BIZCOMMUNITY

Game-changing trends for the manufacturing industry in 2018

By Antony Bourne

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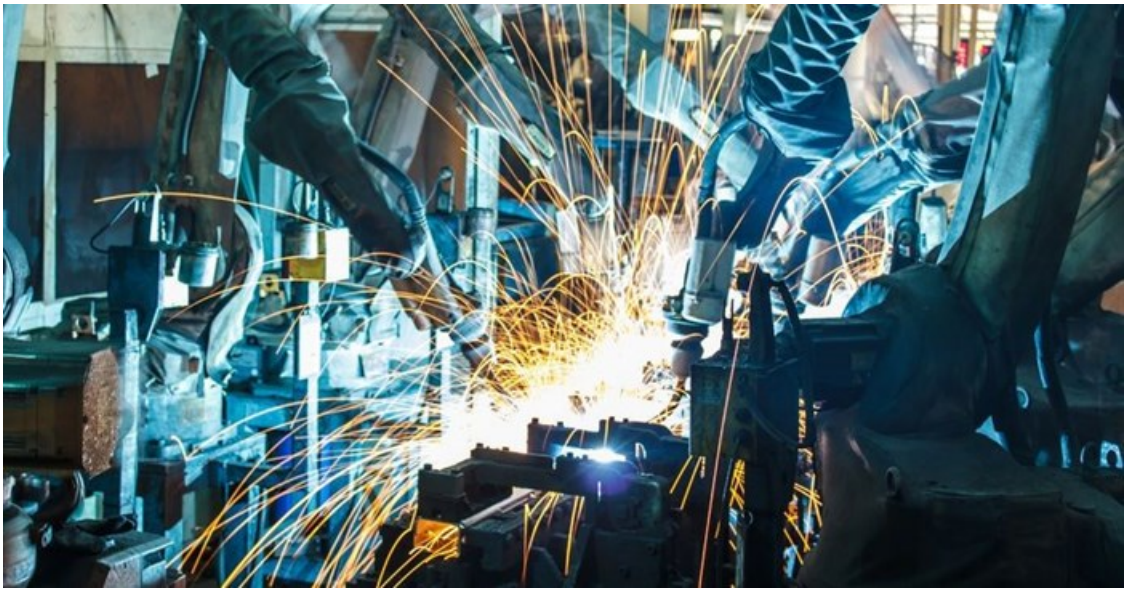
When you think 'IoT', is your first thought newly affordable, available sensors being added to products after they've been manufactured? If it is, well I believe 2018 will change that perception as IoT takes a decisive step forward in its evolution.



If we think of IoT as like a product's nervous system, 2018 will see it grow from picking up signals at the periphery to being the brain of the product, constantly sending, receiving, growing and gathering information, from the centre of the product throughout its lifetime, in the process enabling new services and revenue streams.

Manufacturing is one of the markets most heavily impacted by IoT today. According to Global Market Insights, IoT in the manufacturing market was valued at over $20 billion in 2016 and will grow at more than 20% (CAGR estimate) from 2017 to 2024.

Designing with IoT in mind

Current IoT investments that are unique to the manufacturing environment are taking place in three major initiatives:

• Smart manufacturing to increase production output, product quality, or operations and workforce safety as well as lower resource consumption.
• Connected products to impact product performance, including collecting detailed information on products in the field, remote diagnostics and remote maintenance.
• Connected supply chains to increase visibility and coordination in the supply chain, tracking assets or inventory for more efficient supply chain execution.

We will see IoT being included as a part of the design process in all three of these IoT initiatives. Manufacturers are realising that by engineering IoT technology into products and equipment already in the design process, they will be able to monitor not only the equipment's performance to predict when it needs repair, but also how and when it is being used – which provides game-changing competitive advantages.

By the end of 2018 more than 50% of manufacturers will be building IoT technology into their products from day one – already thinking forward in the design phase and asking themselves what services and revenue this product can generate throughout its lifetime.

In fact, where will our revenue be coming from in the next five years?' It's a good question. And it leads us to my next key prediction.

By 2020 most manufacturers will earn over half of their revenue from services

With the manufacturing industry becoming more and more commoditised, the need for companies to differentiate themselves is key to survival and profitability. We now see that a large number of manufacturers are shifting to a more service-centric business model – the buzz word is "servitisation".

Servitisation is a way for a manufacturer to add capabilities to enhance its overall offering in addition to the product itself. One famous example is Apple, which did this a few years ago when it had gained the majority of market share with the iPod and introduced iTunes to increase loyalty, differentiate itself, and generate more revenue. You may think that it will never apply to your business, but companies are now reaping the benefits of servitisation across many different sub-segments.

For example, Philips provides Schiphol airport outside Amsterdam with 'lighting as a service', which means that Schiphol pays for the light it uses, while Philips remains the owner of all fixtures and installations. Philips and its partner Cofely will be jointly responsible for the performance and durability of the system, and ultimately its re-use and recycling at end of life. This has resulted in a 50% reduction in electricity consumption without having to buy a lamp!

I see this development among IFS's customers as well. For global furniture manufacturer Nowy Styl Group, servitisation has been crucial to its growth. In 2007, it announced 'for us, chairs are not enough', starting a transformation from pure manufacturer to world-class office interior consulting company.

Another example is a customer that manufactures cleaning products and started to offer delivery and service dosing systems. The company understood that choosing the right cleaning products was just part of its customers' main objective, i.e. keeping its premises hygienic. Applying the products in the most effective way, choosing the right accessories, establishing the right routines – all these too were crucial to keeping premises clean.

Both these customers realised that with technology accelerating as fast as it is, no matter how beautifully designed a chair, or how effective a cleaning product, today's luxury products turn into tomorrow's commodities faster than ever, pulling

prices down with them. With servitisation, manufacturers escape the corrosion of commodification. Expert services built on years of experience provide a kind of value customers will always pay for, regardless of technology trends.

Deriving value

According to the *IFS Digital Change Survey* conducted by the research and publishing company Raconteur, 68% of manufacturing companies claim that servitisation is either “well-established and is already paying dividends” or “in progress and is receiving appropriate executive attention and support”. However, almost one in three manufacturing companies is still to derive value from servitisation.

These are missing out on revenue streams and new ways to develop their offerings. To be successful in their response to customer needs and increasing demands, manufacturers must look to new business models to compress time to market, taking an idea through from design to a saleable item as quickly as possible.

New technology like IoT adds an additional layer to servitisation. With sensors detecting when your product or equipment needs service, this data can trigger an automated service action that will realise significant benefits to make your service organisation more effective. This type of automated predictive maintenance will become more and more common as it is a natural next step after implementing IoT to optimise service efforts.

Automation, smart technology ushers in new era of manufacturing

8 Sep 2017

By 2019 the hype around 3D printing will be over, and real benefits blooming

My third prediction is that 3D printing, just like IoT, will enter a new, more mature phase. No matter how big the ‘wow’ factor is when we first see it, apart from smaller-scale manufacturing production like hearing aids and jewellery, 3D printing has so far failed to live up to its full potential. All this could change in 2018.

We are seeing a couple of developments that point in that direction. The first one is the improved scalability of 3D printing solutions. A new generation of 3D printing companies is moving into manufacturing traditionally dominated by injection-molding manufacturers, with new, faster, better connected automated systems that reduce some of the time-consuming pre- and post-processing that has been such an obstacle to wide-scale uptake.

One company, Stratasys, for example, has collaborated on a new printer, the Demonstrator, that combines three printers into a stack system –each printer able to communicate to its neighbours in real time. The new printer is highly scalable, meaning it can significantly increase production capacity, printing from 1,500-2,000 components a day. This means that you can achieve an economy of scale to bring costs down, which will be an important catalyst for the success of the 3D printing technology.

The aviation industry is pioneering 3D printing technology today, and the manufacturing industry can learn from that. One successful example is the new GE turboprop ATP Engine, which was 35% 3D printed, taking it down from 855 components to 12 and contributing toward the engine being lighter, more compact, and delivering a 15% lower fuel burn and 10% higher cruise power compared with competitors’ offerings.

The expanded capacity and reduction in pre- and post-processing that new, highly innovative mid-size 3D printing companies are bringing to the field, means that in 2018, we will see manufacturing companies joining in with A&D, and flying high with new 3D printing capabilities.

ABOUT ANTONY BOURNE

Antony Bourne's responsibilities include acting as the global industry director for industrial manufacturing and high-tech as well as managing the other global industry directors. Antony has over 20 years' experience in the IT industry, including working in the manufacturing sector. Prior to joining IFS in 1997, he held business analyst positions with Ford Motor Company and AlliedSignal. During this time he implemented ERP applications as well as business process improvements.

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