

Industry 4.0: What is the benefit to the customer?

We are used to hearing about the many and varied benefits that Industry 4.0 could bring to manufacturing. But, argues Steve Brambley, deputy director of Gambica*, consumers could benefit too, by ordering bespoke one-off products, from shirts to birthday cakes, made specifically to their requirements.

There has been a lot written and discussed about the concept of Industry 4.0 – the next step towards a more connected and intelligent manufacturing system. It can be seen as an evolution in technology, leading to a revolution in manufacturing systems – ubiquitous sensing, increased component intelligence, rapid data transfer and joined-up systems allowing for more flexibility, greater product customisation, localised manufacturing and shorter lead times.

It is an exciting time for the automation community, demonstrating the wider possibilities of industrial technology in the same way that information technology revolutionised our use of the Internet.

The benefits to the customer of the Internet boom are many and widespread. We can bank online instead queuing in a branch, we can have our shopping delivered to our house at a time of our choosing, we can plan

travel, have video calls with people halfway around the planet, access great libraries of information, music, movies and books – and much more besides. But what will the customer get from Industry 4.0?

There are some benefits that have always been associated with automating – improved quality, repeatability and reliability, leading to better products and user experiences. Product miniaturisation and mass production are other advantages – smartphones and tablets just couldn't be made otherwise. But Industry 4.0 can take the customer experience to another level – the goal of mass customisation and “batch size one” could bring an unprecedented level of personalisation to products without the hefty price tag usually associated with them.

Let's take an everyday example – buying a shirt. You can go to any high street store that sells men's clothing, or browse their Web site, and there will be a selection of shirts on offer in different colours, sizes and types of cuffs, collars, and so on. You might have an ideal shirt in mind and yet they don't sell the colour you want with the type of cuffs you desire. Do you compromise? Do you search around other stores? Do you end up with the closest match – or buying nothing at all?

Using the industry 4.0 concept, a retailer could take advantage of the ability to manufacture made-to-order shirts from a menu of choices, locally and efficiently. The customer can be offered the opportunity to

buy the exact configuration of shirt they desire without paying for bespoke tailoring costs. The customisation can go further than colour or cuffs, to a choice of buttons, pockets, embroidery, materials and more.

This isn't some vision of the future though, it is already happening in places like www.youtailor.de/configurator/shirt and www.bombshell.com/about.html and <http://uk.mymuesli.com/story>

3D printing is a rapidly developing technology that could allow even further opportunity for self-designed and locally-made unique products. It is not difficult to imagine designing your own smartphone case and sending the file to be printed at a local 3D printing facility. There could indeed be an opportunity for new business models – companies investing in 3D printing equipment offering the service to customers. Design templates for items could be supplied, for individual personalisation or modification. Almost any household item, from cups and plates to furniture and fittings, could be made to your own unique design.

As additive manufacturing matures, it is not only plastics that can be printed, but metals, fabrics and even food. Whether printing a bespoke door handle, a unique scarf or a personalised birthday cake, the possibilities allow a new level of customer experience. That is a benefit that just wouldn't be viable with traditional mass-production manufacturing. ■



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