plant?

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discrete (measured by numeric quantities)</td>
<td>66.5%</td>
<td>66.8%</td>
</tr>
<tr>
<td>Process (measured by weight or volume)</td>
<td>14.9%</td>
<td>16.5%</td>
</tr>
<tr>
<td>Both or hybrid</td>
<td>18.7%</td>
<td>16.7%</td>
</tr>
</tbody>
</table>

1International plants are located in 21 different countries; international plant data is not representative of any single continent, region, or country.
Approximately 40% of plants report that their facility has either made significant progress toward world-class manufacturing status or fully achieved world-class status; 55% of plants report some progress toward world-class status, and 6% report no progress (Figure 8). Throughout the Executive Summary, plants near or at world-class status are compared to those plants furthest from world-class status (no progress or some progress).

The top three industries represented in the study, grouped by North American Industry Classification System (NAICS) codes, are machinery manufacturing (18% of plants), fabricated metal product manufacturing (12% of plants), and chemical manufacturing (11%). Approximately 30% of plants participate in an industrial equipment and machinery value chain, the highest percentage reported for value-chain participation (Figures 9–10).

### Figure 8
**How much progress has the plant made toward achieving world-class manufacturing status?**

<table>
<thead>
<tr>
<th>Category</th>
<th>2011</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>No progress</td>
<td>6.1%</td>
<td>13.6%</td>
</tr>
<tr>
<td>Some progress</td>
<td>54.5%</td>
<td>47.9%</td>
</tr>
<tr>
<td>Significant progress</td>
<td>35.3%</td>
<td>32.1%</td>
</tr>
<tr>
<td>Fully achieved</td>
<td>4.2%</td>
<td>6.4%</td>
</tr>
</tbody>
</table>

Note: The profile of 2011 MPI Manufacturing Study participants is comparable to 2010 study participants. The similarity of the two samples allows for meaningful year-to-year comparisons throughout this summary.
Thank you for your interest in MPI’s *Manufacturing 2011/2012 Executive Summary*.

A full, 24-page version of this executive summary is available for just $95 by visiting the MPI Group [website](#).

In the meantime, if you have any questions about the executive summary, please send us an [email](#) or dial 216.991.8390.

Best wishes for your continued success,

The MPI Group
Methodology

The MPI Manufacturing Study was conducted using an online questionnaire promoted by the Manufacturing Performance Institute (part of The MPI Group, Inc.) and Thomas International Publishing Company, and a hardcopy questionnaire mailed by MPI to approximately 2,500 U.S. plant leaders. Exactly 322 valid participants took the study March through September 2010. Responses to the study were received by the Manufacturing Performance Institute, then entered into a database, edited, and cleansed to ensure answers were plausible, where necessary. All respondent answers to the survey are anonymous. As an incentive, respondents who provided contact information after completing the study receive complimentary access to an online benchmarking tool that contains study data, as well this Executive Summary.

Presentation of Data

MPI Manufacturing Study questions consisted of:
• Directive single-answer questions for which respondents were asked to “check one” answer category;
• Directive multiple-answer questions for which respondents were asked to “check all that apply”; and
• Open-ended numeric questions for which respondents were asked to respond with a number.

Tables and charts for “check one” and “check all” answer categories are presented either in the format presented on the survey or, where more meaningful, in descending order based on the percentage of responses for a particular answer category (i.e., the answer category with the highest percentage is listed first).

Data for directive questions is presented with the percentage of responses for each answer category.

Tables and charts for open-ended questions are presented with the median and average statistics. Note: The median is the “typical” measure, not distorted by a few unusually high or low values that may exist in the sample due to special circumstances. The median figure represents the midpoint of the figures for a particular measure, with one-half of participants reporting figures above it and one-half below.
The MPI Group, Inc.

The Manufacturing Performance Institute, part of The MPI Group, serves leaders with research, advice, and performance-targeted solutions that provide a competitive advantage in today’s fierce marketplace. MPI combines the disciplines of research, strategic advice, knowledge development, and hands-on leadership to create a difference — in performance, in profits, and in the people who make them possible.

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