

Three strategic approaches to help manufacturers seize the opportunity of rapid industry change

 By [Antony Bourne](#)

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There are three strategic approaches that can help manufacturers capitalise on key changes transforming their industries.



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These strategies offer the potential of increasing revenues and profits, while simultaneously delivering added value to new and existing clients.

1. Selling capabilities, not just products

Changing from a product- to a service-centred approach can boost manufacturing growth: typically, manufacturers who incorporate useful services into their products realise average business growth of 5% to 10% a year.

As a successful manufacturer of printers, for example, your focus would be on selling the machine's capabilities, not just the machine itself: 'With this machine you can print 10,000 sheets per day' rather than, 'this machine does x, y and z'. Tying service contracts in (consumables, training, maintenance, repairs etc.) to your product sales creates growth across the board.

The disposal of products is offered as a service by a growing number of manufacturing companies. This way, customers can always be sure that the product will be recycled in a sustainable way at the end of its life cycle. One proof point of the strong connection between manufacturing and services is that every job in manufacturing creates another 2.5 new jobs in local goods and services, and for every 1 USD invested in manufacturing, 1.37 USD of added value is created in other sectors.

Service contracts also cement long-term customer relationships. Seventy-four percent of manufacturers said their principal motive for offering services was to create 'closer relationships with their customers' (2015). Build your strategy around your customers' needs, not around historical requirements. Talk to them. Find out how open they are to buying contracted services, as well as physical units. You'll need to ensure that everyone has the right technological platform in place - an enterprise solution that can handle the services being delivered, record and control them and schedule people (including subcontractors) to carry out and record services in the field.

2. Identify your problem

We still tend to think of IoT as something that happens 'out in the field', but many manufacturers are finding that 'smart manufacturing' or Industry 4.0 is as effective. Smart manufacturing is a method of building greater, more effective digital interconnectedness internally, between supply and production chains, by incorporating the latest advances in sensors, robotics, big data, controllers, and machine learnings.

Like all technologies, IoT is basically a tool, and it's always better to figure out what you want to fix before deciding which tool to use. My advice to customers caught up in the ongoing hype of IoT is to focus on the problem before you start exploring solutions.

Ask yourself: What exactly am I trying to solve? Write it down. Quantify it. Nine times out of 10 it comes down to 'I need to make something more efficient', or 'I need to save money'. Figuring out the exact time and cost savings gained from connecting machine X to machine Y allows you to calculate the investment needed, and what your exact ROI will be. Then is the time to ask: Is IoT the best solution here? before rushing to buy extra servers that will only end up gathering dust.

One example is an innovative German manufacturing customer of IFS. It uses the CAD System Pulsonix to create Bills of Materials (BOM) directly into IFS Applications, then showing the assembled Printed Circuit Board (PCB) while sending the BOM to the Surface Mount Technology (SMT) line. The results have made the company's operations more cost and time efficient.

Was this solution based on IoT? No. Did it solve the clearly identified problem efficiently, cutting costs and saving time? Yes.

3. Smart tech needs smart people

Emerging technologies need new talent to drive and develop them. Almost 70% of respondents in a survey last year saw the availability of resources as the main obstacle to increasing their service portfolio, according to The annual Manufacturing report 2016.

Over the next 10 years, manufacturing will need almost 3.5 million skilled jobs, but only 2 million of them are expected to be filled. A combination of factors makes the skills shortage a pressing problem: Baby Boomer retirement, negative images of manufacturing amongst younger generations, a lack of STEM (Science, Technology, Engineering, and Maths) skills, the decline of technical education programmes in many public high schools and the loss of embedded knowledge due to an increasingly mobile experienced workforce. But, meanwhile, technology gets ever more complex and mind-to-market product cycles shorter.

Focusing on finding, keeping and growing skills to harness new technology will be as vital as the new technology itself. Today's modern manufacturing workers need a rich skills range. Problem solving to, for example, autonomously adjust

robots and production systems in real time. They need maths skills for applied competencies in measurement and spatial reasoning; technical skills for areas like metallurgy and technical system operations, such as fluid power electrical controls; algorithmic and advanced computing skills to develop advanced technologies, such as 3D-modelling and advanced robotics.

As product development and manufacturing systems become more interwoven and cycle times shorten, workers need to have higher levels of STEM and analytical skills to influence design changes as well as production efficiency. The good news is that technological advance tends to go hand in hand with educational advance: The more we invest in new technology, the more we learn; the more we learn, the more new technology we create. New forms of machine-to-machine and artificial intelligence will transform our industry, but human intelligence will always create and drive it.

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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