

Technology trends impacting global manufacturing in 2020

By [Kevin Dherman](#)

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It is no secret that the manufacturing sector is critically important for both developed and emerging economies. From producing necessities like food for a nation to creating much-needed jobs, the sector is a source of innovation, productivity and global trade.



Credit: Getty

According to [McKinsey](#), the sector now accounts for approximately 16% of global GDP and 14% of employment.

The sector has also had to evolve rapidly to meet global needs, while recovering from the global recession. McKinsey goes on to say that by 2025, a new global consuming class will have emerged, and the majority of consumption will take place in developing economies. This will create rich new market opportunities. Meanwhile, in established markets, demand is fragmenting as customers ask for greater variation and more types of after-sales service.

Many are viewing technology as the vital ingredient that manufacturers need to apply to their business. Here are my predictions for how technology will metamorphose manufacturing in the next few years.

1. The augmentation of human ability

Artificial Intelligence (AI) is no longer just an industry catchphrase. According to the Accenture [AI is the new UI report](#), despite scepticism of AI as just another technology buzzword, its momentum is very real. Eighty-five percent of executives surveyed stated that they will invest extensively in AI-related technologies over the next three years.

The report goes on to say that with AI in place, interactions with customers will move from straightforward transactional models to multidimensional conversations spanning a variety of complementary channels. Within the manufacturing sector, this could take the form of an AI chatbot.

This takes me to my first prediction – the rise of the augmentation of human ability. Chatbots or ‘digital citizens’ have enabled or augmented human ability by allowing manufacturing businesses to make decisions much faster.

What is important is the fact that the chatbot is not replacing the human element in customer service, but rather adding value by offering customers a 24/7 touchpoint. Technology is simply enhancing human abilities in order to place the customer at the centre of a business.

2. 5iR and the ‘digital opportunity’

By 2023, IDC predicts that the global economy will finally reach "digital supremacy" with more than half of all GDP worldwide driven by products and services from digitally transformed enterprises. The truth is that the digital revolution is inevitable and it is vital to embrace the digital opportunity or face the risk of redundancy in a highly competitive world.

For the manufacturing sector, the fifth industrial revolution will require manufacturers to incorporate a level of artificial intelligence, managed infrastructure, advanced analytics and even robotics to remain relevant.

[Deloitte](#) calls this Digital “muscle building”, where technology will allow manufacturers to connect and monitor every facet of their business. This is all while their ability to flex production, delivery, and customer support continues to be important.



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3. The circular economy and the evolution of sustainability

According to Nielsen’s recent global [sustainability report](#), 81% of respondents feel strongly that companies should help improve the environment by implementing programmes to this effect. There is also an appeal for the manufacturing sector to contribute to the global sustainability zeitgeist by opting into the ‘circular economy’.

The circular economy is a simple concept. It essentially refers to the reuse of resources and decrease of waste. Each product at end-of-life becomes a new resource rather than merely being discarded. It recognizes the value of waste items, repurposing them as alternative resources that can be used again and again in a circular goods cycle.

For example, a plastics manufacturer could incorporate more recycled content in each packaging unit that they sell. Energy reduction is another bi-product of the circular economy. By reducing energy usage, the environment benefits of less air pollution are close to follow.

Technology can make this process a lot easier. Increased intelligence can help managers and directors make decisions on a range of topics, from planning the factory floor in a more efficient manner, buying more energy-efficient machines to looking at implementing a full green initiative.

4. Advanced food tracking and packaging

An article within the World Economic Forum site indicated that about 600 million people suffer food poisoning every year, according to the World Health Organisation, and 420,000 die as a result. When an outbreak occurs, investigators can spend days or weeks tracking its source.

A good example is the recent recall of lettuce within the US where reports stated that least 40 people in 16 states had reportedly gotten sick due to a strain of E. coli traced back to the lettuce, 28 of those have been hospitalised.

Increasingly, technology is playing a more pivotal role in risk detection as opposed to disaster recovery. This is known as traceability, where technologies such as ERP allows manufacturers to meet the consumer demands for food transparency while enhancing the ability to identify, respond to and even prevent food safety issues.



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5. The wise pivot

With the competitive landscape changing, businesses have had to investigate the option of shifting away from traditional business models. The shift is called a wise pivot, and it is sometimes a necessary move for companies to remain relevant in a highly competitive landscape.

It also talks to the generation of new revenue streams, made only possible by the introduction of the digital opportunity. Some famous examples include Netflix, which started out as a DVD rental service or Starbucks that started off selling espresso makers and coffee beans.

The introduction of new technologies has also opened the door for more opportunities within the manufacturing sector. Manufacturing leaders are investing in new connected services offerings, which will facilitate an integration both within and beyond their enterprise.

For example, instead of excess stock (such as chairs) being obsolete and in stock for months, a manufacturer can now place inventory items in a third-party platform such as Amazon.

6. Point-of-Sale at The Edge

Another pivot that has been observed in recent years is that many manufacturers are extending their supply chain to end customers through a retail service. This requires a Point-of-Sale system that delivers an overall good customer experience.

In order to achieve this, customer data should be maintained at The Edge to keep the traffic and processing local in order to reduce latency. This system should also keep working without interruption should the network or main server go down.

7. Every enterprise is a platform

According to the [2020 IDC Future Scape Report](#), by 2023, 60% of the G2000 will have a digital developer ecosystem with thousands of developers; half of those enterprises will drive 20%+ of digital revenue through their digital ecosystem/platform.

In a nutshell, this refers to how manufacturers could transition into more of a platform enterprise, where they make money from services delivered via apps and APIs on a scalable technical foundation.

8. Greater customer engagement

Despite continuous technological shifts, one element remains the same: your customer experience journey needs to remain phenomenal. According to ChannelFutures.com, your customers' perception of your brand – and, ultimately, their buying behaviour – is directly tied to their end-to-end experience with your company's products and services, employees, website, apps, marketing and promotional materials, and more.

The article goes on to say that an important part of delivering a good customer experience is the reliance on interconnectivity and integrated workflows.

Ultimately, the manufacturing sector has seen constant growth and change with the introduction of new technologies ranging from AI to IoT. Customers are also calling for greater sustainability efforts, quicker response times and improved service levels. As long as every business decision is made with the customer in mind, technology can offer a digital opportunity for manufacturers to flourish in 2020 and beyond.

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