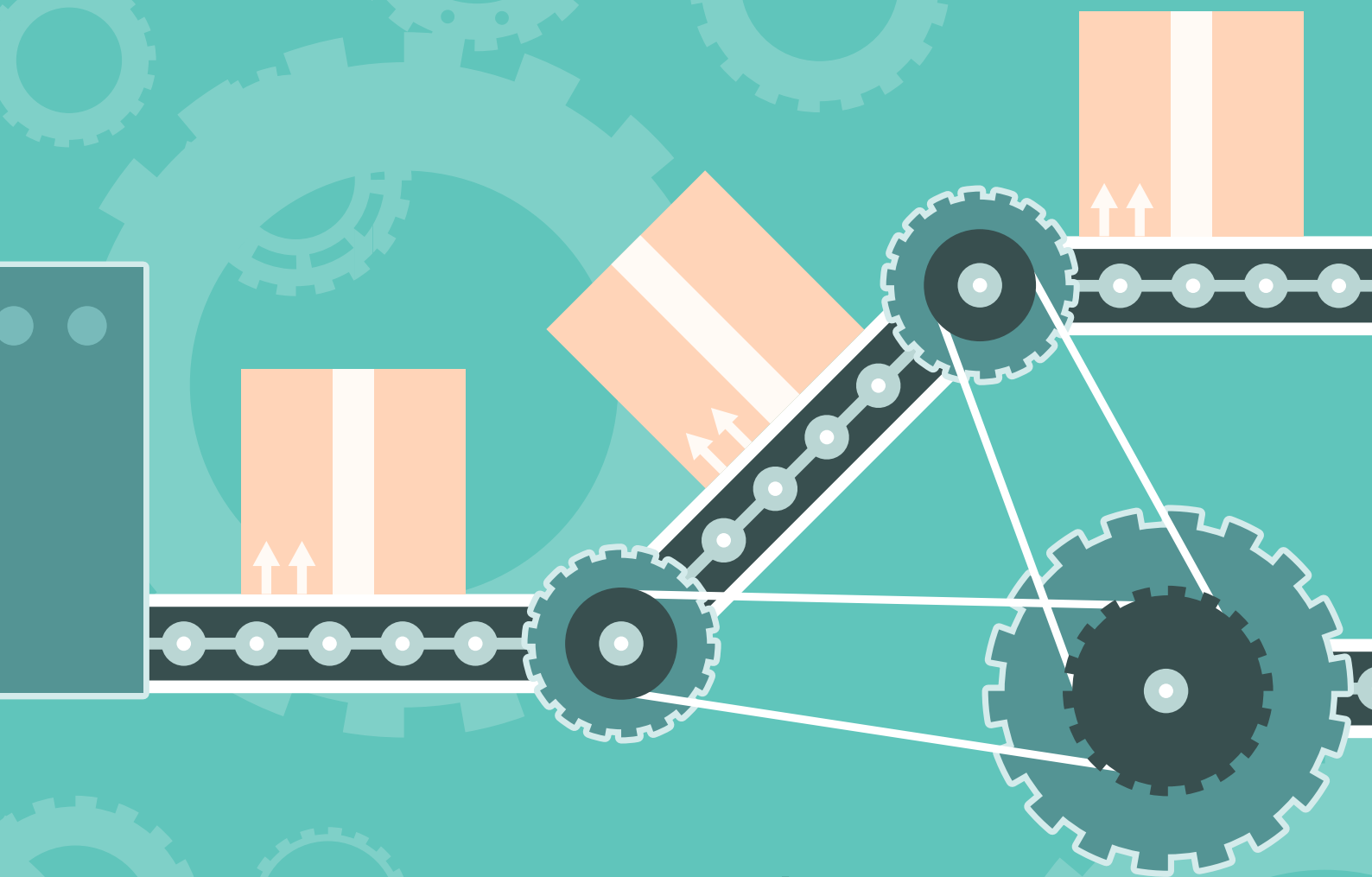# "Smart" Manufacturing:

How to unshackle your business potential through system consolidation

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Making 'smart' the next big thing

The manufacturing industry or 'Industry 4.0' is without a doubt more agile today than it has been in recent years. According to Professor Detlef Zühlke, a leading researcher in the factories of the future, "We are on the brink of a fourth industrial revolution." This fourth revolution is about making factories more intelligent.

One of the biggest advancements has been in the sophistication of machines on the production floor, which can deliver real-time data to the back-end and monitoring systems. The rise of the 'Internet of Things' (IoT) brings with it a new connectivity to sensors at all stages of the production process.

This smart manufacturing trend is being led by global corporations. For example, IBM announced in early 2016 that it will spend $3 billion over four years to create an IoT unit and develop software to help customers do the same. With this platform, manufacturers can take advantage of machine-to-machine connectivity, with the intelligence to make adjustments without human assistance.

Until we can realize the full potential of smart manufacturing, there are two major trends which are dominating the way companies do business: an expanding global ecosystem of suppliers and the constant evolution of customer demands.

So, just how do we get smart about our manufacturing?

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Good, better, best?

Defining smart manufacturing

Smart manufacturing is a broad category of manufacturing with the goal of optimizing concept generation, production and product transaction. In a word, smart manufacturing aims to take advantage of advanced information and manufacturing technologies to enable flexibility in physical processes and address a dynamic and global market.

And it changes... everything. Your workforce must be trained to manage high level flexibility and really use the technology rather than specific tasks, as is customary in traditional manufacturing.

While outsourcing reduces capacity limitations and allows tight turnaround demands to be met, the expansion of the manufacturing ecosystem also brings new challenges. There is a new and pressing need to manage and monitor third party activity. As the level of complexity in the logistics domain increases and vendors around the world require synchronization, companies must be able to optimize what they do, and where.

As customer demands become more complex, products are expected to be personalized but ready and shipped within a short timeframe. Time to market must be shorter and rapid response times are a must. When people buy online, they expect fast delivery. We're seeing far less of the 'closed' mass produced items of days gone by. Instead, products are offered in various configurations, which are often defined per order, as customers expect product on demand.

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Better the devil you know

Letting go of the old-school and welcoming the new

SMEs hoping to remain competitive must look to new technologies to work with a fully integrated system to avoid being held back by outdated legacy systems. In this fast paced environment, manufacturers must make sure they have the right technological foundations in place to remain agile, productive and competitive.

So why are some companies holding back from taking advantage of new technologies? The short answer is, many of the more old-school, smaller companies would rather stick to what they know and are unaware of the simplicity of what is available to them on the market. Tracking activities with an application such as Microsoft Excel can be preferable, as it's perceived as a flexible, standalone solution which people are less afraid to use.

On the other hand, enterprise research planning (ERP) technology has a reputation as being tricky to implement, requiring a lot of resources to get off the ground. Companies which hold this outdated view are missing out on the true benefits of new solutions. For example, with solutions available today, it's possible to access real-time production information via a mobile app from the production floor for optimum flexibility.

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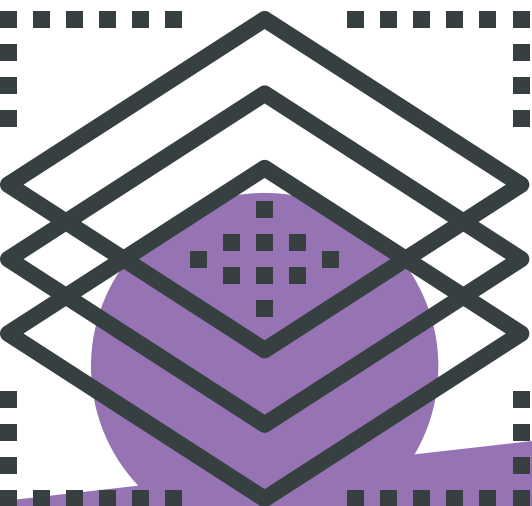
Where data and management meet

Getting the process in place

The only way businesses can manage the complexity of supply chain and achieve synchronization from an R&D phase to delivery, is by having 360° visibility in real-time of what's happening in each work cell. This visibility not only reduces costs and increases efficiency into workforce and production lines in all sites, it also enables manufacturers to respond quickly to order demands through an integrated view of the factory.

Data can be captured at each stage of the process to analyze productivity, efficiency and profitability of every product line and service, meaning, inefficiencies can be spotted and acted upon at the source. By using one system, which is integrated both ways with other systems, changes such as engineering adjustments are immediately visible to the production floor and first informed by production floor analytics.

This also improves planning capabilities. From a management perspective, this new, modern way of working makes searching for information a thing of the past. Relevant data alerts can be pushed to the right person as soon as the data is generated – and appropriate action can be taken, whether it's replacing a component, stopping production or considering a workaround.

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Connect. Communicate. Cloud.

Benefits of a new, streamlined business

With production machines automatically connected via standard APIs to the backend, much of the hurdle has to do with the fear that implementation will go beyond budget and timeline. Firstly, in order to reduce the risk of a lengthy deployment, companies looking to move their current systems to a more streamlined system must choose a partner with a basic understanding of the manufacturing space.

Secondly, opting for a cloud-based solution will eliminate the need for a dedicated IT team to maintain the system. An easy to use system will reduce the workforce 'fear of change' and supporting them with training as well as encouraging mobile solutions will be big steps to getting them on your side (and that's where you want them).

Overcoming these barriers is key to enjoying the benefits of a new, streamlined business and is crucial to achieving a full and accurate picture of your organization across departments, product lines and regions. With a customer-centric approach, predictive analytics tools can better plan the production, as well as demands and expected problems from a machine level to any potential workforce capacity issue.

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Manufacturing systems are on an innovative trajectory to a fully mobile and connected operation, where all machines will be able to automatically connect to systems and trigger business processes such as ordering materials or opening a service ticket.

The bottom line? In order for manufacturers to benefit from a future promising wearable glasses to guide the work of employees on the shop floor, they must harness the power of an innovative, simple to use and integrated system to increase productivity and growth across every area of the business.

And there's no better time than now.

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About Priority Software

Priority Software are pioneers in the global ERP solutions market, empowering companies and organizations of all sizes, by providing the most comprehensive, flexible, and affordable ERP solutions on the market today to increase profitability and efficiency. Founded in 1986, with the mission of making ERP easier and offering a more accessible alternative to complex and costly solutions, Priority boasts over 7,500 companies across a wide range of industries in 40 countries who have come to rely on Priority to manage and grow their business. Backed by cutting-edge technologies and a skilled and talented team of professionals, Priority is supported by a network of trusted business partners around the globe.

www.priority-software.com | info@priority-software.com

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