

Frimley, UK

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## **Combining servitisation and digital technologies to reduce food waste and improve manufacturing competitiveness**

**Food waste is estimated to be costing food and beverage manufacturers £1.2 billion per year.**

Tackling the issue of inefficient production performance and reducing waste volumes through factory optimisation can lead to tangible rewards of higher yields, cost savings, a positive impact on the environment, as well as making a positive contribution to the worldwide challenge of feeding our populations.

As we start to witness the widespread adoption of digitalisation – the technology focus behind Industry 4.0 - Steve Martin, Head of Strategic Transformation, Siemens UK outlines how the company's unique 'outcome-based' service proposition, allied to industrial digital technologies, is set to revolutionise its relationship with the food industry.

It will enable manufacturers to transform their competitiveness, support their ability to step change food wastage reduction, deliver a game changing 'cost out' program, and embed the core components of a digitalisation strategy throughout manufacturing operations.

The 'new world' approach fosters a collaboration that has seen Siemens already deliver up to 30% cost reduction throughout its customer manufacturing process,

and enhance the opportunity to significantly reduce non conformance.

It's a new relationship that is not only maximising and accelerating such potential cost reductions, it is also embedding a Big Data infrastructure and Digital Twin, which are the key components to a digital future, within manufacturing operations – all underpinned by a tailored commercial model to meet the customer's return on investment.

The world's population stands at 7.6 billion people, with estimates showing that by 2030 this figure will rise to 8.6 billion.

That means collectively we have to grow, harvest, manufacture and distribute ever rising food volumes just to keep pace with the demands of an expanding population.

It will be a challenge.

A key influence on whether we can rise to such a test will be the ability to tackle the issue of food waste as a result of the manner in which we manufacture it.

According to charity, Waste and Resources Action Programme (WRAP) in its UK food manufacturers report, 'Estimates of Food Surplus and Waste Arising in the UK', the sector accounts for 1.7 million tonnes of waste through ineffective and inefficient plant and production performance. This equates to £1.2 billion per annum of direct cost affecting the bottom line of the UK's food manufacturing sector.

What are food manufacturers doing about such startling numbers?

If we are to tackle the impending issue of food supply for a rapidly growing global marketplace, it is incumbent on manufacturers and producers of food to not only play their part in providing an effective and efficient manufacturing solution, they need to do so in a responsible and sustainable manner also.

But they need help to do this.

The optimisation of manufacturing performance, starting with the issue of non-conformance, brings with it viable commercial and reputational benefits.

Addressing industry estimates of the millions of pounds of cost lost to food waste and production inefficiencies, would create additional and much-needed financial resources to be utilised in other areas of a food manufacturers' business.

Cash retrieved thanks to the results of a holistic and intelligence-led approach to tackling waste through the production process, could, for example, help fund new innovation. This could be product development, new solutions, processes that could shorten time to market, help a digitalisation journey where smart data analysis would support consumer driven mass product customisation and further efficiency gains, as well as finance enhanced marketing programmes and the development of staff as we enter the digital era.

Likewise, the brand reputation and environmental benefits of efficiently doing more with volumes of raw materials, or optimising production to meet future demand so it can be met with existing facilities, cannot be underestimated. The cost and carbon footprint benefits should also appeal to leaders of food manufacturing businesses, due to the positive impact it would have on the environment, linking back to farmers generating raw materials and optimising cost savings in their operations.

#### Areas of waste

In a recent analysis by The Grocer magazine, the production areas where manufacturers are currently underperforming when it comes to food waste are abundant and costly. Their report cites practices of product being checked and being found to be slightly off spec, (but still good to eat) being discarded after something has gone askew with the production process. Inadequate production line design, errors on barcodes, lack of insight on actual waste volumes, machinery performance issues and over ordering materials via bulk buying are among typical examples where manufacturers should and can up their game. In addition, there is the financial and environmental cost linked to waste disposal, with significant food volumes having to be sent to landfill.

So much so, the sector is currently generating approximately £1.2 billion of waste-associated costs much of which could be diverted to a food manufacturer's bottom line.

### Siemens solution

In order to help the industry tackle this challenge, Siemens has developed a unique market proposition; one that is designed to provide an innovative 'outcome-based' relationship that manufacturers are surely seeking.

In this 'new world', Siemens stands shoulder-to-shoulder with the manufacturer, to disrupt the traditional way customers and vendors work together. A service orientated business structure provides new service offerings which tap directly into the challenges food companies face and help to deliver ultimate financial benefit and a boost to future digitalisation activities.

Siemens facilitates processes that can unlock solutions via a service offer which is both commercial and measurable, underpinned with a payment plan that maximises the customer's ability to control cash and profits.

### Co-creating value with Siemens

In a classic approach, the customer is accountable to identify an opportunity and create the business case to install a new asset or production equipment on site that could help tackle the waste conundrum.

They would raise the required capital via their CAPEX programme and procure from a machine builder (OEM) where Siemens would work on technology specification. The OEM would install the new asset on site with a standard warranty term and the end user is left to ensure the asset performs through its life.

There is now another way.

It is a solution based on the value of co-creation through partnership.

Firstly, Siemens collaborates to identify and create the business case together with the customer. Siemens sells a service to deliver an outcome the end user wants from the equipment through a period of time. Siemens procures and installs the required asset using a tailored financial model and delivers a performance based service with the manufacturer charged a monthly service fee. Siemens supplies the technology hardware, the digital infrastructure and the service.

Such a relationship has many benefits: it moves a percentage of the expenditure from CAPEX to OPEX to make customers more competitive and improve EBITDA, limit obligation and maximise cash flow health. It also allows manufacturers to access scalable and future proofed digital technology solutions to optimise production performance and tackle critical and expensive issues such as waste. Finally, it supports responsible manufacturing by providing the means to address issues such as energy management and carbon footprint impact.

With an end-to-end solution; from initial proposition identification, through digital technology execution, onto service outcomes and clear intelligence analytics, Siemens' service-based approach is set to revolutionise the food manufacturing marketplace.

It will help companies get fit for a future where the use of data-led digital technologies will be the key to success. It can create a truly optimised plant to deliver supercharged results, and enable today's food manufacturers to make intelligence-based, strategic investments that will truly maximise commercial potential in the years ahead.

**Ends**

### **Media contacts**

**For further information, please contact:**

Paul Addison at Siemens [paul.addison@siemens.com](mailto:paul.addison@siemens.com)

Nicola Pittaway at McCann PR [nicola.pittaway@mccann.com](mailto:nicola.pittaway@mccann.com) or 0121 713 3744

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laboratory diagnostics as well as clinical IT. In fiscal 2017, which ended on September 30, 2017, Siemens generated revenue of €33.0 billion and net income of €6.2 billion. At the end of September 2017, the company had around 377,000 employees worldwide. Further information is available on the Internet at [www.siemens.com](http://www.siemens.com).