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Getting the most out of Industry 4.0

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A new survey of global manufacturing experts explores the progress companies have made in implementing Industry 4.0, the challenges many still face, and the ways more players can unlock value.

A lot of hype has built up around Industry 4.0 over the past few years, creating awareness of the topic within many companies and contributing significantly to the rejuvenation of “good old industry” in the public mind.¹ Leaders remain optimistic overall, but a degree of disillusionment has also crept in, as the results of implementation so far are mixed.

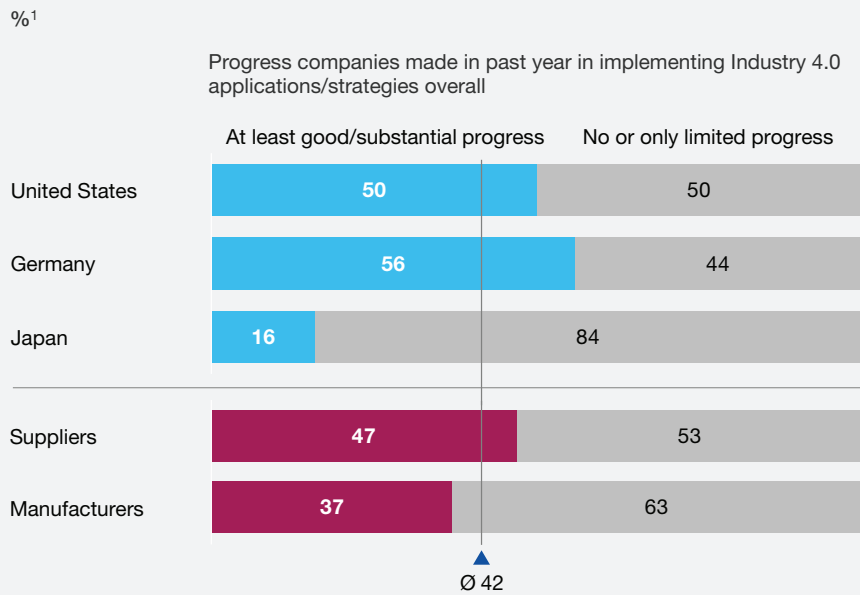
On the one hand, we still see high uncertainty among manufacturers regarding what implementing Industry 4.0 really requires of them—and many are still struggling to get started (exhibit). For example, we found that only 30 percent of technology suppliers and 16 percent of manufacturers have an overall Industry 4.0 strategy in place, and just 24 percent have assigned clear responsibilities to implement it. On the other hand, most technology suppliers have moved relatively fast to adjust their portfolios given the potential of these digitization trends. And a growing number of manufacturers report substantial progress, especially when moving beyond Industry 4.0 buzzwords and focusing on valuable, business-specific applications. To get there, some companies have even renamed their Industry 4.0 projects to shake off lingering reminders of initial skepticism while keeping the elements that created true value.

To take stock of these complex and diverse developments and shed light on why some players are making progress while others are not, we repeated our 2015 Industry 4.0 global expert survey. The new responses were gathered in January 2016 from 300 experts in Germany, Japan, and the United States. We explored changes in attitudes about Industry 4.0 and progress made in its implementation, particularly in smart energy consumption, real-time supply-chain optimization, remote monitoring and control, digital quality management, and digital performance management. Still, some companies continue to experience difficulties in several areas: coordinating actions across different organizational units, upholding cybersecurity standards and determining data ownership when working with third-party providers, sustaining courage and support for a radical transformation, and recruiting the necessary talent.

¹ We define Industry 4.0 as the next phase in the digitization of the manufacturing sector. For more, see Cornelius Baur and Dominik Wee, “Manufacturing’s next act,” June 2015, McKinsey.com.

Exhibit

Only four of ten companies made good progress—with the strongest results in Germany and among technology suppliers.



¹n = 300 manufacturing experts in Germany, Japan, and the United States.

McKinsey&Company | Source: McKinsey Industry 4.0 survey, Jan 2016

For manufacturers that are still struggling with how to unlock value from Industry 4.0, we have outlined five pragmatic steps:

1. Manufacturers should focus on a limited number of Industry 4.0 applications, rather than trying to cover all levers at once.
2. Companies should not be afraid to use technology work-arounds to begin implementing Industry 4.0 use cases while they make large-scale investments to overhaul technology stacks.
3. Manufacturers should build a portfolio of third-party technology providers, as Industry 4.0 is causing a shift from the single-provider model to one that hinges on a set of integrated technology providers.
4. To capture value from Industry 4.0, companies need to establish a dedicated cross-functional team that drives innovation based on a culture open to change and experimentation.
5. Manufacturers that want to not only reap the immediate rewards of Industry 4.0 but also prepare themselves for future market disruptions should start experimenting with new business models. Most Industry 4.0 quick wins will be found in improving operational effectiveness.



Industry 4.0 raised high expectations, but not all have been met. Nonetheless, a handful of manufacturers have discovered numerous applications for Industry 4.0 and are reaping the benefits. Implementing Industry 4.0 is a process that could take years, and more applications will develop as technologies mature further. It is imperative that manufacturers in all countries start now with a set of concrete applications. This will build the organizational and technical muscle to tackle more ambitious projects in the future, such as the complete integration of data throughout the product life cycle. □

[Download the full report on which this article is based, *Industry 4.0 after the initial hype: Where manufacturers are finding value and how they can best capture it*, on McKinsey.com.](#)

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