

# ERP'S ROLE IN THE MODERN MANUFACTURER: SUPPORTING THE NEEDS OF INDUSTRY 4.0

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## Report Highlights

**p3**

Modernizing business systems is a top priority for manufacturers.

**p5**

Leaders are more likely to have implemented cloud, analytics, and Internet of Things technology.

**p7**

Leaders are 44% more likely to have real-time visibility into the status of all processes.

**p8**

Leaders saw a 13% improvement in productivity over the past two years.

This report uncovers how your organization can utilize ERP as the foundation for innovation in the new manufacturing environment.

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**To support change and provide a platform for innovation, forward-thinking manufacturers have adopted a series of technologies, including cloud, analytics, and the Internet of Things.**

The manufacturing industry is in a state of change. New business and production models, industry standards, best practices, and technology have enabled top performing manufacturers to separate themselves from the rest of the pack. To support manufacturing change and provide a platform for innovation, forward-thinking manufacturers have adopted a series of technologies, including cloud, analytics, and the Internet of Things. The result is an ability to combine intelligent automation with analytics, enabling a more productive and efficient manufacturing environment.

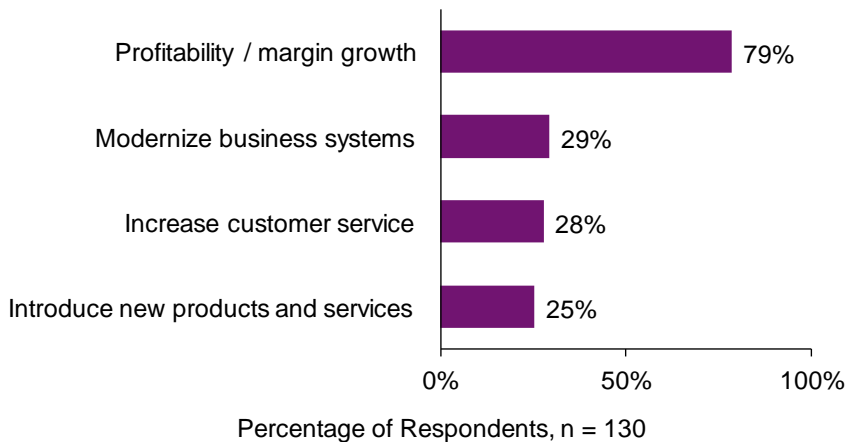
These changes, collectively referred to as Industry 4.0, are absolutely necessary to compete in the current environment. Those that don't act are going to be left behind.

But for many manufacturers, integrating these changes into ongoing operations has proven difficult. As the software foundation for manufacturing success, Enterprise Resource Planning (ERP) solutions are the natural fit for facilitating these essential changes. This report uncovers how your organization can utilize ERP as the foundation for innovation in the new manufacturing environment.

### Manufacturing Industry 4.0

In a recent survey, manufacturers were asked to indicate their top two goals for the coming year (Figure 1). Of course, profitability is the major driving factor of a manufacturer; that will never change. But what *is* changing in manufacturing is how organizations are getting to that profitability.

## 3

**Figure 1: Top Manufacturing Goals**

Source: Aberdeen Group, February 2017

Truly, the manufacturing industry is changing. Increased competition is leading to a focus on servicing customers. To succeed, manufacturers must explore new ways to deliver innovative products and services. For many, this has necessitated a change in processes, and even sometimes a change in business models. For example, products may need to be more customizable, requiring a change in the ways production and delivery are handled. Many of these changes would be impossible in existing business systems. Therefore, manufacturers have prioritized modernizing business systems as their second goal for the near future.

In fact, modernization of technology is an integral part of the strategy for Leading manufacturers. Leaders were asked to select their top two strategies for the coming year (Figure 2).

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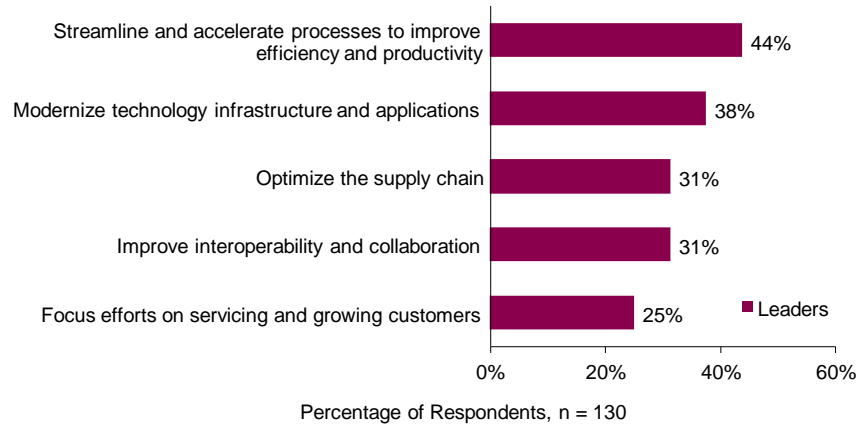
In this report, Aberdeen groups respondents into two maturity classes:

- **Leaders:** Top 35% of respondents based on performance
- **Followers:** Bottom 65% of respondents based on performance

In this report, respondents were ranked on the following criteria:

- **Complete and on-time delivery:**
  - Leaders – 98%
  - Followers – 92%
- **Inventory accuracy:**
  - Leaders – 98%
  - Followers – 94%
- **Improvement in profitability over the past two years:**
  - Leaders – 9%
  - Followers – 1%
- **Improvement in productivity over the past two years:**
  - Leaders – 13%
  - Followers – 3%

**Figure 2: Strategies of Leading Manufacturers**



Source: Aberdeen Group, February 2017

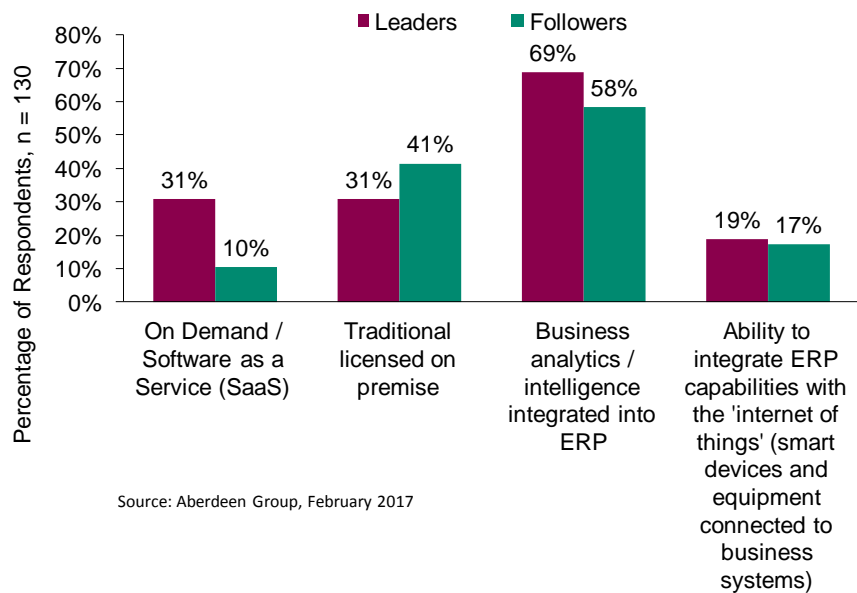
Through modernization, Leaders implement improvements across their operations, helping them to compete in Industry 4.0. These include streamlining processes to become more productive, improving collaboration across the organization and the supply chain, as well as delivering products and services that will grow the customer base. Together, these strategies are the keys to success in the modern manufacturing environment.

### ERP in Support of Industry 4.0

ERP is the foundation for success in manufacturing organizations. In fact, 83% of surveyed manufacturers have an ERP solution in place. But not all ERP is created equal.

In Industry 4.0, ERP must embody the goals of a modern manufacturer and support the technologies that enable faster access to more useful data that enables efficient, agile, and automated processes (Figure 3).

Figure 3: In Support of Industry 4.0



First, Leading manufacturers are over three times as likely to have deployed their ERP solution in the cloud. Conversely, Leaders are less likely to have deployed their solution using a traditional on-premise model. Cloud solutions can be used from anywhere with accessible internet, which enables a central source of real-time data and communication across geographic boundaries. Additionally, cloud solutions are continuously updated by software vendors, ensuring support for new best practices and regulations as well as emerging technologies. This deployment model supports manufacturers who are flexible, fast, and effective.

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Thirty-eight percent (38%) of manufacturers plan to implement Internet of Things technology in the next 12 months. Seventy-two percent (72%) plan to do so within the next three years.

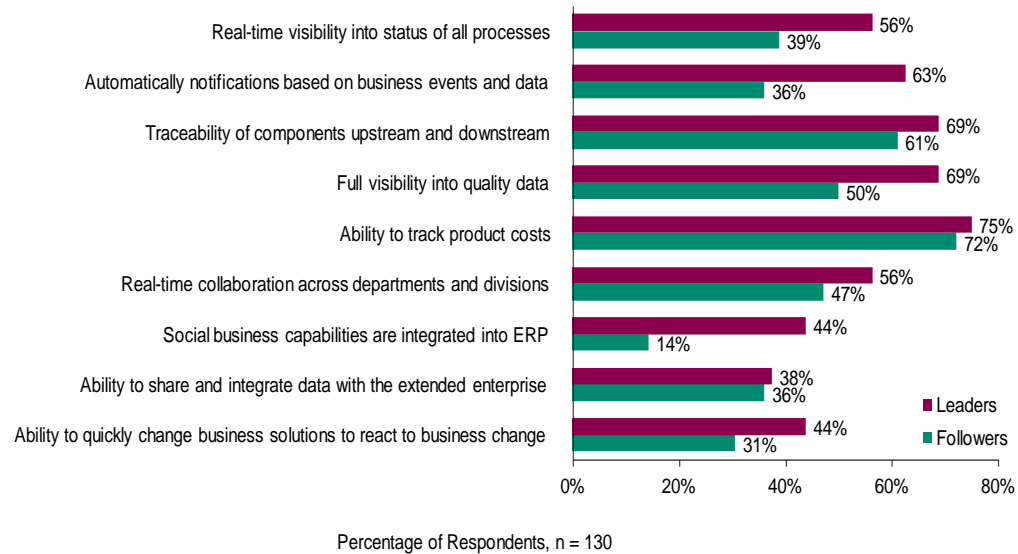
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Next, Leaders are 16% more likely to have business analytics integrated into ERP. This means that they can do more with their data. Analyzing the effectiveness of processes, determining profit trends, and monitoring customer data can lead to better, more insightful decisions that will positively impact the bottom line. Furthermore, an organization connected to the Internet of Things will be able to revolutionize the way it delivers products and services, due to an ability to analyze equipment, machinery, and product data, as well as using devices that support process change.

Truly, the Internet of Things is a core component of Industry 4.0. While today's Leaders are currently more likely to integrate ERP capabilities with the Internet of Things, adoption is still relatively low. Still, another Aberdeen survey found that 38% of manufacturers plan to implement Internet of Things technology in the next 12 months. Seventy-two percent (72%) plan to do so within the next three years. Organizations that don't recognize how this technology can impact their organization will be left behind.

Beyond the core technologies used to support Industry 4.0, Leading manufacturers focus on capabilities within their ERP system that improve decision-making, agility, and collaboration (Figure 4).

**Figure 4: Improving Decision-Making, Agility, and Collaboration**



Source: Aberdeen Group, February 2017

For example, Leaders are 44% more likely to have real-time visibility into the status of all processes. Using sensors as part of an IoT strategy, manufacturers can enable alerts that trigger changes in production or maintenance schedules. Additionally, enhanced visibility, enabled by ERP and integrated technologies, provides valuable insight that leads to more informed decisions, agility, and efficient operations. Manufacturers can better trace materials, monitor quality and compliance, and understand the components of profitability. This all leads to a more informed and productive manufacturer, due to the technical advancements of Industry 4.0.

Additionally, top-performing manufacturers utilize technology to improve collaboration across their organization. Connecting supply chain and logistics with the shop floor, for example, can lead to improved demand management. Similarly, connecting

manufacturing operations with new product development can lead to better products. Social business capabilities, an emerging technology that Leaders are over three times as likely to have, can facilitate this process using social streams and wikis that enable employees to interact in new ways. On the other side, Leaders are also more likely to share data outside of their four walls with suppliers, resellers, customers, and regulatory bodies. Interoperability will be a core competency in the new industry.

Lastly, Industry 4.0 only comprises the most recent series of changes in manufacturing. Innovation will be ongoing. As business models, processes, and regulations change, so must a manufacturer's technology foundation. Leaders are 39% more likely to have an ERP solution that is easily tailored to support business change.

### The Benefits

By using ERP to support visibility, agility, collaboration, and emerging technologies, manufacturers improve performance across a variety of metrics that are indicative of their overall success as a manufacturer in Industry 4.0 (Table 1). Leaders have seen more significant gains in time to decision and productivity over the past two years. This indicates that these organizations, due to the technology they have implemented, are accessing information and acting on that information more quickly than those that have not integrated these technologies in their operations. Better data leads to more reliable information, such as inventory accuracy. Better productivity and agility leads to more effective processes, evidenced by more complete and on-time delivery. Ultimately, these improvements impact the bottom line, which is evidenced by the fact that Leaders saw a 9% improvement in profitability over the past two years.



Table 1: The Results

Average Performance	Leaders	Followers
Improvement in time to decision over the past two years	9%	4%
Improvement in profitability over the past two years	9%	1%
Improvement in cycle time of key business processes over the past two years	7%	3%
Improvement in productivity over the past two years	13%	3%
Percentage complete and on-time delivery	98%	92%
Inventory accuracy	94%	91%

Source: Aberdeen Group, February 2017

## Key Takeaways and Recommendations

Industry 4.0 is here and it's time to take your manufacturing operations to the next level. This can be a scary process for manufacturers of all sizes. But there is a path to the future. By using ERP as a foundation, your organization can integrate key technologies and capabilities, revolutionizing the way it operates. To begin this journey, heed the following recommendations:

- ➔ **Don't wait.** Your competitors have already begun their journeys to the new industry landscape. Every day they are benefitting from the innovation of Industry 4.0. Inaction will only cost you in the long run.
- ➔ **Identify opportunities.** Where are your processes lacking? Is it taking too long to get products to market? Are you unable to react to demand trends? Are your resources

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overburdened? Prioritize the biggest challenges that your organization faces, and think about how cloud, analytics, and the Internet of Things can fit into a new business reality.

- **Start small.** Wholesale change is disruptive. Many manufacturers begin their journeys with something small, such as deploying sensors on their machinery and seeing what type of intelligence they can derive. (For example, how does temperature impact your ability to perform predictive maintenance?)
- **Work with your ERP vendor.** Your vendor interacts with industry peers and works to incorporate best practices in their solution. These business partners can be a valuable resource in organizational innovation.
- **Continuously improve.** Industry 4.0 is just the next segment of your journey. Ensure that your employees, processes, and technology are flexible enough to integrate industry change as it happens.

Industry 4.0 is here. Does your ERP fit the bill?

For more information on this or other research topics, please visit [www.aberdeen.com](http://www.aberdeen.com).

#### Related Research

[\*IoT in Customer Experience: Demystifying the Business Impact of Connected Devices\*](#); January 2017

[\*What Does Digitalization in Manufacturing Mean Now?\*](#); January 2017

[\*Address Your Compliance and Quality Challenges: Top Performers Rely on Complete Business Solutions\*](#); December 2016

[\*Top Performers Know It's Time to Migrate to Cloud ERP: Here's Why and How\*](#); October 2016

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