Compliance in a global market and facing up to the future

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In today's highly globalised market, many food manufacturers are seeking to operate in multiple international markets, either by exporting overseas, or by opening production facilities in their target countries. To achieve this, manufacturers' food processing practices, and their product inspection systems, must comply with the food safety standards in effect in each of the markets they intend to target.

The European Union (EU) and the associated European Economic Area (EEA) have successfully streamlined this requirement for food manufacturers in the trade bloc, as its food safety regulations are in force across multiple countries.

The British Retail Consortium (BRC) Version 6 Global Standard, for example, is in effect in both the UK and Scandinavia, while the International Featured Standards (IFS) Version 6 is in place in France, Germany and a number of other EU nations. Both guidelines are very similar to each other in terms of aims and requirements, facilitating compliance for exporters.

However, with the rise of emerging markets, such as the BRICs nations of Brazil, Russia, India and China, many European manufacturers are now looking to export further afield.

Increasingly, they are finding themselves faced with a variety of disparate standards to which they must adhere. How can they ensure their production processes comply with those regulations in place in all of their new target markets?

Harmonising global food safety

Recognising the increasing importance of streamlined food safety regulations to facilitate international trade, a number of initiatives have developed in recent years whose goal is to establish common standards understood and agreed upon by countries worldwide.

For example, the Global Food Safety Initiative (GFSI), established in Belgium in 2000, aims to make it easier for food manufacturers to export to multiple markets by harmonising the many disparate food safety standards around the world.

Acting as a platform for collaboration between the world's leading food safety experts, the GFSI works by benchmarking individual food safety schemes in comparison with its own guidance document.

GFSI-approved schemes share common requirements in a range of food safety issues, from food hygiene, to eliminating the risk of foreign body contamination.

This not only drives consumer confidence by ensuring the global food supply is as safe as possible, it also facilitates compliance with standards for food manufacturers by ensuring as many regulations as possible are similar to each other in terms of what they expect and the rigour they apply.

X-ray inspection systems

A common requirement of food safety standards, especially those that are approved by the GFSI, is the integration of advanced product inspection technology, such as x-ray systems, on food production lines. X-ray systems in particular have a number of advantages for food manufacturers seeking to comply with multiple food safety standards.

For example, GFSI-approved food safety regulations, and a number of others that have yet to receive accreditation from the initiative, all require manufacturers to prevent contamination of food products from foreign bodies, such as metal or glass shards, and rubber and plastic.

X-ray inspection machines are capable of identifying all of these materials, with advanced systems, such as Mettler-Toledo Safeline X-ray's X36 Series x-ray systems, able to do so in a wide range of packaged foods, both raw and cooked, and packaging formats. This ensures compliance with regulations regardless of the characteristics of the production line in question, while at the same time allowing manufacturers to produce a range of packaged foods destined for different markets on the same line.

Modern x-ray technology, such as the X36 Series, utilises a detector which is five times more sensitive to x-rays than previous technologies supported by a reduced energy x-ray power generator. This allows outstanding contamination detection performance at reduced operating costs.

As such, this technology minimises the risk of faulty products reaching consumers, avoids costly product recalls, and ensures compliance with even the most rigorous food safety regulations.

To meet food safety standards that require strict hygiene procedures, such as the IFS and BRC Global Standards, it is important for manufacturers to have machinery installed capable of withstanding harsh wash down regimes.

There are x-ray solutions available now with ingress protection IP65 rating as

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X36 x-ray inspection.

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standard, allowing them to be cleaned without worrying about the ingress of water, dust or other chemicals which could damage internal mechanisms. Machines with casings that feature tubular frames for example, further facilitate cleaning by allowing water and dirt to drain off without collecting in any traps.

Navigating the global village

For food manufacturers seeking to expand their operations overseas, navigating the array of food safety standards with which they must comply can, at first sight, seem daunting. However, there are steps being taken by organisations around the world to streamline the regulatory landscape to facilitate and stimulate global trade.

Most importantly though, by selecting advanced and innovative x-ray inspection systems, and other product inspection technologies, food manufacturers can be confident that their production processes comply with even the strictest safety regimes without the need to operate multiple lines simultaneously.

Technologies that are compliant in multiple markets enable products destined for different countries to be manufactured in one production facility, allowing manufacturers to grow beyond their roots and become truly globalised businesses.

The global food market and the issue of food safety are in a constant state of flux. New products and brands enter the market all the time, consumer demands change from season to season, and the regulatory landscape is continuously revised.

So, to stay competitive and maintain their market share, it is vital that food manufacturers are able to respond to industry developments as quickly and easily as possible. But how can manufacturers ensure they stay abreast of changes and meet regulatory requirements in the coming years?

The market of the future

The global food market will look very different in 5-10 years from how it appears today. Emerging economies, such as the BRICs nations, are expected to grow further, creating a burgeoning middle class eager to spend their money on a broader variety of food products.

This will mean not only increased demand for domestic brands, but a greater desire for prestige and luxury food products imported from advanced markets, such as the US and the EU.

The blossoming wealth of the BRICs and other emerging economies will not only allow established multinational brands to further their overseas expansion, but will also bring opportunities for what are currently small, local manufacturers to take their first steps towards entering foreign markets. This will all mean greater competition on the supermarket floor than ever before, as food brands battle each other to draw the attention and the loyalty of consumers.

The food safety forecast

Despite this increasingly globalised environment, it is unlikely that we will have one universal set of food safety regulations in force worldwide.

We may see standards that already have a great degree of international recognition, such as the IFS from Germany, and the BRC Global Standards from the UK, adopted by a number of new markets in the next few years. At the same time, schemes like Belgium's Global Food Safety Initiative, aimed at harmonising and simplifying the regulatory landscape worldwide, will have had considerable success creating uniformity in terms of the aims and requirements of what are, at the moment, disparate guidelines.

Despite these efforts to rationalise the industry, in 5-10 years' time, newly-multinational food manufacturers looking to take advantage of lucrative new markets in what are now emerging economies will find they are subject to a greater number of food safety standards than ever before.

If they want to retain access to all of these markets, it will be necessary for manufacturers to ensure either that they set up operations in each country that meet the requirements of the local authorities, or that their existing production processes are compliant with all of the relevant standards.

Facing the legislative future

An important part of meeting existing food safety requirements is the detection and removal of foreign bodies on production lines.

Product inspection technology, particularly x-ray systems, are capable of identifying physical contaminants, from glass or metal fragments, calcified bones or stones, to high-density rubber or plastic, in raw and ready meal foods.

The detection and removal of these contaminants is vital for compliance with current standards and will no doubt be an integral demand of future guidelines.

In anticipation of legislative changes in the years to come, many x-ray system manufacturers are already developing innovative technologies capable of facing the future. For example, as Mettler-Toledo Safeline X-ray's X36 Series has a detector which is five times more sensitive to x-ray than standard technologies, it enables manufacturers to reach superior levels of product inspection.

Selecting a technology that exceeds current standard expectations not only protects consumers and the brand, it also ensures that manufacturers can be confident their production lines will remain compliant in the event safety guidelines become even more stringent.

Consumer demands

In the future, it will not be enough for food manufacturers to ensure they are able to comply with changes in the regulatory landscape; they will also have to make sure that they are capable of responding to changes in consumer requirements. Increasingly, this means taking a close look at the productivity and flexibility of the production line.

X-ray inspection can help in this regard. Technological developments mean that the new generation of systems, including the X36 Series, features low-energy x-ray generators that eliminate the need for cumbersome air-conditioning mechanisms without compromising on sensitivity, making the overall machine footprint smaller than ever before. This makes the x-ray system more environmentally friendly and reduces the total cost of ownership.

In addition, the new intuitive Human Machine Interfaces (HMIs) are multi-colour touchscreens, which are being used more and more on x-ray machines. They make it easier for production line operatives to quickly set up product changeovers, allowing short runs of multiple products to be processed on one line.

This enables manufacturers to produce limited edition and seasonal products, and to produce products destined for different markets. It enhances flexibility without the need for new or additional production facilities.

What is more, the throughput speed of modern x-ray systems can also be adjusted according to the needs of the line, allowing productivity to be increased or decreased to reflect upsurges or decreases in consumer demand.

Fit for the needs of tomorrow

The food industry is changing all the time, and the market and regulatory landscape in 5-10 years' time is likely to look very different from that we can see today. To remain competitive, food manufacturers must ensure that any investments in technology they make today will be fit to meet the challenges they face tomorrow.

Advanced x-ray systems are a vital piece in the puzzle. The right solution for the needs of each individual production line that also addresses productivity, flexibility and sensitivity concerns will ensure that food manufacturers are ready to face the future head on. Doing this, they will be able to respond to consumer and legislative demands without damaging profits or losing market share. ■