

ENTERING THE IIOT

Critical first steps to achieving results in the Industrial Internet of Things

BY MARY DEL CIANCIO

The Industrial Internet of Things is on track to revolutionize the manufacturing industry. Using sensors, software and other advanced technologies to accurately capture and communicate data from the plant floor promises to decrease costs and downtime for manufacturers, increase quality and savings, and make them much more efficient. The advantages are clear. Yet many manufacturers have been slow to adopt the technology that will give them these results.

Why? The Industrial Internet of Things, also called the IIoT, is still in its infancy. Jumping on board requires an investment and, because it's an emerging space, it's difficult to determine the ROI. With so much excitement surrounding the IIoT, many simply don't know where to start. However, experts suggest that by taking some small first steps, manufacturers will begin to see results.

Getting started

The IIoT is no different than the journey manufacturers have been on for years, explains Paul Farrell, senior vice-president of product marketing

with NetSuite, likening the IIoT to Lean manufacturing and a company's efforts to add value and remove dead costs. Like Lean, it's about driving quality and driving cost effectiveness, he says.

With that in mind, the first step is to look at where the value is going to be added, and what you want to accomplish. Do you want to reduce costs, reduce waste, increase productivity, increase efficiency? Where are the areas within your facility that you can gain the most benefit from the IIoT? Perhaps it's driving real-time scheduling, optimizing maintenance schedules or parts ordering. Maybe it's managing capacity, catching quality issues or reducing waste.

"There is a massive amount of opportunity out there for companies to become a lot more efficient and a lot more effective," Farrell says. "Look at where you need to add the value, or where you think it's going to take out the cost, and concentrate on doing that."

Agree on the goal

Success in the IIoT space requires co-operation between the interested parties within a company. What they are trying to achieve and how they are going to achieve it must be agreed

upon at the beginning, explains Aiden Mitchell, the vice-president of IoT global sales for Arrow Electronics. Mitchell participated in a recent panel discussion at the Harting Business Conference (HBC) that discussed how to make the IIoT a reality today.

"The guys who run the operations, who run the factory floor, have typically had a pretty closed-loop, tight working environment for years. The last thing they would ever want is to let an IT guy into the middle of it," explains Mitchell. "But now that you're talking about data coming off their shop floor and going into some ubiquitous data environment in the Cloud, you've really got to get them aligned in terms of how that is going to work."

An IT lead must be involved in the discussion from the start, he says. Otherwise, you go through a lot of gyrations in the definition of what the customer is seeking to achieve, wasting precious time.

\$195B

The IIoT market was valued at US\$113.71 billion in 2015 and is estimated to reach US\$195.47 billion by 2022, according to a MarketsandMarkets report.

Key considerations

In these early discussions, there are several key factors to consider, and important decisions that need to be made.

First, explains Farrell, think about how you are going to connect your machine to the IIoT. What sensors and software are you going to use? What is the protocol? What is the network? If you have legacy equipment, how are you going to bridge that serial to digital divide? Second, consider how you are going to gather the huge amount of data coming from your equipment. Is the data streamed, sent on an event or

sent at a certain time? Where are you storing it? Is it a Cloud solution or are you building the infrastructure to deal with the data locally? And third, think about how you are going to analyze the data and make sense of it. Is your system of record, ERP software or MES open enough to action the data that comes in from the IIoT?

The concern for many manufacturers is that the IIoT is still evolving. Standards are emerging and technology is rapidly advancing.

“There are many companies working on producing solutions that will simplify the ability to connect, integrate, analyze, understand and optimize,” explains Farrell. “There is a massive amount of investment here, so we will see standards and simplification emerge over the next couple of years.”

Find the right partner

It’s a team effort, and partners — whether vendors or system integrators — play a large role in the IIoT. A good partner can make recommendations on the best products to meet the application’s requirements. After all, having the right solution that makes sense for the application is critical, explains Nick Hassan,

the director of the advanced development group at Texas Instruments, who also participated in Harting’s HBC panel discussion.

Indeed, there are companies in the IIoT space who provide frameworks and technologies to help businesses get started, says Farrell. Manufacturers should do their research and carefully consider partnerships and solution providers that can help them along their journey.

It’s not for everyone

While the IIoT holds a lot of promise for many manufacturers, it may not be right for all, Farrell says. For example, the food and beverage industry is one market that can gain a lot of value from the IIoT because there is a great deal of information regarding quality, temperature and other variants that are gathered throughout the manufacturing process. But for a company that is assembling two components together quickly and easily, there may be less advantage, he says.

“Don’t think, ‘I have to go and get IIoT implemented or I’m going to fall behind,’” explains Farrell. Instead, think, “Is it going to add value to your processes? There are some

industries that are very machine intensive that absolutely it can. But if you’re not in an industry that is, then is it going to add that value?”


Walk, don’t run

For companies that can gain value from the IIoT, they will be at a competitive disadvantage over time if they fail to adopt technology. It will become more difficult for businesses that are in the IIoT space to work with them, and they will also be less efficient than their competitors. But that doesn’t mean companies should do everything at once.

“There’s lots of noise out there about [IIoT] and...the fantastic things it’s going to be able to do for you. But this should be no different than any other project that a manufacturer does when it’s looking at where the value is,” says Farrell. “Take key projects, implement them, retrieve the value...and let’s get a real robust ROI behind it.”

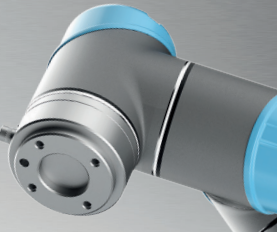
Take it one, small step at a time, he suggests. “Walk the pace rather than run.” | **MA**

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