

The Time is Right for Manufacturers to Transform into IoT Powered Businesses

If you think that the Internet of Things (IoT) and smart manufacturing are just buzzwords, it is time to think again. In a survey an overwhelming 97% agreed that IoT has the potential to make the production floor smarter. There was also consensus that it was the right time for manufacturing firms to invest in IoT enabling technologies.

Automation has always been an integral aspect of manufacturing industries. But, the digital revolution driven by mobility, Big Data analytics, and the advent of connectivity technologies such as IoT and cloud computing, is pushing the boundaries of what automation can achieve. Today's it's not just about gaining operational efficiencies through plant automation, but also enabling better real-time decision making abilities on the floor.

It is only natural that IoT has turned out to be a huge game changer, with its ability to transform the way the manufacturing industry operates, starting from product ideation till the execution of services. Manufacturing businesses are leveraging intelligently connected products coupled with software and analytics as well as smart sensors to monitor processes, and to drive improvements across the floor with better transparency, competent safety standards, and efficient processes.

Laying the foundation for IoT – Exploring the power of data

So, what are some quick wins that manufacturers can achieve through IoT implementations? Automating the regulation and optimization of lighting, HVAC and other aspects of the physical plant are straight-forward implementations of IoT. However, the real value from IoT will come from its ability to harness powerful insights from data. IoT takes 'smart manufacturing' platforms, which integrate CRM, SCM, and ERP systems to whole new levels when combined with predictive analytics. For instance, data gathered from manufacturing equipment throughout the production lifecycle will enable a new level of transparency which provides information at a unit-level rather than batch-level. Also, integrating this data with inventory management systems, provides a clear mapping of the current state of the floor against the required state of demand and supply variables. Armed with these insights, operations teams can adjust the unit level production to suit production stock requirements. This 'monitor-and-adjust' model can be replicated in various applications across the floor enabling better tracking and control over the production stock.

How IoT enables proactive asset management

Asset management will be one of the most important and beneficial deployments of IoT in the manufacturing industry. Earlier, assets in the manufacturing industry used to be defined as tags in the database or ERP systems, but now IoT facilitates data collection from assets throughout the value chain. For example, you can register all the production equipment belonging to multiple production lines onto a centralized asset management tool and add their defects history and maintenance schedules. IoT enabled asset management offers deeper insights into recurring trends and issues related to asset performance at a component and subassembly level. This enables a shift from a reactive to a preventive and predictive approach to maintenance, leading to higher uptime of the production line, better ROI, and improved asset performance.

Moving towards a smarter and more connected future

Manufacturers are expected to gain numerous benefits from the connected industrial intelligence offered by IoT. Some of these include improvements in quality, throughput and productivity, reduced equipment downtime, better personnel safety, and cost efficiencies due to smarter usage of resources.

Despite the several advantages, it is observed that only 10% of industrial operations leverage IoT effectively¹. That is a surprisingly low figure, probably aided by the fact that IoT setup is not as simple as installing software or a new equipment. Transforming into an IoT-powered manufacturing organization, requires robust technology and IT infrastructure to facilitate important operational processes. It will also mean breaking down organizational silos, and garnering cross-functional support. In the coming years, the global competitive pressure will definitely push manufacturing firms to break through the hurdles, and increase investments in IoT implementations.

¹ How The Internet Of Things Is Transforming Manufacturing, July 1, 2014, <http://www.forbes.com/sites/ptc/2014/07/01/how-the-internet-of-things-is-transforming-manufacturing/>, accessed Nov 2015