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North American

# plastics

Industry Study

2015 SURVEY REPORT





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## NOTICE

Plante Moran has exercised professional care and diligence in preparing this report. However, because the data used in this report comes from third-party sources and Plante Moran has not independently verified, validated, or audited any such data, Plante Moran makes no representations or warranties with respect to the accuracy of the information contained in this report. Plante Moran shall not be liable to any client or any other person or entity for any inaccuracy or inauthenticity of the information contained in this report or for any errors or omissions in its content, regardless of the cause of such inaccuracy, inauthenticity, error, or omission. Furthermore, in no event shall Plante Moran be liable for consequential, incidental, or punitive damages to any person or entity in any manner relating to this report.

# Introduction

We are pleased to present the 2015 North American Plastics Industry Survey Report. Since 1995, Plante Moran has led this study, which serves to gather and analyze the most empirical data collected in the plastics processing industry in North America.

## HOW THE STUDY IS COORDINATED

Plastics processors complete a survey template that is available on our website. Upon completion of the survey, we generate a customized report that is unique to each processor who completes our survey template. The survey results are held in strict confidence, and participating in the study is at no cost to the processors. We collect data from plastics processors on an ongoing basis throughout a given calendar year and release a summary report which is available to the public.

## TYPES OF DATA COLLECTED

Strategic, financial, operational, sales & marketing, and human resources data. We commonly receive over 250 unique data points from each participating company. Please see the last page of this report for a more detailed listing of data collected. The participants provided fiscal year data from December 31, 2012, through January 15, 2015. As a result, data are reported as 2012–2014 data.

## PARTICIPATION

154 surveys comprising 237 facilities totaling \$5.8 billion in sales. Most are U.S. based; however, we have participants from Canada and Mexico as well.

## PROCESSES OF PARTICIPATING COMPANIES

Injection molders, blow molders, extruders, and thermoformers.

## INDUSTRIES OF PROCESSORS INCLUDE

Automotive, electronics/electrical, medical, building construction, packaging, consumer, and many others.

## WHAT'S INCLUDED IN THE CUSTOMIZED BENCHMARKING REPORT?

Survey results, our commentary, and other discussion items.

A 90-page detailed report is issued to each processor who participates in the study, which communicates the results of the study and offers our related commentary on many of the results. The report is "board presentation" ready and is divided into a few key sections to provide industry and benchmarking analytics and a report card that grades the participating company against its peers. Testimonials from our clients are available at our website at: [plastics.plantemoran.com](http://plastics.plantemoran.com).

## WHAT'S INCLUDED IN THIS SUMMARY REPORT?

This summary report contains some of the highlights from our survey results recently collected.

It pales in comparison to the 90-page report received by the processors participating in our study; however, this report also provides our commentary on the general pulse of the plastics industry today, key issues being faced, and information about our practice.

# Executive Summary

## SUCCESSFUL COMPANIES TAKE HOLD

The number of “Successful Companies” in the North American plastics industry is the highest it’s been since our study of the industry began in 1995. The term Successful Company for purposes of this study refers to any company that exceeds a 10% return on sales (before interest and taxes – adjusted for owner compensation), return on assets in excess of 15%, and sales growth greater than 5%. Historically, fewer than 8% of the survey respondents met this criteria; however, in 2014, 21% of the survey respondents met this criteria — an increase on the previous high mark of 16% we noted in 2013.

Some of the trends we see contributing to the overall health of the industry include:

- Earnings before interest, taxes, depreciation, and amortization (EBITDA) has continued to grow for the survey population at large.
- Press utilization increased for the fifth straight year.
- We saw stronger overall performance across multiple industries including the transportation, industrial, building and construction, and packaging sectors.
- The growth in Mexico’s manufacturing sector and continued reshoring initiatives to bring product back to the United States (two trends we discussed in our 2013 report) continue to drive opportunities for plastics processors in North America.
- Personnel turnover is hovering at just under 24%, which is relatively low considering the demand for top talent. Increased wages and greater use of automation are two contributing factors to the low turnover.

## While more companies reached higher levels of success, a quarter of the industry still lost ground due to profit pitfalls

Despite the overall general health of the industry, approximately 25% of the survey population lost ground with respect to their prior year’s EBITDA. Common profit pitfalls included expensive launches with processors taking on less attractive contracts as they continue to want to grow their top line. While this year’s survey results suggest that the industry enjoyed good sales growth this year, the pace of growth is beginning to slow down compared to 2012/2013. Companies showing discipline should be able to leverage this more modest growth to allow themselves to catch their breath and develop greater efficiencies. However, companies committed to aggressive growth may find it difficult to continue to win profitable business

# Select 2014 Benchmarking Analytics

For comparison purposes, we aligned the AVERAGE of the statement of operations and the MEDIAN of select benchmarking analytics versus the successful company performance.

MEAN DATA BY SALES QUARTILE					
2012/2014 DATA	<\$12.15M	>\$12.15M & <\$21.15 M	>\$21.15M & < \$37.2M	>\$37.2M	SUCCESSFUL COMPANY <sup>1</sup>
<b>SALES</b>					
Production Sales	94.9%	98.1%	97.8%	98.5%	97.5%
Tooling Sales	10.9%	8.5%	6.5%	3.9%	7.6%
Less: Tooling COGS	(6.5%)	(7.5%)	(4.3%)	(3.1%)	(6.0%)
Other Operating Revenue	0.7%	0.9%	0.1%	0.7%	0.9%
<b>Total Sales</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>COST OF SALES</b>					
Raw Materials	30.7%	37.9%	35.7%	39.4%	29.8%
Purchased Components	5.3%	5.5%	9.6%	7.9%	7.9%
Other Direct Costs	2.0%	2.0%	3.2%	3.8%	2.9%
Direct Labor	11.8%	9.6%	8.5%	9.6%	8.4%
Overhead Costs	29.1%	24.4%	23.7%	23.2%	23.5%
<b>Total Cost of Goods Sold</b>	<b>78.9%</b>	<b>79.5%</b>	<b>80.7%</b>	<b>83.9%</b>	<b>72.5%</b>
<b>Gross Profit</b>	<b>21.1%</b>	<b>20.5%</b>	<b>19.3%</b>	<b>16.2%</b>	<b>27.5%</b>
<b>Selling, General, and Administrative Costs</b>	<b>15.2%</b>	<b>12.9%</b>	<b>12.8%</b>	<b>8.8%</b>	<b>14.6%</b>
<b>Operating Income</b>	<b>5.8%</b>	<b>7.6%</b>	<b>6.6%</b>	<b>7.4%</b>	<b>13.0%</b>
<b>SELECT BENCHMARKING ANALYTICS</b>					
Value Add Per Labor Dollar <sup>2</sup>	\$2.21	\$2.11	\$2.39	\$2.69	\$2.62
Complexity - Probable - Injection <sup>3</sup>	232,000	352,500	1,647,360	1,147,740	1,562,400
Press Utilization - Injection	28%	42%	44%	47%	40%
Two Year Sales Growth	7%	10%	8%	7%	11%

1. A Successful Company exceeds 10% return on sales (before interest, taxes, and owners compensation), return on assets of 15%, and sales growth of greater than 5%

2. Value add per Labor Dollar = (Sales — Purchased Materials)/Total Labor

3. Complexity equals frequently used resins x (active molds + inserts) x presses



# Additional Quartile Benchmarking Analytics Available to Those Who Participate in Our Study:

- Number of Full-time Employees
- Value add per Press Hour
- Employee Turnover
- Number of Recorded Work Injuries per Year
- Customer PPM
- Internal PPM
- On-time Delivery %
- Inventory Turns
- Earnings Before Interest, Taxes, Depreciation, Amortization
- Return on Net Capital Employed
- Return on Assets
- % of Sales with Gross Margins less than 10%
- Two-year EBIT Growth
- Two-year Sales Growth
- Current Ratio
- Debt to Equity
- Days in Accounts Receivables

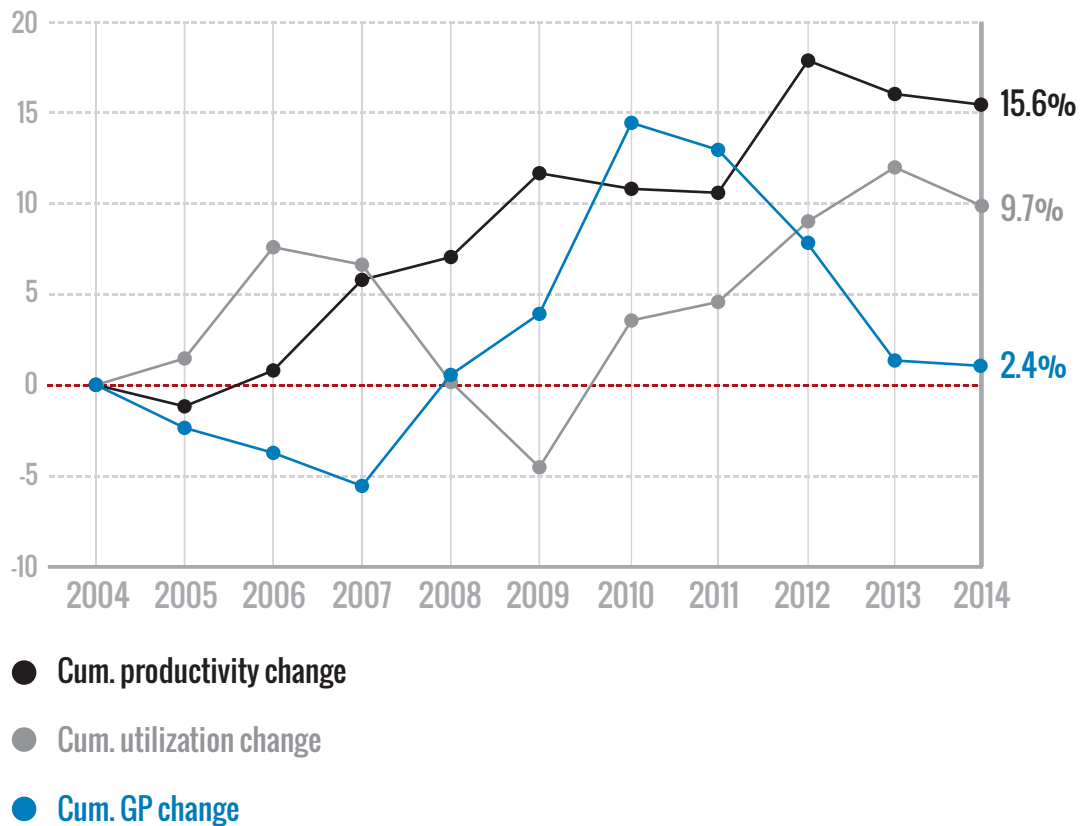




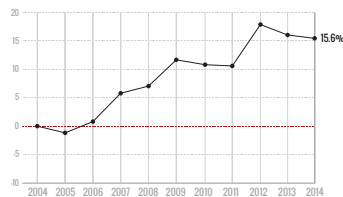
insights.

# Higher utilization, productivity, and sales bolster overall industry health

The following graph shows year-over-year adjustments to productivity as measured by value-add per employee, equipment utilization percentage, and gross profit margins for the last 10 years.



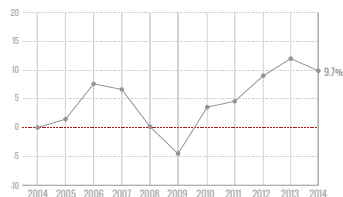
● Cum. productivity change



## PRODUCTIVITY

Up 15.6% since 2004 as more employees are added to manage the continued industry growth. Processors are continuing to use labor efficiently, embracing automation, and controlling non-material costs. This is a key driver of earnings and efficiency improvements.

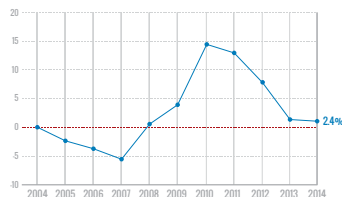
● Cum. utilization change



## UTILIZATION

Press utilization is near its 11-year high from last year, as plastics processors are supporting growth across several industries. Interestingly, the average age of equipment is 12 to 14 years old, which is leading to increased sales of new equipment.

● Cum. GP change



## PROFITS

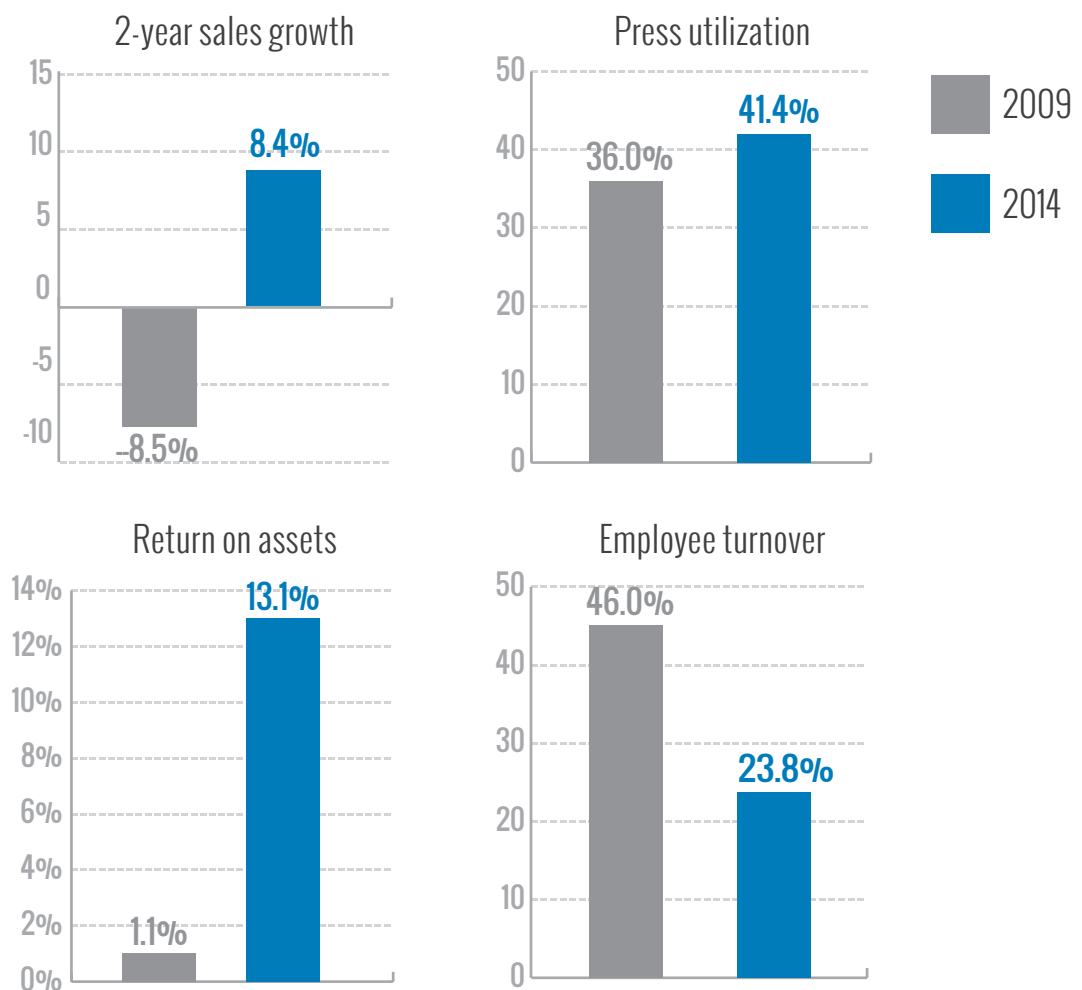
Gross profit margins have declined for the fourth straight year, but higher total sales have resulted in higher absolute earnings. Customers are exerting more pressure on processors for price reductions in exchange for continued growth, and many processors hungry for more sales have proven willing to accommodate. It will be important for the industry to practice pricing discipline to slow the erosion of profits.

# Inside the industry recovery — Will automotive plastics processors shift gears to drive profitable growth?

It's no secret that plastics processors serving the automotive industry were one of the hardest segments hit during the Great Recession of 2009.

However, in five short years, automotive plastics processors have advanced to among the most consistently growing, well utilized segments in the plastics industry.

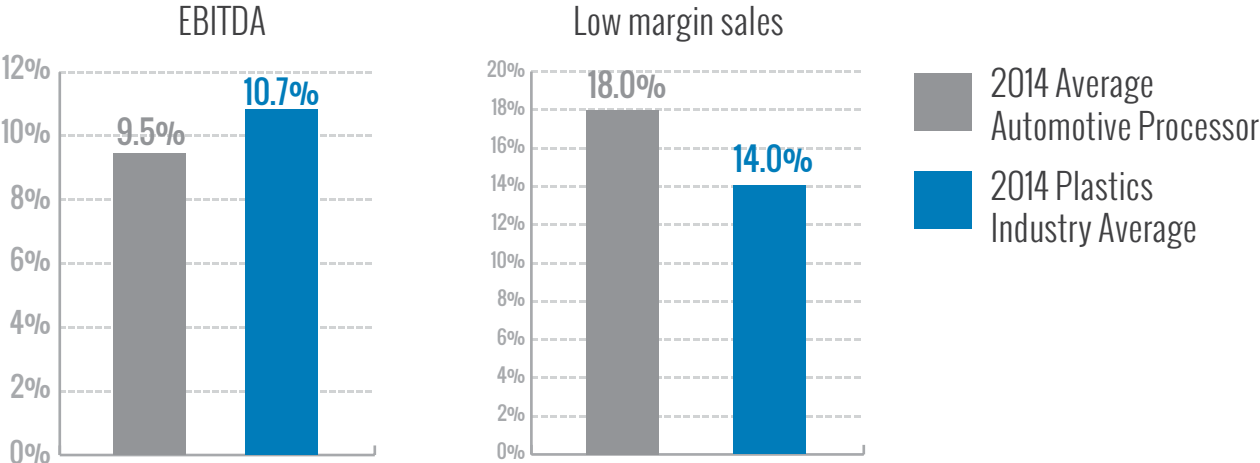
## MARKED IMPROVEMENT SINCE 2009





## BUT WHAT ABOUT PROFIT?

Processors serving the automotive industry are below average in EBITDA and low margin sales.



Clearly, the automotive industry data highlights a key point that during times of recovery (which often imply revenue growth), processors need to remain vigilant in seizing the right opportunities, including those that drive profits.

# Declining gross profit margin signals a need for improved discipline

## SO WHAT DRIVES PROFITABLE GROWTH?

To answer this question, we reviewed some of the key metrics for which Successful Companies\* have outstanding results. We also analyzed key business processes which these companies consistently embrace.



### Effective labor management

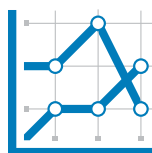
Value add per labor dollar



Turnover



Automation



### Commercial discipline

Only 5% of sales of Successful Companies have gross margins of 10% or less compared to the industry average of 14%.

5%



### Take care of your balance sheet

ROA  
RONCE  
Altman Z Score



A strong balance sheet drives positive returns and the ability to grow

\*The term Successful Company for purposes of this study refers to any company that exceeds a 10% return on sales (before interest and taxes – adjusted for owner compensation), return on assets in excess of 15%, and sales growth greater than 5%.

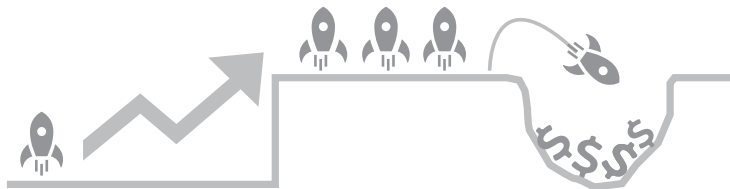


## Innovation

to meet rising customer demands.



## Efficient program launches



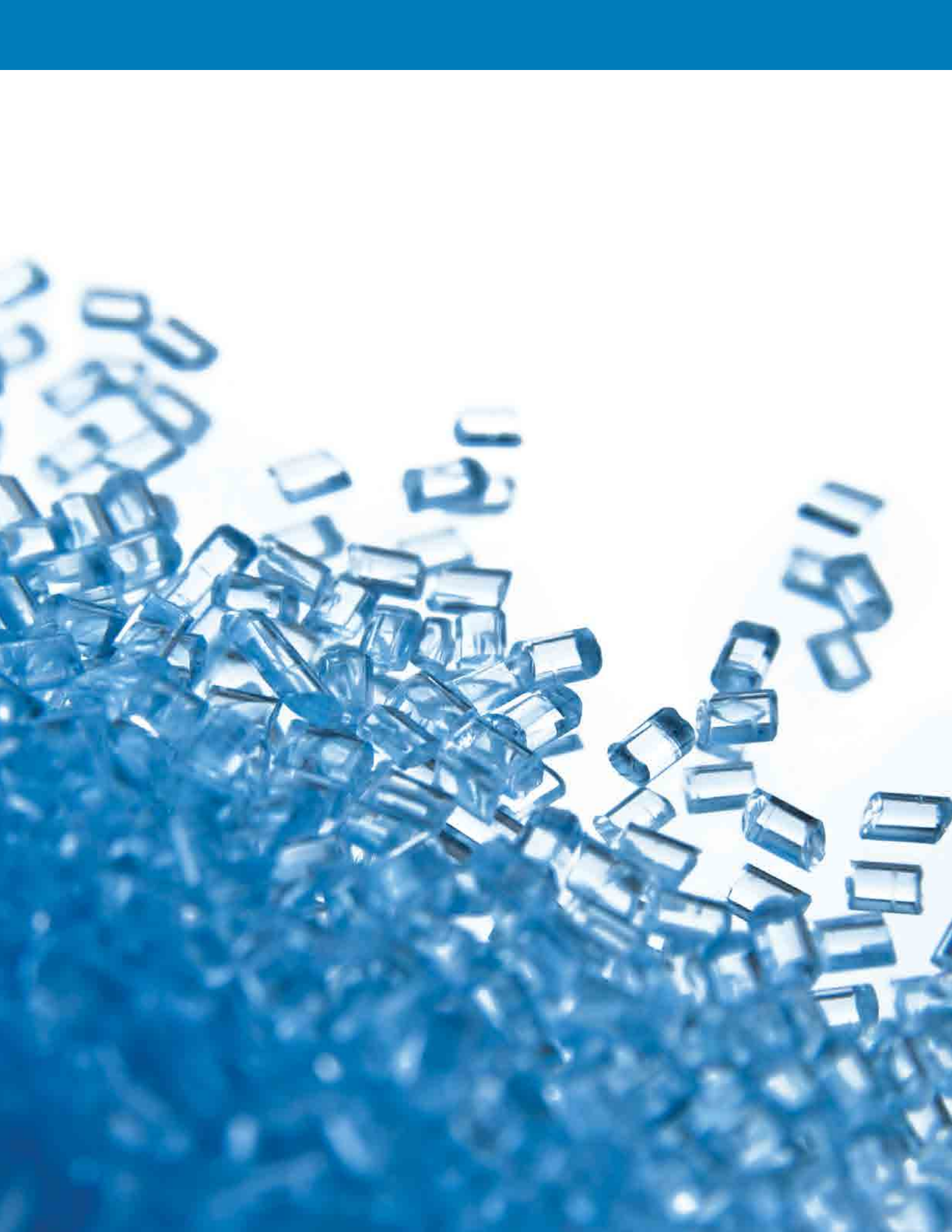
Successful Companies know that launches can become money pits if not properly managed with formal processes and effective teams.

AS WE CONCLUDE OUR ANALYSIS, TAKE TIME TO REFLECT ON THE FOLLOWING QUESTIONS:

What are the key drivers of profitable growth at your company?

What are your profit pitfalls?

Are you positioned to sustain profitable growth?





# Participating in Our Study

Participating in this study and benchmarking allow you to be brutally honest about your competitive differentiation. Take the time to identify where you are in the industry. Participate in trade organizations such as MAPP, SPI, and SPE, and attend expositions and conferences.

If you are a plastics processing company and you have not already participated in our study, we recommend that you do.

If you have already participated, please carefully review your benchmarking report in detail to identify where you really stand. Highlight the outlier benchmarks – are these benchmarks meaningful? If so, should you identify the reasons for the metric – does it support your value proposition?

Visit [plastics.plantemoran.com](https://plastics.plantemoran.com)

Review your customized benchmarking report and identify where you stand in the industry.

# About Our Plastics Practice

**Our Data + Our Industry Entrenchment = Unmatched Value Proposition**

We are deeply entrenched in the plastics industry and regularly participate as presenters in industry organizations and events.

Plante Moran's plastics practice is widely recognized for having more empirical data in the molding industry than any other professional services firm in North America as a result of coordinating the annual North American Plastics Industry Study since 1995. Our plastics practice is co-led by Jeff Mengel and Ted Morgan. We are deeply entrenched in the plastics industry and regularly participate as presenters at industry organizations and events, such as the Plastics News Executive Forum, the Society of Plastics Engineers, the Manufacturers Association for Plastics Processors (MAPP), and the Society of Plastics Industry. In addition, members of the Plante Moran plastics team have been featured authors in industry publications such as Plastics News, Modern Plastics, Injection World magazine, MoldMaking magazine, Plastics Technologies, and Automotive News.



# Our Services

We utilize the data we collect and our entrenchment in the plastics industry to support more than 200 clients annually. Services include:



## AUDIT & ACCOUNTING

- Audits, reviews, & compilations
- Benefit plan audits & consulting
- IFRS conversion & reporting
- Forecasts & projections
- Internal audit
- Interim financial services
- Financial restructuring & turnaround
- Valuation & investigative services



## TAX COMPLIANCE & CONSULTING

- Federal
- State & local
- International
- Credits & incentives
- Estate & gift
- Personal



## HUMAN CAPITAL

- Personnel assessment
- Leadership development
- Succession planning
- 401(k) & retirement plan consulting
- Incentive & deferred compensation
- Vendor selection & management



## TECHNOLOGY

- ERP system implementation
- Technology assessment & selection
- Contract negotiations
- Security assurance



## SUPPLY CHAIN & OPERATIONS

- Balanced scorecard
- Manufacturing strategy development
- Facility rationalization & expansion
- Product costing
- Program & launch management
- Lean operations improvement
- Supplier development
- Merger-related operational integration
- Inventory management
- Supplier risk assessment
- Transportation & logistics cost reduction
- Capacity utilization



## INTERNATIONAL

- Strategic planning
- Business case development
- Site selection management
- Supply chain & sourcing support
- Entity selection & incorporation assistance
- Tax structuring & compliance
- Accounting & payroll services



## STRATEGY & TRANSACTIONS

- Strategic planning
- Market assessment
- Acquisitions & divestitures
- Capital raising
- Due diligence
- Real estate advisory (lease, buy, build)

# In Closing

We are here to help you create and execute your plan.

Successful Companies have a strong value proposition and often support their value proposition with quoting discipline. Companies that misfire often have high manufacturing complexity (number of presses, molds, and resins to monitor and schedule) and misaligned organizational structures. You can impact your enterprise value today by taking a holistic approach to looking at your business, surrounding yourself with talent that can keep up with today's pace of change, and becoming an adaptive and innovative enterprise.

We provide a number of materials on our website ([plastics.plantemoran.com](http://plastics.plantemoran.com)) to help you assess your organization's level of financial stress and develop your strategy. Embracing the challenges facing you with a plan is half the battle. We are here to help you create and execute your plan should you need it.



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# Partial List of Information Provided to Survey Participants in Full Report

## PARTICIPANT REPORT CARD

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- » Size Analytics
- » Productivity Performance
- » Organizational Design
- » Operational Metrics
- » Earnings Performance
- » Growth Trends
- » Balance Sheet Health
- » Value Rating

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*A participant report card is your data compared to our survey population.*

## BENCHMARKING DATA

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- » Strategy
  - + Management Team Dynamics Value Proposition Analysis
  - + Planning Processes Utilized
  - + Processing Method(s) Used
  - + Total Production Sales Allocated by Industry
  - + Supply Chain Role
  - + Sales Growth Expectations
  - + Investment in Technology and Innovation
  - + Large Customer Analysis
- » Sales and Marketing
  - + Amount of Prior Year's Sales Lost in Current Year
  - + Pricing and Payment Dynamics Including Pricing Adjustments and Resin Purchasing Dynamics
  - + Sales Force Size and Activities
    - Experience Level of Sales Team
      - W-2 vs. Manufacturers Reps Ratios
      - Percentage of Time Spent on New Sales vs. Account Management
  - + Marketing Activities and Budgets
  - + Quoting Statistics
  - + Narrow Gross Margin Sales
- » Operational Data
  - + On-time Delivery Performance
  - + Parts Rejected in Parts per Million
  - + Descriptive Press Statistics — Injection Molding/Thermoforming/Blow Molding
    - Number of Presses
    - Average Age of Presses
    - Cost Rate per Hour
    - Percent Utilization
    - Average Time for Set-up
    - Average Number of Set-ups per Week
    - Scrap Reporting Activities

- + Descriptive Press Statistics — Profile/Tube/Pipe Extrusion
  - Number of Lines
  - Average Age of Lines
  - Percent of Lines with Down-line Automation
  - Percent of Lines Co- or Tri-extruded
  - Percent of Lines with Crosshead Extrusion
  - Percent Utilization
  - Average Time for Setup
  - Average Time of Setups per Week
- + Shift Activity
- + Tooling Attributes
  - Classification of Mold Type
  - Source of New Obtained
- + Resin Usage and Consumption
- + Complexity Calculation
- » Human Resource Statistics
  - + Human Resource Deployment by Department
  - + Safety, Attendance, & Other HR Statistics (including union vs. non-union, healthcare costs, and other fringe benefits)
  - + Press Statistics per Employee
- » Financial Performance
  - + Comparative Condensed Balance Sheet
  - + Comparative Operating Statement
  - + Comparative Component Costs and Cash Flow

## SNAPSHOTS

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- » Sales Size Snapshots
    - + Companies with less than \$12.15M in sales
    - + Companies with greater than \$12.15M and less than \$21.15M in sales
    - + Companies with greater than \$21.15M in sales and less than \$37.2M in sales
    - + Companies with greater than \$37.2M in sales
  - » Processing Method Snapshots
    - + Injection Molding Process
    - + Extrusion Molding Process
    - + Thermoforming Molding Process
  - » Industry Served Snapshots
    - + Appliance, Office, & Consumer Goods Industry
    - + Building and Construction
    - + Electronics Industry
    - + Industrial & Machinery
    - + Medical Industry
    - + Packaging Industry
    - + Transportation (Automotive) Industry
    - + Other Industries
  - » Supply Chain Role Snapshots
    - + Process-oriented Processor
    - + Value-added Processor
    - + Proprietary Processor
- 

*A snapshot is quartile data of specific portions of our data that can aid in various analyses your company may perform. We present approximately 16 different snapshots in each customized report.*



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## ABOUT PLANTE MORAN

Plante Moran is one of the country's largest certified public accounting and business advisory firms, providing clients with tax, audit, risk management, financial, technology, business consulting and wealth management services. Plante Moran has 23 offices and a staff of more than 2,000 professionals throughout Michigan, Ohio, and Illinois, with international offices in Shanghai, China; Monterrey, Mexico; and Mumbai, India. Plante Moran has been recognized by a number of organizations, including FORTUNE magazine, as one of the country's best places to work. Visit at [plantemoran.com](http://plantemoran.com).