

Predictions: 5 Digital Factory Trends for 2018



It is time to predict what technologies will most impact factory floors in 2018.

Predictions at-a-glance

- **IT/OT Convergence will increase in momentum**
- **The rise of smart mechatronics**
- **Big data and analytics finally arrives**
- **Intelligent Automation emerges**
- **Intelligent supply chains will force manufacturers to catch up**

Introduction

2017 was a breakthrough year for digital factory solutions. Additive manufacturing, Industry 4.0, and digital transformation all gained momentum, cementing the need for factory Ethernet if manufacturers want to compete globally.

The digital factory predictions included in this paper come from Matt Rendall, CEO of Clearpath Robotics, Ben Hope, Festo Canada's head of business development for manufacturing and Industry 4.0, and Cisco's Jennifer Rideout, manufacturing marketing manager for Canada.

Prediction 1: IT/OT Convergence will increase momentum

Given the momentum built in 2017, IT/OT convergence will continue to be top-of-mind in 2018 as more manufacturers come around to the opportunities created by an industrial IT network.

Added to this is the fact manufacturers are facing increased pricing pressure from global competitors, as well as significant personnel and operational costs. These pressures won't go away in 2018, and by converging IT and OT systems manufacturers will be able to identify efficiency opportunities to save time and money.

Prediction 2: The rise of smart mechatronics

“2017 really saw progress on the data side of Industry 4.0. But what is the next step?”

– Ben Hope, Festo Canada

Mechatronics is a vital piece of the Industry 4.0 puzzle. As Ben Hope from Festo Canada explains, “2017 really saw progress on the data side of Industry 4.0. But what is the next step? If we’re taking data from our automation components, it’s likely we want to gain insights from that data, and it’s also likely we’ll want take actions based on those insights.”

“We need mechatronic solutions that are agile, reconfigurable, and intelligent so that they can respond and adapt to changes in production requirements. Cyber-physical systems (CPS) are the means to achieve

that kind of functionality. I think in 2018, industry will move from that conceptual definition of a CPS to looking at how these systems are designed, and how they can be implemented. Automation technology suppliers are starting to offer products that integrate complex function with intelligence and communication.”

“An example of this would be Festo’s [Motion Terminal](#). This is the traditional valve terminal with the ability to reconfigure itself for different applications and diagnostics; to have access to data via OPC UA; and to have complex functionality available to the user without extensive design and programming. CPS enables better manufacturing, but they also enable faster design and development of automated equipment because now you’re specifying and buying function rather than a box of discrete components that need to be engineered, assembled, and integrated to achieve that same function.”

Like the convergence of IT and OT networks, it’s expected that industry-leading manufacturers will begin to leverage smart mechatronics in 2018 to gain valuable insights and data from equipment.

Prediction 3: Big data and analytics finally arrives

Speaking of data, there are two pillars every manufacturer needs in 2018 if they are to realize the business value from digital solutions: a robust and secure IT network, and analytics. As IT networks become table stakes on the factory floor, watch for analytics to become a bigger part of a manufacturer’s technology stack in 2018.

Why? Because analytics help better predict machine maintenance and reduce waste. Data also suggests analytics is ripe for a boom with Canadian manufacturers. In IDC’s *2017 Forecast on Manufacturing Spend*, 44% of Canadian manufacturing IT leaders saw a high business value for analytics over the next 5 years.

Prediction 4: Intelligent Automation emerges

Advances on the factory floor have created the ideal environment for intelligent automation to break through in 2018.

As Matt Rendall from Clearpath Robotics puts it, “It has never been more important for processes, machines, and humans in manufacturing to work harmoniously together. Intelligent automation – like Self-Driving Vehicles – brings together sensors, connectivity, and artificial intelligence (AI) to deliver flexible manufacturing processes that react in real-time to changes on the shop floor. The factory of the future will be realized with intelligent automation.”

Prediction 5: Intelligent supply chain will force manufacturers to catch up

For years, manufacturers have trailed others in the adoption of advanced technologies. This must end in 2018 if the industry is to accelerate and grow across borders.

The challenge is that 2018 is poised to be the year of the intelligent supply chain. Companies who have been investing in advanced technologies for several years now have the network and analytics foundation to implement a data-enabled, agile, and responsive supply chain.

As intelligent supply chain deployments worldwide increase in 2018, manufacturers will be forced to play 'catch up' by planning and implementing digital projects faster than competitors.

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