

Manufacturing Business Technology

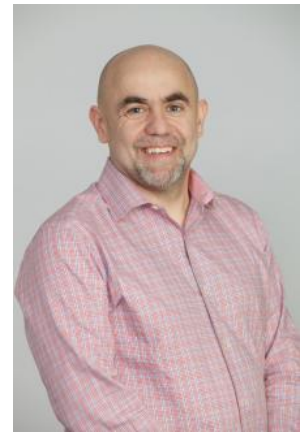
Drop The Jargon... Call IIoT And Big Data What They Are: Factory Intelligence

November 16, 2017

by Stevie Hay

Big Data and the Industrial Internet of Things (IIoT) are heard in almost every conversation about the current and future state of manufacturing. However, like an unsuccessful game of telephone, both terms have been tossed around so frequently, they have essentially lost meaning and significance for many manufacturers.

In fact, in a [recent survey](#) conducted by LNS, nearly one in five manufacturers cited confusion as to what IIoT is — and how it related to their business — as a major challenge to investing more money into the technology. And when it comes to data, a [recent study](#) from PwC and Iron Mountain found that 16 percent of business leaders didn't believe their organization knew what data it had, and 23 percent said they didn't know how data transferred through their business or where it could be used best.



While larger manufacturing enterprises have resources dedicated to implementing Big Data and IIoT centered practices, lack of expert resources and clarity around these topics causes smaller manufacturers to put off putting them into play for their factory floors.

What smaller manufacturers fail to realize is that at the end of the day, IIoT and Big Data are just jargon for factory intelligence. Let's translate what factory intelligence is and explore how it can benefit your operations.

Defining Big Data

[According to Gartner](#), Big Data is high-volume, high-velocity and/or high-variety information assets that demand cost-effective, innovative forms of information processing that enable enhanced insight, decision making and process automation.

This buzzword is nothing new. Manufacturers have dealt with a deluge of complex information, structured and unstructured, for quite some time. Plant floor equipment and systems regularly produce massive amounts of data, which is often disconnected from any type of intelligence. Gartner suggests that manufacturers put technology in place to make sense of the information, in order to transform Big Data from a big problem into a big benefit.

With the advent of connected technology, the amount of data pumping in and out of an organization will only grow. Manufacturers must deploy solutions that can structure information and make it work for them, not against them.

Defining IIoT

More than half of companies collect data from connected products, but only one-third use the intelligence to create actionable insights, according to [Forrester analysts](#).

This is where IIoT comes into play.

GE puts IIoT into [laymen's terms](#), defining it as the network of a multitude of devices connected by communications technologies that results in systems that can monitor, collect, exchange, analyze and deliver valuable new insights like never before.

Fancy Words for Factory Intelligence

Ultimately, when you break down both Big Data and IIoT, what you find at the center is factory intelligence. Manufacturers need data insight and IIoT capabilities to solve complex problems within the supply chain.

When made actionable, factory intelligence can:

- Improve uptime
- Improve quality
- Reduce costs
- Predictive maintenance
- Reduce operator entry/errors

Small Manufacturers Need Integrated Solutions to Become Their CDO

Larger manufacturers have Chief Data Officers (CDOs) at the ready helping the company put factory intelligence into practice. In fact, [Gartner estimates](#) that 90 percent of large organizations will have a CDO by 2019.

CDOs are tasked with combing through large sets of data to find solutions for increasing efficiency and productivity. Small manufacturers desperate for efficiency and productivity can't afford this type of resource. Instead, they have to find and implement cost-effective technology that can serve as their CDOs.

Smaller manufacturing teams need comprehensive solutions — like cloud-based manufacturing execution systems (MES) — which make factory intelligence a reality. The right MES can connect seamlessly with other technologies to help manufacturers with limited resources gain insight into manufacturing metrics to accelerate analysis, decisions and actions. The more MES solutions are integrated with a manufacturer's enterprise asset management and enterprise resource planning systems, the more accurate the information obtained.

Choosing What Works

However, not all MES solutions were created equal, so it's key to find a solution that can monitor performance and trends quickly and easily based on shifts, crews, individuals, materials, equipment, production lines, products and packaging. Additionally, the MES should deliver intelligence on costly manufacturing root causes, production constraints and unprofitable products. Also important is the ability to identify opportunities to improve production performance, product innovation, safety and bottlenecks throughout the factory supply chain.

For example, a provider of frozen prepared foods we work with began using integrated MES technology to reconcile escalating commodity costs. The intelligence it offered provided the manufacturer a 3.5 percent overall equipment effectiveness (OEE) uplift in seven months, and improved both changeover times and shop floor responsiveness. The investment they made in the technology was paid back within a year through the cost savings it delivered, and it set the manufacturer up for future success.

Using this type of technology can help smaller manufacturers keep up with the pace of innovation and operate on par or better than their larger competitors long-term.

The Bottom Line

Ultimately, gaining factory intelligence is completely possible for small manufacturers. Once they translate the doublespeak on what Big Data and IIoT are and are not, and implement technology to transform information into action, they can operate much more efficiently, improve productivity, reduce costs and increase profits.

Stevie Hay is Senior Director at [Aptean](#).