

Technology is crucial to enhanced sustainability

With a rapidly expanding global population and limited food supply, it's vital for food businesses to work more sustainably and stay profitable. We must handle our resources more efficiently in order to be able to provide food for everyone. Consequently, every crop matters and, in the bigger picture, every piece of produce counts.

Until now, inefficient processes have existed throughout the entire food supply chain at farms, factories, processing plants and stores across the world, with produce being lost or wasted unnecessarily.

While you may think you know what the word 'sustainability' means for your business, in reality it isn't just about introducing environmental initiatives nor is it about stand-alone Corporate Social Responsibility (CSR) programmes.

So, what is sustainability? Put it in a nutshell, sustainability is the efficient use of resources. This is vital for ensuring an adequate food supply for future generations. And technology is the answer for making the food sector more sustainable, efficient and profitable.

The sustainability challenge

The global economy will be facing huge resource challenges in the next 40 years. The global population is expected to grow 30% by 2050 and the majority of these people will live in cities. In fact, urbanisation is increasing at such a rate that by 2050 around 70% of the population will live in cities: in 1960, it was the opposite way around.

At the same time, the land available for growing food is very limited and only 20% more land can be brought into productive use, according to the UN Food and Agriculture Organization. When you consider that resource



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Tomra's Eco steam peeler uses 28% less steam than similar machines.

productivity in the 27 European Union countries has increased by only 1% per year for the past seven years, you see how big the challenge is.

The long-term impact of this situation will reflect the old economic rule that the cost of ingredients will increase due to scarcity, putting economic pressure on the food and drink markets.

Food waste from farm to fork

Food is wasted throughout the supply chain. Food crops can be spoilt before harvest, such as in April 2017 where at least 80% of the fruit crops in central Europe were lost due to late frost.

Next, good produce is sometimes rejected during processing due to inefficient sorting. Finally, supermarkets and stores often throw out food that is beyond its best, while consumers end up disposing of some food straight from the fridge. Importantly, food shortages like the vegetable shortage in Europe in early 2017 lead to higher prices for processors and consumers.

Of course, there is an imbalance in

food efficiency between developed and developing countries. The issues mentioned above are common in developed countries and, with 70 million people entering the middle class globally every year, these issues will only grow. But while consumer-led waste is not such an issue in developing countries, it is inefficient processes upstream in the supply chain which often lead to greater waste during harvesting and processing.

It is up to all of us as businesses and individuals to use resources more efficiently and live in a more sustainable way, and there is increasing social pressure to do so. From the "ugly food" trend that sees stores and consumers accepting misshapen but still good-quality produce, to multinational companies establishing sustainability requirements for their suppliers and sourcing food locally, some progress is being made.

Many businesses including PepsiCo, McCain Foods, Mondelez and Nestlé are setting ambitious commitments to send zero food waste to

landfill from their own direct operations. To help tackle the problem, Tomra Sorting Food also issued its own White Paper on why ‘It’s time to end food waste’.

Costs and savings for business

There is a common misconception among businesses that being sustainable will cost money. In fact, sustainability and profitability are linked, as both rely on the most efficient use of resources, and taking action to prevent food waste could save businesses €341 million a year, according to the Waste and Resources Action Programme (WRAP).

These businesses may face some upfront costs when evolving to become more sustainable, but even small changes can have a large impact. Most companies that have transformed their business say that they had to make an initial investment and now are seeing long-term financial benefits.

So, what can food processors do to work more sustainably and increase their profitability at the same time? Many are looking to the latest in advanced sensor-based sorting solutions for the answer.

Using technology to increase resource efficiency

Automating food processing lines with the right technology can improve sustainability in many ways, according to the European Parlia-

ment’s report ‘Technology options for feeding 10 billion people’, such as “optimising product quality, reducing quality losses and defects, and decreasing energy and water consumption”.

It is worth looking at each of these benefits in more detail:

- **Less food loss and waste** – In-line sensor-based sorting machines are very effective at optimising product yield, ensuring quality and maximising profits. Previously, when bad weather conditions damaged a crop, it would go to waste. For example, following a potato blight or hail damage to blueberries, the food producers would decide not to recover any of the crop at all. Now, food producers who partner with us can recover a small percentage of the crop through ‘reverse sorting’, removing the majority of bad input and recovering the 1 or 2% of good product available. In the past, this would have all gone to waste. These technologies and platforms are inspiring companies to think outside of the box. Whereas in the past waste was waste, processors now have multiple waste streams depending on the quality of product: a misshapen carrot can be diced or juiced, a lower-grade one will be used for cattle feed, and only truly defective ones will be rejected.

- **Less energy consumption and emissions** – Some machines such as peelers can reduce energy use through recycling and reusing. For example, Tomra’s Eco steam peeler uses 28% less steam than similar machines, making it the most efficient steam peeler in the industry, simply by reusing hot air. This reduces emissions, increases efficiency and brings down energy bills for the business. Similarly, while it was common for companies to freeze fruit and vegetables before sorting, new technology means they can reject defective product before freezing – optimising the yield and cutting energy costs.
- **Reducing water usage** – Some technology solutions improve the efficiency of the whole processing line. Just as in the examples above, machines can now remove defects from salads and lettuce before washing them. This not only means that washing is more efficient, but also that water stays cleaner longer and needs replacing less frequently. As a result, water consumption and waste water treatment are reduced significantly.

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Odenberg Steam Peeling Module

