

# Industrial Automation

A Manufacturing Revolution  
in Automotive and Industrial  
Equipment

A large orange industrial robot arm is the central focus, extending from the right side of the frame towards the left. It is positioned in a factory setting with a grid ceiling and various equipment in the background. The robot arm is emitting a spray of small, colorful triangles (yellow, green, blue, pink, white) from its nozzle. A large yellow chevron graphic is overlaid on the right side of the image, pointing towards the robot arm.

High performance. Delivered.

Automated production, integrated end-to-end: transparent, reliable, predictable and efficient. That's the promise of Industrial Automation, a core component of the Industrial Internet of Things (IIoT)—the vast and self-sustaining digital ecosystem that could be contributing more than US\$10 trillion to the global economy by 2030<sup>1</sup>.

Imagine, for example, digital factories that leverage sophisticated communications and control capabilities to give machines real-time, autonomous decision-making power. Imagine the cost-effective assembly of customized products that such a digital production system enables. And consider how that system might scale across a much wider network, sharing recommended practices in manufacturing automation to drive broader operational and financial performance improvements.

Industrial Automation is already transforming manufacturing in the automotive and industrial equipment industries.

Sensors and control mechanisms are now embedded into most of these industries' shop-floor machinery. What's more, such devices are increasingly connected with management, execution, logistics and ERP systems. As a result, manufacturers have unprecedented visibility into the factory production process. Because they can identify and predict performance bottlenecks, they can improve compliance, boost availability, and minimize waste. They can also pilot new processes more effectively. And they can make smarter decisions about how to manage a significantly more connected and collaborative workforce<sup>2</sup>.

**Industrial Automation is already transforming manufacturing in the automotive and industrial equipment industries.**



## The challenges

Realizing the full potential of Industrial Automation will pose challenges for many companies.

It requires new tools, new skills, new ways of sharing and managing information—and new ways of thinking. That's a big ask for companies that are not digital "natives". And an even bigger one for those that are not organized operationally to network across functions, in collaboration with the start-ups and other digital disruptors whose innovations are powering the Industrial Internet of Things.

Our research suggests that most companies, though keen to take full advantage of the Industrial Internet of Things, still hesitate to do so. When Accenture recently surveyed more

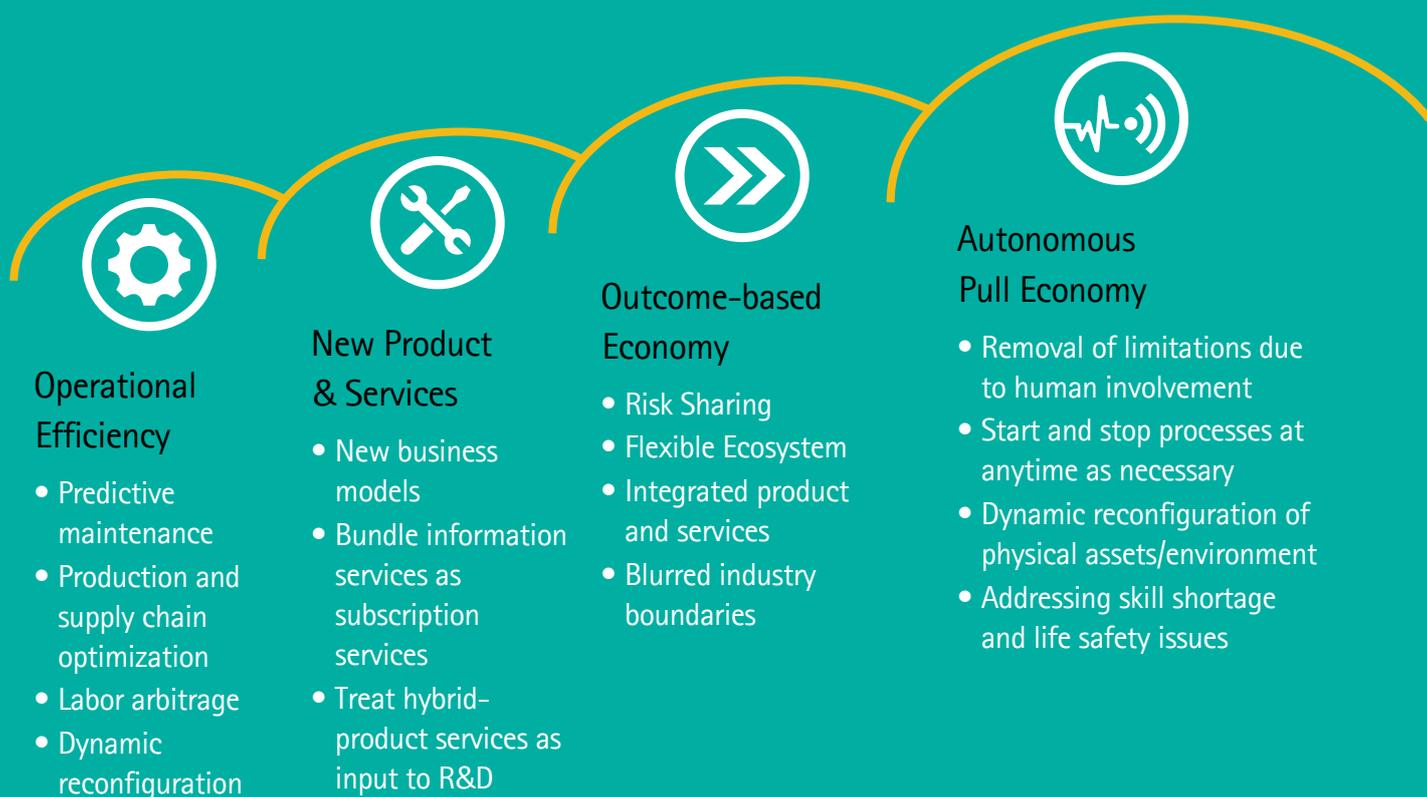
than 1,400 global business leaders, 84 percent confidently asserted that they could create new income streams from this new industrial revolution. Yet 73 percent still hadn't made concrete plans to do so, and only seven percent had developed a comprehensive strategy backed by matching investments<sup>3</sup>.

**Most companies, though keen to take full advantage of the Industrial Internet of Things, still hesitate to do so.**

# The transformation journey

However, some leading players are showing a way forward. By leveraging Industrial Automation as a foundation stone of operational efficiency they are moving toward an outcome-based and eventually "autonomous pull" economy where entirely new revenue streams can be generated from products and services customized cost effectively for a diversity of customers (see Figure 1).

Figure 1: Industrial Digital Maturity Model



In most cases, making the case for operational efficiency is a low-hanging fruit providing easy-to-estimate return. As strategies re-align over time, new top line opportunities arise thanks to previous investments and organizational realignment that provide truly disrupting opportunities.

Leaders are taking full advantage of intelligent tools and an intelligent workforce: the key enablers of Industrial Automation, which together permit deeper analysis of both manufacturing processes and the supply chain.



## Intelligent Tools

Sensors, materials tracking mechanisms, 3D printing, automated product design, robotics, mobile devices and "wearables" can all help manufacturers cut costs and increase productivity. Networked equipment sensors, for example, can identify and predict maintenance issues and thus help reduce unscheduled downtime. Indeed, research suggests that by identifying optimal efficiency drivers, predictive asset maintenance can save up to 12 percent in scheduled repair

costs, reduce overall maintenance costs by up to 30 percent, and result in up to 70 percent fewer breakdowns<sup>4</sup>. Similarly, 3D printing can boost product quality and help reduce the need for a spare parts inventory. Case in point: A US OEM car maker, where the 3D printing of prototypes for auto parts enables the mass customization of better products—and helps delay their actual manufacture until the customer is ready to buy them.





## Intelligent Workforce

Intelligent tools require an intelligent workforce, and vice versa. As men and machines do more together, new technologies can deliver the skills needed to make the most of Industrial Automation, helping boost both the skill sets and collaborative capabilities of the human element in a more change-ready and responsive workforce. Accenture delivered with Airbus a proof of concept, using the latest wearable technology, to help Airbus operators reduce the complexity of assembling

cabin seats and decrease the time required to complete this task. Using contextual marking instructions, the smart glasses display all required information for an operator to help mark the floor faster and reduce errors to zero. In addition, the eyewear technology, implemented by Accenture, also offers interactivity by granting the professional access to features including barcode scanning, data retrieval from the cloud, voice command and augmented reality.



# Why Accenture

Accenture is uniquely positioned to help industrial and automotive companies achieve the business model transformation they need to realize the full potential of Industrial Automation and the Industrial Internet of Things.

- **End-to-end vision**

Thanks to our global reach across Accenture Digital, Technology, Strategy, Operations and Consulting, we can help clients transform from the old to the new, establishing the business case, integrating all values (from engineering to manufacturing and service), and delivering the new capabilities required for Industrial Automation.

- **Analytics as a service**

Sensors generate huge amounts of data from which critical, performance-enhancing insights can derive. But data analysis can

be an expensive investment in the short term. Accenture can provide access to remote analytics services via the Cloud, and deliver fast results.

- **Open Innovation**

Much of the innovation around Industrial Automation and the Industrial Internet of Things comes from start-ups. Accenture Technology Labs help start-ups grow, so we can keep abreast of rapidly changing technologies, infuse continuous innovation and improvement into our assets, and ensure that our clients have access to those technologies that are most reliable and appropriate for their needs.

- **Digital Plant**

The more networked and collaborative digital factories of the future will be organized around digital production systems,

advanced technologies, and intelligent automation and control. Accenture assets, which include remote control towers and safety and digital design solutions, align with these requirements and can help clients build digital plants.

- **Workforce Renewal**

Even in an increasingly machine-centric environment, people will still predominate as the drivers of change. To facilitate the digital journey, however, they need new skills, from data science to machine coordination and maintenance. Accenture can help resolve these human capital management challenges by designing and delivering specific Digital Learning programs. Through the use of digital, and analytics in particular, it takes HR to the next level: interconnected, agile, and supportive of strategic business priorities.



Industrial Automation offers manufacturers the chance to build faster processes, better products, improved asset efficiency, and higher workforce productivity. The time to start realizing its potential is now.

# References

1. Winning with the Industrial Internet of Things, Accenture 2014
2. Machine dreams: making the most of the Connected Industrial Workforce, Accenture 2015
3. From productivity to outcomes: using the internet of things to drive future business strategy, Accenture 2015
4. G.P. Sullivan, R. Pugh, Ap.P. Melendez and W.D. Hunt, "Operations & Maintenance Best Practices: A Guide to Achieving Operational Efficiency, Release 3.0," Pacific Northwest National Laboratory, US Department of Energy, August 2010



For more information, please  
contact:

Jean Cabanes  
[jean.cabanes@accenture.com](mailto:jean.cabanes@accenture.com)

Jean-Christophe Ledoux  
[jean.ledoux@accenture.com](mailto:jean.ledoux@accenture.com)

Join the conversation  
[@AccentureInd](#)

## About Accenture

Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations. Combining unmatched experience and specialized skills across more than 40 industries and all business functions—underpinned by the world's largest delivery network—Accenture works at the intersection of business and technology to help clients improve their performance and create sustainable value for their stakeholders. With more than 373,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives. Visit us at [www.accenture.com](http://www.accenture.com).

Copyright © 2016 Accenture  
All rights reserved.

Accenture, its logo, and  
High Performance Delivered  
are trademarks of Accenture.