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LEA Global President, Karen Kehl-Rose

Optimism and Opportunities Based on Strategic Insight

Thank you for taking the time to review our 2018 National Manufacturing Outlook and Insights survey report — and if you participated in this survey, thank you for sharing your thoughts.

In our second year of reporting, we believe the 75% increase in participation is evidence of the value that this report and Leading Edge Alliance (LEA) firms provide their middle-market manufacturing clients across the country and around the world.

For 2018, manufacturers expressed significant optimism for their businesses, the industry, and the economy.

The political focus on manufacturing and movement on tax reform, reduced regulations, and improvements to healthcare undoubtedly provide a foundation for this positive outlook. The growing U.S. and global economies, the weak dollar, rising energy and commodity prices, and improved business and consumer confidence also support this outlook. However, we believe the resilience and success our manufacturing clients have created for themselves has as much to do with this optimism as anything.

Regarding priorities for 2018, growing sales, cutting costs, attracting and retaining talent, and utilizing technology to reduce risk and build a competitive advantage remain critically important. We hope these findings provide you some insightful questions to ask and strategic ideas to evaluate around these topics, ultimately helping you grow your business and achieve your goals.

Please don’t hesitate to reach out to us to discuss any of the information presented in the following report.

Sincerely,

Karen Kehl-Rose, President, LEA Global
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LEA MANUFACTURING OUTLOOK SURVEY RESULTS SUMMARY

Optimism for 2018

Manufacturers’ Economic Optimism Increased

Regional: 11.1%
National: 18.1%
World: 13.7%

62% expect their sectors to grow

3 TOP PRIORITIES

1. Growing Sales
2. Cutting Costs
3. Addressing Talent Gap
MANUFACTURERS’ TOP PRIORITIES 2018

1 Growing Sales

81% Expect Revenue Increases

How Respondents Expect to Grow Sales:

- 72% Organic Growth in Domestic Markets
- 44% Developing New Products and Services

R&D Investments

- 64% will spend 1%-10% of revenue
- 3% will spend >10% of revenue

Investigating/Prioritizing

- Cybersecurity: 75%
- Big Data/ERP/IoT: 50%

Mergers and Acquisitions

- 20% will consider acquisitions
- 10% will consider selling

How Respondents Expect to Grow Sales:

- 64% will spend 1%-10% of revenue
- 3% will spend >10% of revenue

R&D Investments

- 64% will spend 1%-10% of revenue
- 3% will spend >10% of revenue

Investigating/Prioritizing

- Cybersecurity: 75%
- Big Data/ERP/IoT: 50%
### Manufacturers’ Top Priorities 2018

<table>
<thead>
<tr>
<th>Priority</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cutting Costs</td>
<td>25%</td>
</tr>
</tbody>
</table>

**Beyond labor costs, operational spending increases will focus on growing sales and increasing capacity.**

Only 2%-3% expect costs of raw materials, technology, and labor to decrease.
MANUFACTURERS’ TOP PRIORITIES 2018

3 Talent

1/2 Expect to Increase Hiring

Top Barrier to Growth: Labor Shortage

Most Important Strategies to Attract and Retain

1 Increase Compensation Packages

2 Conduct Internal Training and Apprenticeships

3 Develop Strategies to Reduce Turnover

4 Be More Deliberate about Succession Planning
Economic Outlook
Manufacturers are more optimistic about the economy in 2018 than they were for 2017.

While manufacturers rated their optimism for the regional economy highest last year, this year their optimism has spread across the country with increased ratings for regional economy and national economy being equal. Manufacturer optimism for the world economy is also higher at 59.4 — almost a 15-point increase over the 2017 outlook.

Please rate your optimism about the economies listed below on a scale of 0 to 100.*

<table>
<thead>
<tr>
<th>Economy</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional</td>
<td>58.2</td>
<td>69.3</td>
</tr>
<tr>
<td>National</td>
<td>51.2</td>
<td>69.3</td>
</tr>
<tr>
<td>World</td>
<td>45.7</td>
<td>59.4</td>
</tr>
</tbody>
</table>

* Averages of respondents in all regions.

Manufacturers in the western U.S. are most optimistic about their regional economy.
Industry Outlook

More manufacturers expect their sectors will expand in 2018 than they did in 2017.

Only 30% of manufacturers expected their sectors to grow in 2017. In 2018, however, that percent has more than doubled to 63%. In addition, the percent expecting it to contract dropped from 10% for 2017 to 4% for 2018.

Industry optimism is even higher for manufacturers in food and beverage and construction materials.
Manufacturer Outlook
Many manufacturers anticipate significant revenue growth.

Expected revenue growth is another example of manufacturers’ optimism. Only 3% of respondents indicated they expect their revenue to decrease, and only 16% responded that it would stay the same. A remarkable 81% replied that their revenue will increase.

How do you anticipate your revenue will change?

<table>
<thead>
<tr>
<th>Year</th>
<th>0%</th>
<th>50%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>22%</td>
<td>37%</td>
<td>23%</td>
</tr>
<tr>
<td>2018</td>
<td>16%</td>
<td>38%</td>
<td>32%</td>
</tr>
</tbody>
</table>

# Stay about the Same ▲ #3%-9% ▲ #10%-20% ▲ #20%+

Are you prepared for how increased revenue will impact your business?
Opportunities and Challenges
Growing sales, cutting costs, and addressing labor issues remain top priorities for manufacturers in 2018.

The top priority for 70% of manufacturers is growing sales, and more than half selected cutting operational costs/improving profitability. Other priorities selected by more than 40% of respondents include addressing the workforce shortage, seeking new markets for products/services, and developing new products/services.

Beyond labor costs, operational spending increases will focus on growing sales and increasing capacity.

Advertising, marketing, and sales and new product or service introduction (both selected by more than one-third of manufacturers) are about growing sales. Technology and facility expansion (both chosen by approximately one-third of respondents) are about increasing capacity.

**Which of the following actions are among your company’s top priorities?**

<table>
<thead>
<tr>
<th>Action</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growing Sales</td>
<td>71%</td>
</tr>
<tr>
<td>Cutting Operational Costs/Improving Profitability</td>
<td>56%</td>
</tr>
<tr>
<td>Addressing the Workforce Shortage</td>
<td>45%</td>
</tr>
<tr>
<td>Seeking New Markets for Products/Services</td>
<td>42%</td>
</tr>
<tr>
<td>Developing New Products/Services</td>
<td>41%</td>
</tr>
<tr>
<td>Respond to/Restructuring for Growth</td>
<td>27%</td>
</tr>
<tr>
<td>Developing/Improving Strategic Planning</td>
<td>26%</td>
</tr>
<tr>
<td>Improving Product Quality/Reducing Defeats</td>
<td>25%</td>
</tr>
</tbody>
</table>

**In what areas will operational spending increase?**

- **Personnel Expenses (Including Wages and Training)**: 61%
- **Advertising, Marketing, and Sales Promotion**: 51%
- **Technology**: 35%
- **New Product or Service Introduction**: 34%
- **Facility Expansion**: 31%

**How will you grow sales while cutting costs?**
Expense Change
Profitability remains a top concern for manufacturers as few expect their costs to decrease in 2018.

Taxes are the only expense that a significant percent (25%) of manufacturers anticipate decreasing. Most manufacturers (56%) expect tax costs to remain the same as last year, and 19% believe they will increase.

Most manufacturers expect labor, materials, and technology costs to increase. Not surprisingly, labor costs are expected to increase for the highest percent of manufacturers (81%).
Manufacturer Growth Strategies: Growing Sales

Most manufacturers expect to grow sales organically within the U.S. market.

Almost three-fourths of manufacturers see organic growth within the U.S. as their primary opportunity to grow sales. This was followed by 44% of manufacturers expecting new product or service development and about 20% expecting growth to come from joint ventures/strategic partnerships or organic growth in markets outside the U.S.

What do you see as the main opportunities to grow your sales?

- Organic Growth within the U.S.: 72%
- New Product or Service Development: 44%
- New Joint Venture and/or Strategic Alliances: 23%
- Organic Growth in Markets outside the U.S.: 22%
- Growth through Acquisition within the U.S.: 16%
- Growth through Acquisition in Markets outside the U.S.: 3%
- Other: 2%

47% of manufacturers with international sales expect those sales to grow.
Manufacturer Growth Strategies: M&A
More manufacturers are exploring mergers/sales and acquisitions in 2018.

Although competition remains high, strategic acquisitions remain a strong means to achieve growth. Overall, a slightly higher percentage of manufacturers are planning to explore mergers/sales and acquisitions during 2018.

Some sectors, including automotive/transportation and food and beverage, are significantly more interested in acquisitions, and others, such as construction materials, are more interested in mergers/sales.

Did your company consider exploring or are you planning to explore either of the following?

<table>
<thead>
<tr>
<th>Year</th>
<th>Mergers/Sales</th>
<th>Acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016 (Actual)</td>
<td>17%</td>
<td>10%</td>
</tr>
<tr>
<td>2017 (Actual)</td>
<td>17%</td>
<td>9%</td>
</tr>
<tr>
<td>2018 (Expected)</td>
<td>19%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Sector Segmentation

<table>
<thead>
<tr>
<th>Sector</th>
<th>Mergers/Sales</th>
<th>Acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive/Transportation</td>
<td>21%</td>
<td>44%</td>
</tr>
<tr>
<td>Food and Beverage</td>
<td>7%</td>
<td>29%</td>
</tr>
<tr>
<td>All Other</td>
<td>19%</td>
<td>28%</td>
</tr>
<tr>
<td>Machining/Industrial</td>
<td>13%</td>
<td>19%</td>
</tr>
<tr>
<td>Construction Materials</td>
<td>17%</td>
<td>19%</td>
</tr>
</tbody>
</table>
Manufacturing Growth Strategies: R&D

Most manufacturers expect to invest 1%-5% of revenue in R&D during 2018.

The percent of manufacturers investing revenue into R&D remains similar to what was expressed in the 2017 outlook. Most are spending 1%-5% of revenue, one-third are investing less than 1%, and 20% are investing more than 5%.

How much of your revenue will you invest in R&D in 2018?

- 47% 1%-5%
- 33% Less than 1%
- 17% 5.1%-10%
- 3% More than 10%
- 47% 1%-5%

Manufacturers that invest more in R&D expect significantly greater revenue growth in 2018, and a significantly higher percentage of them believe their sectors will grow.
Operational Focus: Inventory Turns
Many manufacturers expect to increase inventory turnover in 2018.

High inventory may mean that capital that could be strategically utilized elsewhere is tied up. While a majority of manufacturers (55%) expect their inventory turnover to remain the same in 2018, 40% expect that rate to increase (with even higher percentages in certain sectors).

How do you expect your company’s inventory turnover will change?

A higher percentage of some sectors expect inventory turn increases, including construction materials, while a higher percentage of others, such as food and beverage, expect inventory decreases.

<table>
<thead>
<tr>
<th>Sector Segmentation</th>
<th>Decrease</th>
<th>Stay the Same</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive/Transportation</td>
<td>3%</td>
<td>48%</td>
<td>48%</td>
</tr>
<tr>
<td>Food and Beverage</td>
<td>7%</td>
<td>49%</td>
<td>44%</td>
</tr>
<tr>
<td>All Other</td>
<td>2%</td>
<td>56%</td>
<td>42%</td>
</tr>
<tr>
<td>Machining/Industrial</td>
<td>6%</td>
<td>65%</td>
<td>29%</td>
</tr>
<tr>
<td>Construction Materials</td>
<td>11%</td>
<td>70%</td>
<td>19%</td>
</tr>
</tbody>
</table>

5% Decrease
40% Increase
55% Stay the Same
Operational Focus: Talent
A majority of manufacturers expect to increase their labor force in 2018.

Slightly more manufacturers expect to increase their hiring in 2018 than they did in 2017. Growth, in this already elevated rate, will only make the challenge of finding skilled labor more difficult. Manufacturers continue to search for solutions to this industry-wide issue.

How do you expect hiring will change for your company?

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase</td>
<td>54%</td>
<td>52%</td>
</tr>
<tr>
<td>Stay the Same</td>
<td>41%</td>
<td>44%</td>
</tr>
<tr>
<td>Decrease</td>
<td>5%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Competition for talent will increase as more manufacturers grow. How will your organization stand out to potential employees?
Operational Focus: Talent

Most manufacturers will try to fulfill talent needs by offering more money.

Alternative strategies, such as internal training programs, reducing turnover, and more deliberate succession planning, will be utilized by a significant number (more than 25%) of manufacturers, and those that are not should consider these strategies. They may require more work, but they may end up costing less in the end.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased Compensation (Salary, Wages, Bonuses, etc.)</td>
<td>62%</td>
</tr>
<tr>
<td>Internal Training Programs (Internships and Apprenticeships)</td>
<td>42%</td>
</tr>
<tr>
<td>Strategies to Reduce Turnover</td>
<td>39%</td>
</tr>
<tr>
<td>More Deliberate Succession Planning</td>
<td>28%</td>
</tr>
<tr>
<td>Increased Use of Overtime</td>
<td>26%</td>
</tr>
<tr>
<td>External Training Agreements</td>
<td>15%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
</tr>
</tbody>
</table>

Which of the following strategies will be most critical to meet staffing needs?
Operational Focus: Technology
Productivity and improving customer service are the top drivers for manufacturing technology investments in 2018.

Gaining access to more relevant data and improving product quality, consistency, and/or offering were both selected as technology business drivers for more than one-third of respondents.

Some of the top business drivers impacting technology strategy:

- **Increasing Productivity, Efficiency, etc.** 66%
- **Improving Customer Service and Response Time** 45%
- **Gaining Access to More Relevant Data** 34%
- **Improving Product Quality, Consistency, and/or Offering** 34%

Cybersecurity, by far, is the top technology focus for manufacturers.

Beyond cybersecurity, which seems to appear in the news on a weekly basis, almost 50% of manufacturers are also exploring or prioritizing predictive business analytics/big data, ERPs, and the Internet of Things (IoT). Technology developments of less concern to manufacturers include 3-D printing, nanotechnology/advanced materials, and wearable technologies, all of which are under consideration or a priority for fewer than 25% of manufacturers.

### Rate your focus on the following technology developments.

<table>
<thead>
<tr>
<th>Technology Development</th>
<th>Not a Focus</th>
<th>Under Consideration/Investigation</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cybersecurity</td>
<td>26%</td>
<td>40%</td>
<td>34%</td>
</tr>
<tr>
<td>Predictive Business Analytics/Big Data</td>
<td>47%</td>
<td>38%</td>
<td>15%</td>
</tr>
<tr>
<td>Managing ERP Industry Consolidation (Application Vendors Being Acquired)</td>
<td>55%</td>
<td>27%</td>
<td>18%</td>
</tr>
<tr>
<td>Internet of Things</td>
<td>53%</td>
<td>34%</td>
<td>13%</td>
</tr>
<tr>
<td>3-D Printing</td>
<td>75%</td>
<td>16%</td>
<td>9%</td>
</tr>
<tr>
<td>Nanotechnology/Advanced Materials</td>
<td>84%</td>
<td>13%</td>
<td>3%</td>
</tr>
<tr>
<td>Wearable Technologies</td>
<td>87%</td>
<td>12%</td>
<td>1%</td>
</tr>
</tbody>
</table>
A Leading Look Ahead

The good news is that manufacturers are rightly optimistic about their own performance and that of the industry and economy as a whole in 2018. We share their optimism and celebrate with the “makers” in our communities that have for too long faced challenging dynamics and troubling trends that dampen the opportunity for their success.

This does not, however, mean that hurdles will not exist in the coming year. Some of those hurdles may become even more significant with economic and industry growth and tax changes:

• While the wage differential between American and foreign workers has shrunk, global growth likely means more competition from manufacturers across borders.
• Increased hiring by manufacturers may help stimulate more interest in skilled labor professions, but this also results in increased wage costs.
• Technology development, an opportunity and a challenge for many manufacturers, will not slow in the coming year. Research has shown that cyber threats are increasing for both manufacturers and small and medium-sized businesses.
• Businesses must continue to identify opportunities and utilize employee intellect, creativity, and commitment to develop and implement strategic plans and processes that will lead to success in 2018 and beyond.
• Tax reform may bring losses (in terms of eliminated credits and deductions) as well as gains (in terms of lower rates). One certainty is that it brings the need for dramatically different tax planning and compliance.

Through all these potential changes, and more, having a team of industry-experienced advisors providing you insight and answers is critically important. We believe the firms of the Leading Edge Alliance are among the best.

While no one can predict with certainty what will happen in the future, we hope our annual National Manufacturing Outlook and Insights survey report offers you a leading look ahead.
About the Survey

More than 450 manufacturing executives participated in the 2018 National Manufacturing Outlook and Insights survey during October 2017. Importantly, this survey was conducted and this report was written prior to finalization of any kind of U.S. federal tax reform. Responses were collected via an anonymous electronic survey link sent to manufacturers from Leading Edge Alliance (LEA) member accounting firms and through local businesses and industry organizations. The survey was conducted using the Qualtrics online surveying software, which is utilized by more than 8,500 leading businesses around the world. All percentages included in this report were calculated based on total responses to each question and might not equal 100% due to rounding. Most question results are based on more than 300 data points.

About the Respondents – Location

Of the 455 participants, approximately 200 manufacturers provided their company headquarter locations. The largest segment (52%) came from the Midwest, followed by the South (27%) and the West (21%). Several non-U.S. manufacturers served by LEA firms also participated. Countries included Germany, Japan, Sweden, and Switzerland.
About the Respondents – Annual Revenue

Of the 455 participants, more than 300 manufacturers provided their annual revenue. The median from this list of respondents is in the $10 million to $50 million range.

Respondeents’ Annual Revenue

- 10% More than $250,000,000
- 8% $100,000,001-$250,000,000
- 11% $50,000,001-$100,000,000
- 33% $10,000,001-$50,000,000
- 31% $1,000,001-$10,000,000
- 7% Less than $1,000,000

About the Respondents – Employees

Of the 455 participants, more than 300 manufacturers provided the number of employees in their organizations. The median from this list of respondents is in the 50 to 99 employee range.

Respondeents’ Number of Employees

- 40% 1-49
- 16% 50-99
- 22% 100-249
- 8% 250-499
- 5% 500-999
- 4% 1,000-2,499
- 5% More than 2,500
About the Respondents – Manufacturing Sector

Of the 455 participants, more than 300 indicated the manufacturing sectors in which their businesses operate. The “Other” category included manufacturers in printing, packaging, high tech/electronics, and sporting goods. For purposes of segmentation throughout the survey report, respondents in any category with 5% or fewer were included in the “All Other” category. The graph below provides additional detail about these respondents’ sectors.

About the Respondents – Geographic Reach

Of the 455 participants, 62% indicated that their employees and operations were regional, and the remaining 38% was evenly split between national and international. Competitors, customers, and suppliers and vendors were similarly broken down with about 25% regional, about 37% national, and almost 40% international.
About LEA

Founded in 1999, LEA Global/The Leading Edge Alliance is the second largest international association in the world, creating a high-quality alliance of 220 independently owned accounting and consulting firms focused on accounting, financial, and business advisory services. LEA Global firms operate from 620 offices in 110 countries, giving clients of LEA Global firms access to the knowledge, skills, and experience of 2,313 partners and 21,355 staff members.

LEA Global firms’ combined annual revenue totals more than $3 billion. Members stand out as leaders in their markets with firms ranking in the top tiers throughout all the regions of the world. In the U.S., more LEA Global firms are in the top 100 than any other association or network.