



# Manufacturing Performance: Leader or Laggard?

How the Best-in-Class are driving new levels of manufacturing success.

Today's manufacturers are under intense pressure to cut costs, improve operations, hire a productive workforce, and increase profit margins—all while adapting to the industry's constant changes and technological advancements. To overcome challenges and meet milestones, organizations must operate at the highest levels.

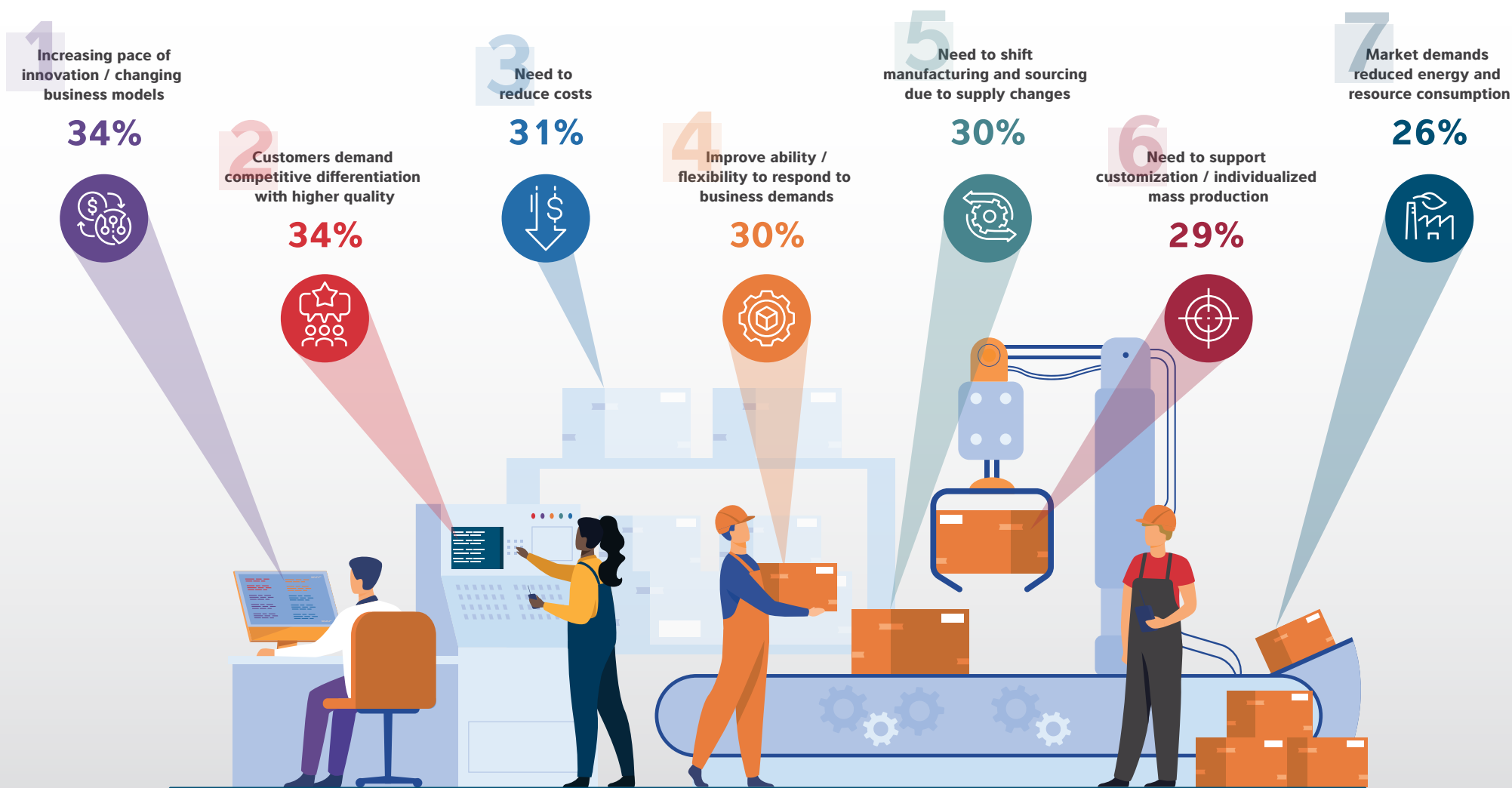
**However, not every company is conditioned for peak performance. Is yours?**

The Aberdeen Group conducted a study aimed at uncovering **current and emerging trends in manufacturing**—including market pressures, digital transformation, and the utilization of manufacturing and engineering software. It found that many organizations are feeling stress and are struggling to adopt the high performance culture needed to navigate today's complex landscape. **Let's explore the top takeaways from the survey—and detail what a Best-in-Class manufacturer looks like.**



## Increasing Pace of Innovation & Intensifying Customer Demands Contribute to Performance Pressures for Manufacturing Operations

Survey respondents reported the following are the biggest pressures their manufacturing organizations face.



Ranking is based on the percentage of respondents rating each pressure as one of their top 3 pressures.

## Maintaining High-Performance Product Quality is the Most Prevalent Challenge in Manufacturing Operations

The pressure to perform in all areas is unanimous among manufacturing organizations—but some areas are more challenging than others. Survey respondents reported quality, pace of innovation, costs, and disparate data as some of their primary obstacles to leadership.



**38%**

Maintaining product  
quality levels



**34%**

Increasing pace  
of innovation



**34%**

Rising cost of  
raw materials



**32%**

Operating costs  
are too high



**26%**

Managing multiple  
datasets









**Over 1/3 of respondents cite maintaining product quality levels as their most prevalent challenge in manufacturing operations.**

*\*Percentage of respondents citing each as a current, past, or potential challenge.*



## Digital Transformation is a Leading Approach to Achieving Improved Performance in Manufacturing Operations

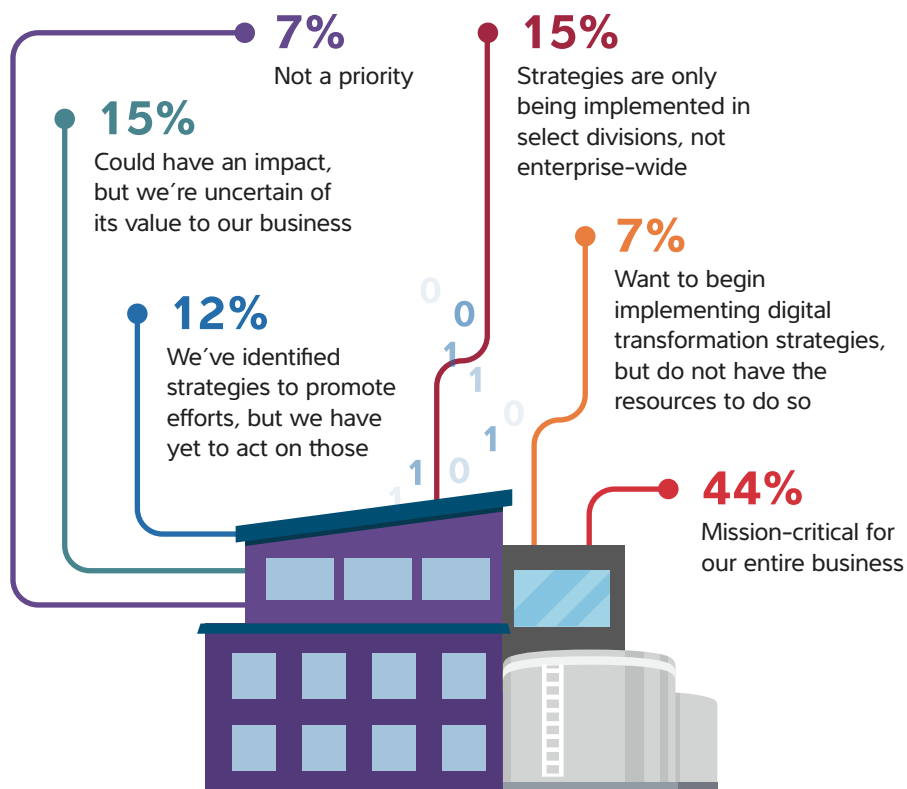
Survey respondents reported the following actions they are taking to improve their approach to manufacturing operations. The common theme? Digital transformation paves the way to meaningful improvements in manufacturing operations.

	Strategic Action	% of respondents
	Plan to achieve digital transformation (Industrial IoT, Industry 4.0, Smart Manufacturing)	45%
	Increase focus on Lean and operational excellence initiatives (improving efficiency across operations)	38%
	Establish company-wide initiatives to close the talent gap (cross-training, maintenance SOP, etc.)	34%
	Promote collaboration between departments	29%
	Connect and control operations that integrate business and manufacturing processes	29%
	Incorporate additive manufacturing (3D printing) into process to increase manufacturing effectiveness	28%
	Build compliance and traceability into production processes	26%
	Weave a “digital thread” from concept to production to field use	25%

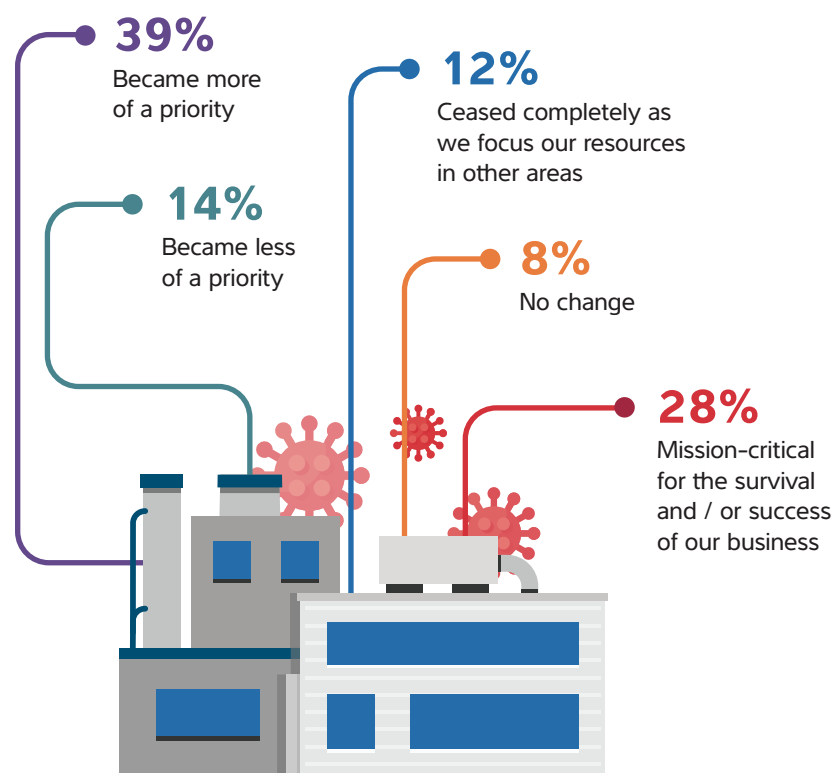
## Digital Transformation Means More Than Ever Before, Especially in the Midst of the Pandemic's Effects

With their key actions sharing a digital edge, survey respondents were asked about their perspective on digital transformation, particularly in the wake of the COVID-19 pandemic. Their answer? Digital transformation has never mattered more, and the pandemic further catalyzed its growth.

### What is your organization's current position on digital transformation efforts?



### How have digital transformation efforts changed over the course of the COVID-19 pandemic?



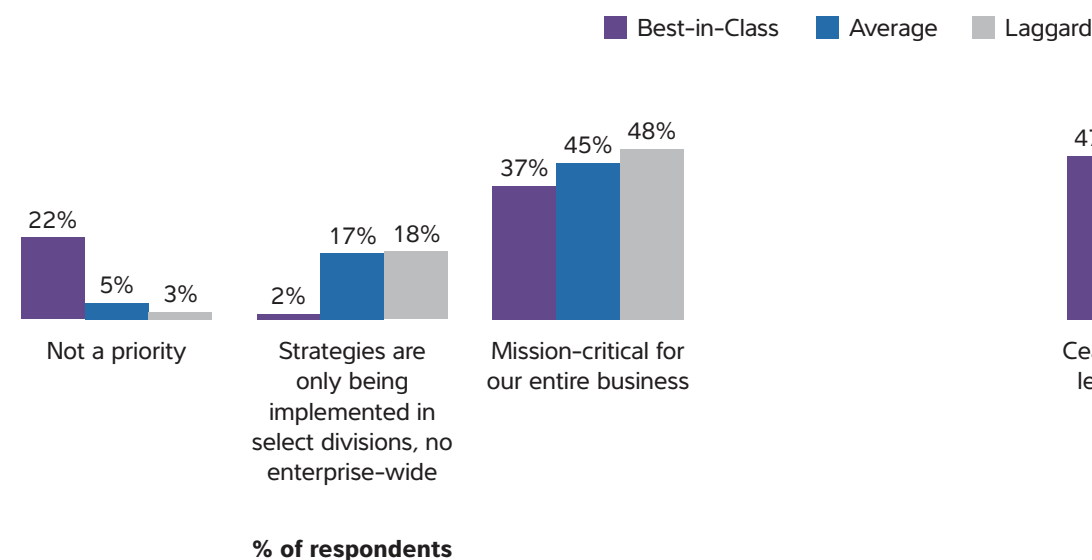
## Be Transformed, or Be Left Behind

### Average & Laggard Companies Need to Transform to Survive

Best-in-Class companies have already embraced the digital transformation. Survey respondents answered questions related to their approach to their digital transformation—and average and laggard companies reported it was more important today than the Best-in-Class. This underscores digital transformation as necessary for laggards to not only thrive, but survive.

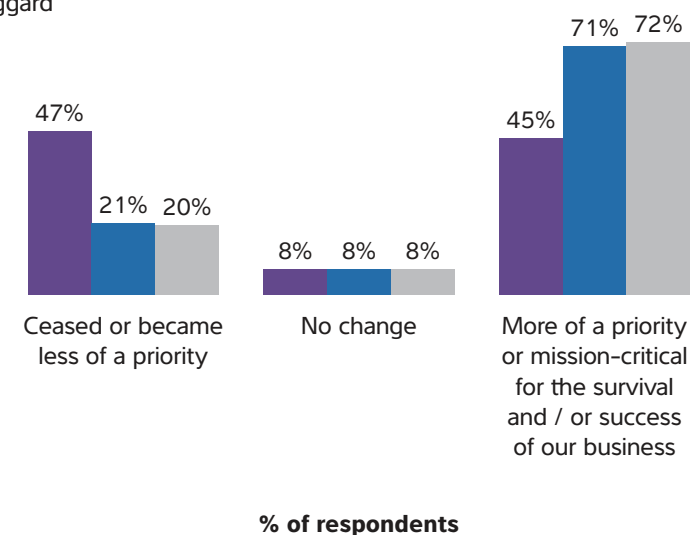
#### What is your organization's current position on digital transformation efforts?\*

\*Chart shows 3 out of 6 single select options; purple bars are the % of all Best-in-Class companies who selected that answer choice.



#### How have digital transformation efforts changed over the course of the COVID-19 pandemic?\*\*

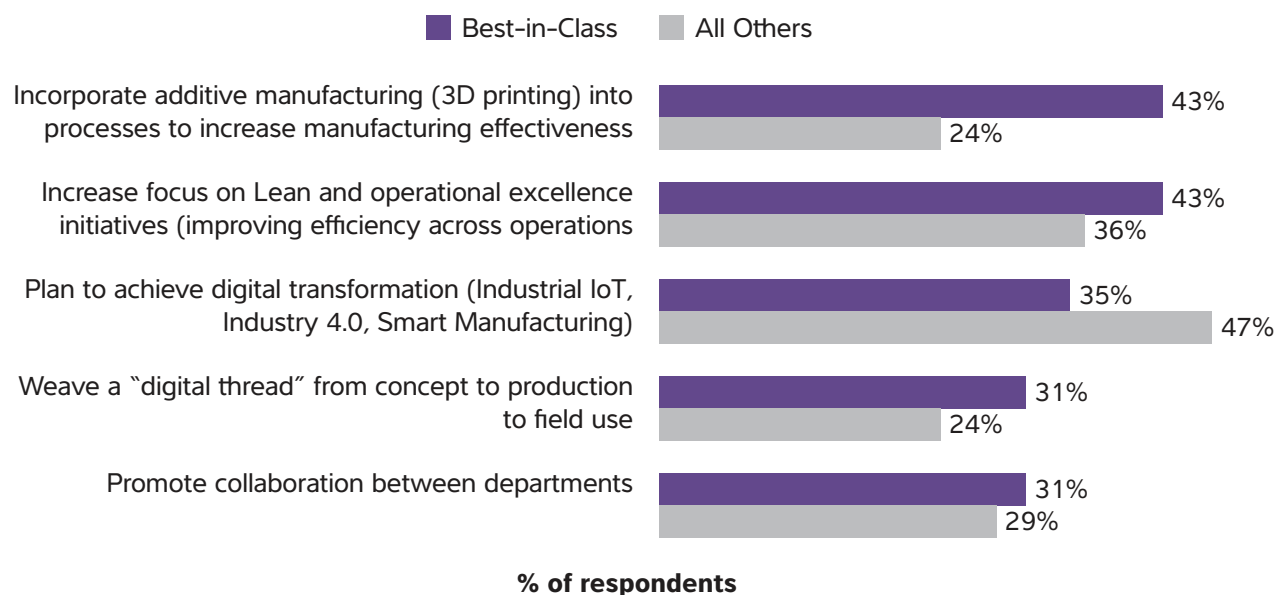
\*\*Chart combines the 2 low priority and 2 high priority single-select options.



## Leading by Example

### The Best-in-Class Prioritize Additive Manufacturing, Digital Thread, and Efficiency

Best-in-Class companies understand the importance of digital transformation, and they leverage new technologies and processes to remain successful. Average and laggard companies can help shape their own paths to leadership by examining their digital priorities and following their example.



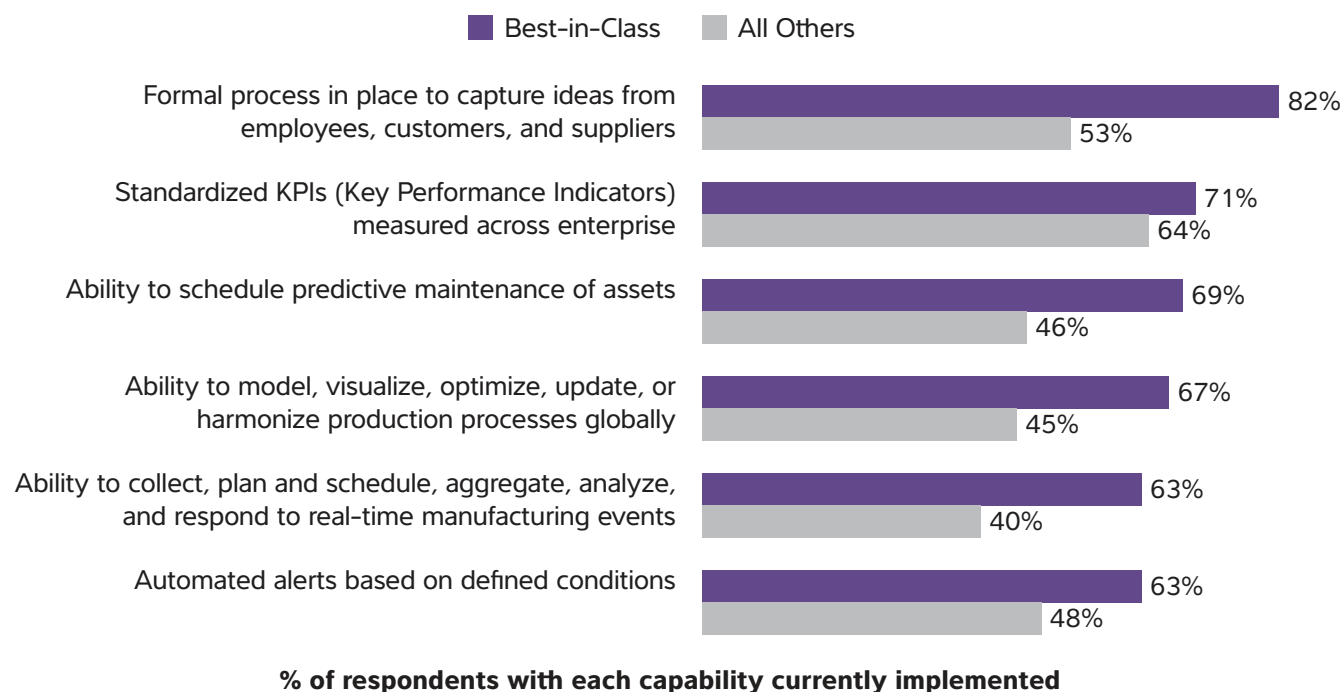
**43% of Best-in-Class companies incorporate additive manufacturing (3D printing) into processes to increase manufacturing effectiveness.**



## Leading by Example

### The Best-in-Class Prioritize Process Optimization Alongside Digital Innovation

In addition to their focus on digital innovation, Best-in-Class companies also understand the importance of optimizing their processes. Below are some of the top efforts they are making in this area.



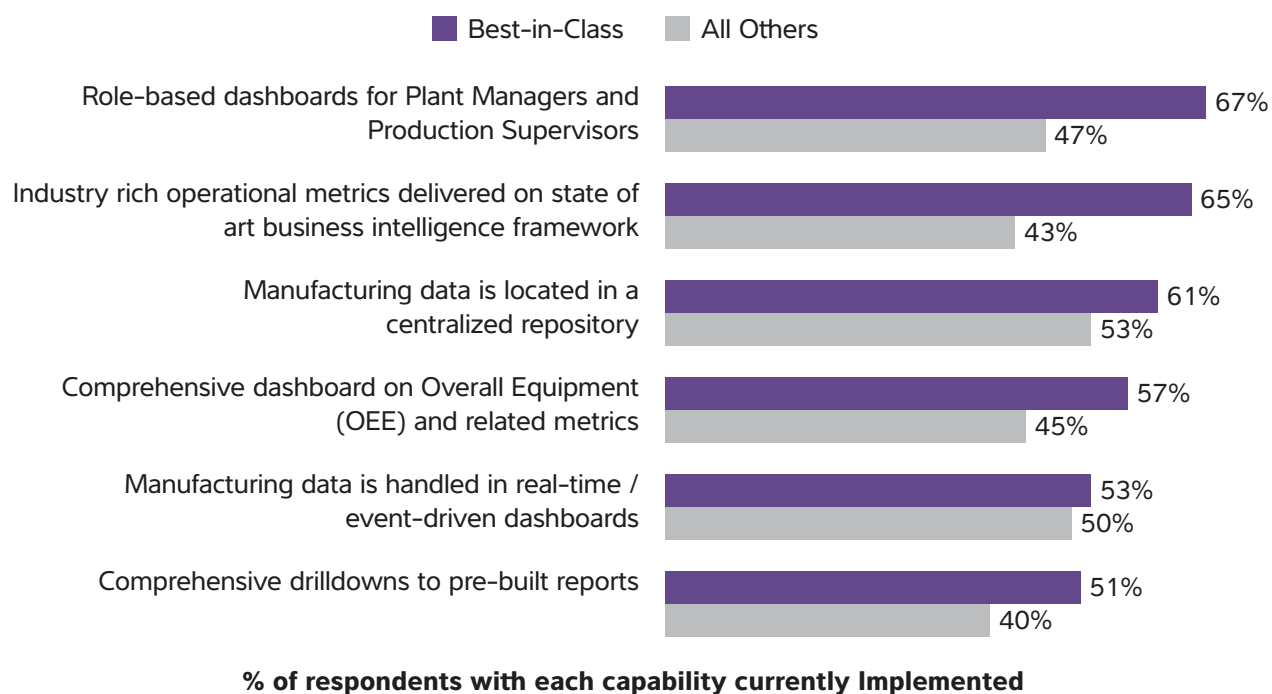
**67% of Best-in-Class companies have the ability to model, visualize, optimize, update, or harmonize production processes globally.**





## High-Performance, Data-Driven The Best-in-Class Prioritize Data Management

The importance of clear, concise, organized, and actionable data in manufacturing leadership is undeniable. Best-in-Class organizations recognize this and are implementing the following data and analytics capabilities.



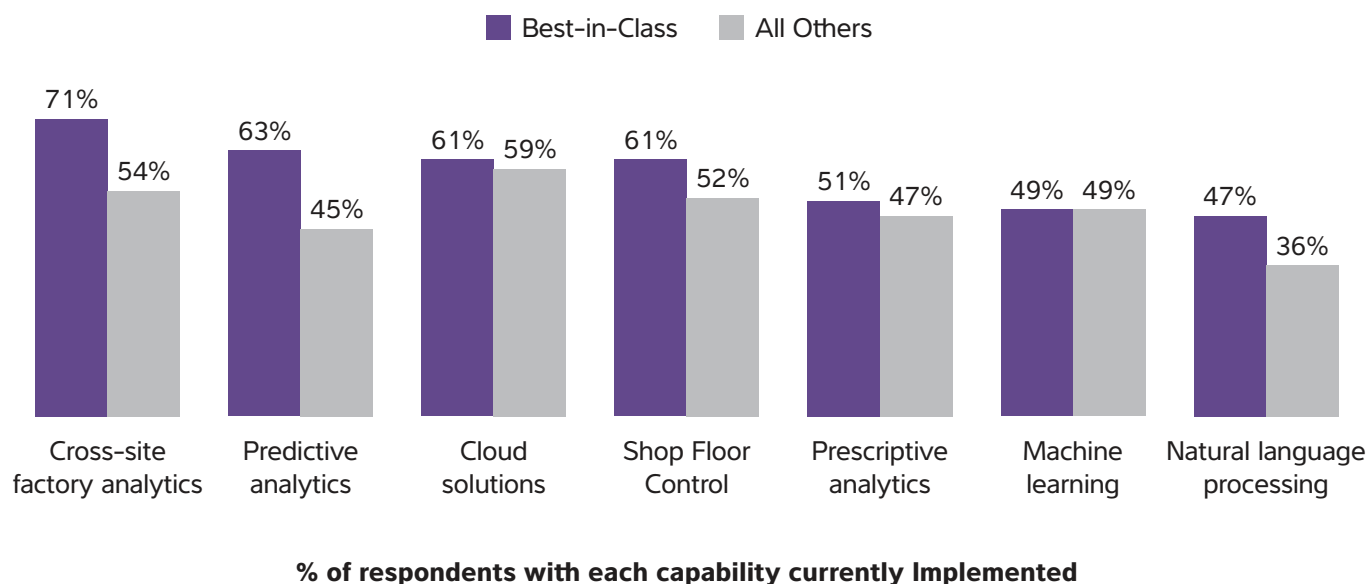
**67% of Best-in-Class companies have role-based dashboards for Plant Managers and Production Supervisors.**



## High-Performance, Data-Driven

### The Best-in-Class Implement Intelligent Analytics & Data Processing Enablers

Specifically, Best-in-Class organizations have zeroed in on the following intelligent analytics and data processing enablers to maximize performance. In the leadership seat? Cross-site factory analytics, predictive analytics, cloud-based solutions, and shop floor control.



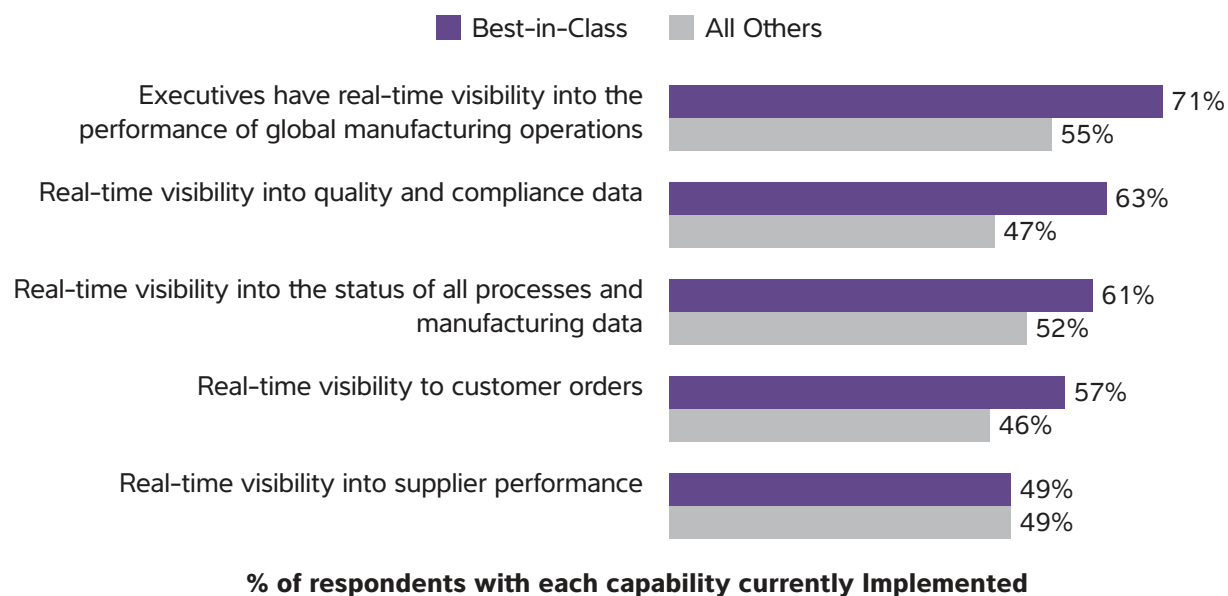
**71% of Best-in-Class companies utilize cross-site factory analytics.**



## Leading through Real-Time Visibility

### Advances in Digital Innovation, Process Optimization & Data Management Combine to Enable Powerful, Real-Time Visibility

At the intersection of the adoption of digital innovations, process optimization, and data management and analytics is the enablement of real-time visibility into manufacturing production processes. Data indicate that Best-in-Class companies are ahead in the adoption of real-time visibility—a key factor in achieving manufacturing leadership.



**71% of Best-in-Class companies' executives have real-time visibility** into the performance of global manufacturing operations.

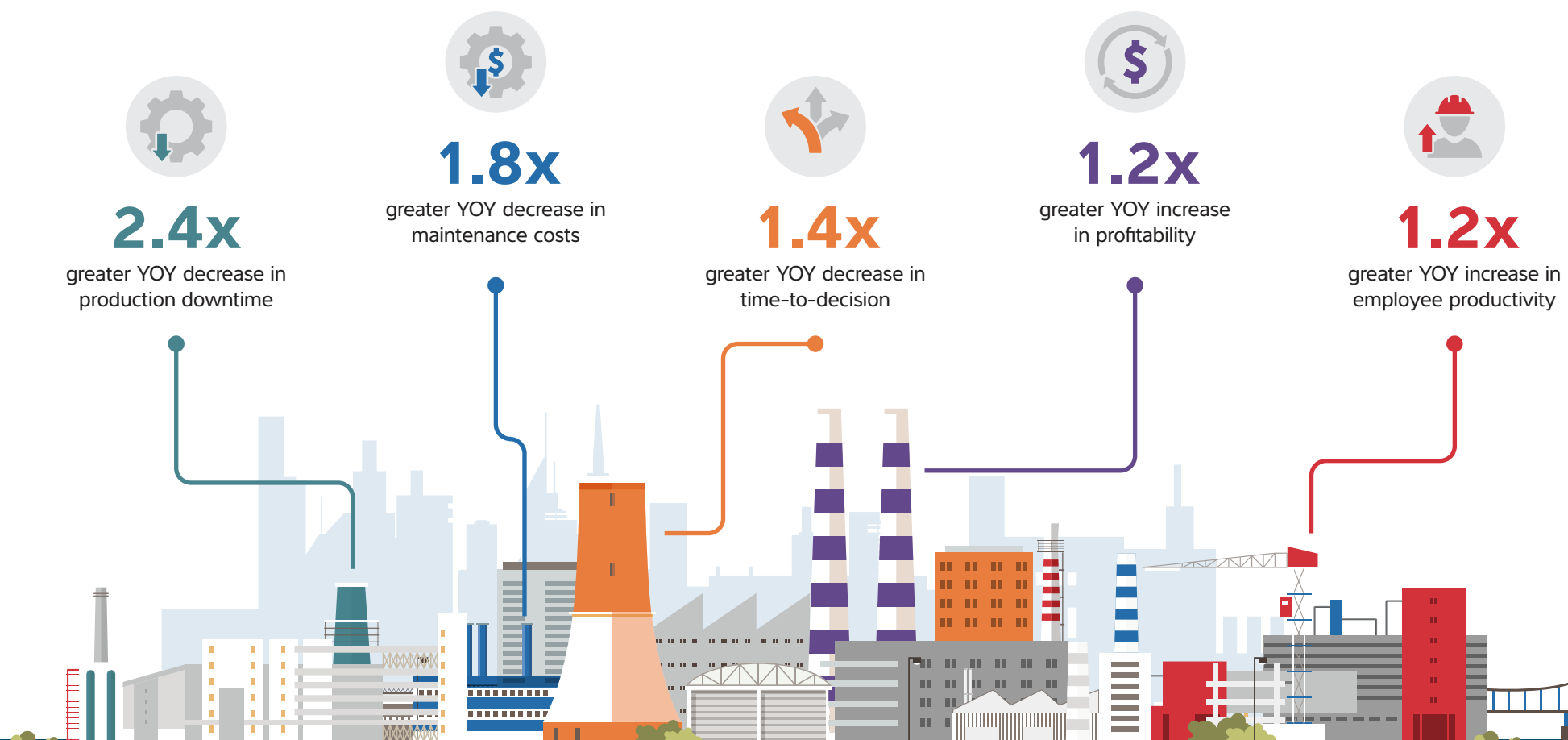


## High-Performance Speaks for Itself

### Best-in-Class Organizations See Year-over-Year Improvements in KPIs

All of these efforts make a tangible difference on the performance of the organization.

Compared to all others, Best-In-Class manufacturers are seeing...



## A Look at Key Performance Drivers

### Technologies that Are Driving High-Performance for the Best-in-Class

The Best-in-Class use the following technology enablers to enhance their operations:



**Manufacturing Operations Management (MOM) /  
Manufacturing Execution System (MES)**



**Computer Aided Design (CAD)**



**Internet of Things (IoT)**



**Augmented Reality (AR)**

**Let's take a closer look at their measurable impact on business performance.**

#### With MOM / MES vs. Without MOM / MES



**36%**

greater YOY decrease in  
time-to-decision



**33%**

greater YOY decrease in  
production downtime



**30%**

greater YOY decrease in  
maintenance costs



**25%**

greater YOY increase  
in operating margins



**23%**

greater YOY increase in  
employee productivity

## With IIoT vs. Without IIoT



**39%**

greater YOY decrease in  
production downtime



**29%**

greater YOY increase in  
profitability



**23%**

greater YOY decrease in  
maintenance costs



**18%**

greater YOY increase  
in time-to-decision



**16%**

fewer hours of  
unplanned maintenance

## With CAD vs. Without CAD



**14%**

greater YOY increase  
in profitability



**16%**

greater YOY increase in  
employee productivity



**14%**

greater YOY decrease in  
operating margins



**12%**

more meeting quality  
targets at product launch



**11%**

greater YOY decrease in  
number of engineering  
change orders

## With AR vs. Without AR



**36%**

greater YOY decrease in  
manufacturing cycle time



**36%**

greater YOY decrease in  
maintenance costs



**42%**

greater YOY increase  
in profitability



**32%**

greater YOY increase  
in operating margins



**29%**

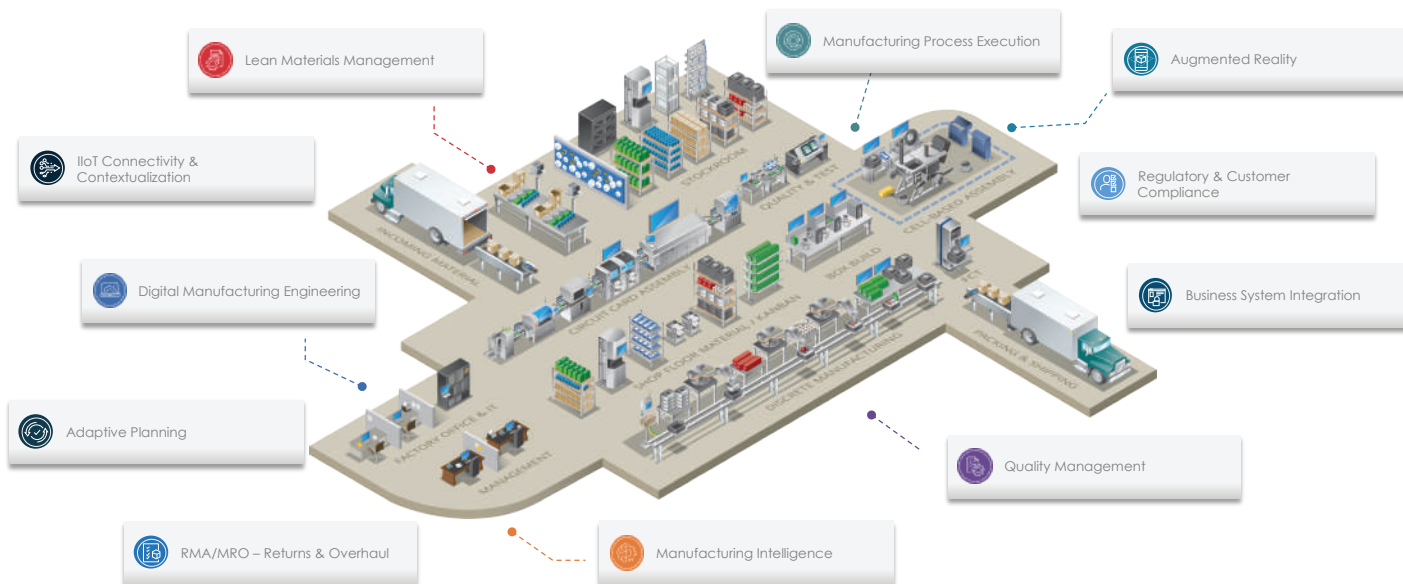
greater YOY increase in  
employee productivity

## Is Your Organization Best-in-Class? High Performance is Within Your Reach

If you wouldn't yet classify your organization with the best-in-class, fear not. High performance is much closer than you think. The opportunities for improvement and advancement today are great. Success can be achieved and a performance edge gained with the help of the right digital tools.

**The IIoT-enabled Aegis MES solution FactoryLogix delivers factory digitization, real-time operational visibility and control, and Industry 4.0 capabilities—allowing average or laggard manufacturers the ability to grow into Best-in-Class companies. Here's how.**

**An Industry 4.0-Ready Factory Powered by Aegis' FactoryLogix.**



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