



At the Wipotec headquarters in Kaiserslautern, systems for foreign body detection in foodstuffs are assembled and tested with the help of pre-prepared instant soups, for example.

Food Inspection

Searching for foreign bodies in food products

Whether detecting foreign bodies in yoghurts or measuring the holes in Emmentaler cheese, the use of x-ray technology is rapidly growing at Wipotec GmbH. In this area, the company relies on MXR-100 x-ray tubes from COMET Industrial X-Ray. **For Wipotec managing director Theo Düppre, what counts is the quality of the products, the flexibility offered by COMET and their cooperative partnership.**

As the saying goes, appetite comes with eating. The same could be said of developments for customers of Wipotec GmbH, where demand for foreign body detection in foodstuffs based on x-ray technology is increasing. "As a manufacturer of weighing instruments, we have always found ourselves right at the end of the packag-

ing process. Our systems are the last monitoring mechanisms before the goods are packaged together," comments Wipotec founder and managing director Theo Düppre. For this reason, it has often been asked whether this equipment could do more than simply weighing, such as inspecting goods for small metal particles at



Wipotec managing director Theo Düppre explains the interaction between the linear camera, MXR-100 x-ray tube and image recognition software.

the same time. “As we are always on the lookout for new challenges, we started to market metal detectors,” recalls Düppre. “Soon afterwards, the questions started again. Can you also detect glass? What about stones or shells? Can you help us filter out plastic or rubber parts?” Soon the metal detection technology was no longer sufficient. Wipotec began looking for alternatives, and quickly found the solution in x-ray technology.

Today, some of the world’s leading food corporations such as Nestlé, Unilever and Procter & Gamble use Wipotec technology to test their yoghurts, muesli and ready meals (such as instant soups and vegetable/pasta microwave meals) for foreign bodies, or to check filling levels. Leading Swiss cheese producers also measure the holes in their cheese, which enables them to find the optimum cutting position to the nearest millimeter and thereby reach their intended product weight. “In this way, the producers of Emmentaler cheese were able to increase their yield by around 70 to 98 percent, and all with reduced giveaway,” explains Düppre.

Wipotec relies on a core skill that has made the company unique in the weighing instrument field – namely measurement within a dynamic production process at high speeds. “The handling of the product is of key importance, along with the question of how the product is transported,” says Düppre. The greatest challenges in food inspection at Wipotec include accuracy, the level of contamination (foreign bodies), the need to minimize the rate of rejected goods and hygiene as the machines are also used to handle unpacked foodstuffs such as cheese, meat and fish.

“The chemistry has been right from the very start”

Theo Düppre, Wipotec founder and managing director

One of the core values at Wipotec is to manufacture all parts of the system in-house where possible, which allows for a high net output ratio. This means the Kaiserslautern-based company can offer high levels of flexibility when addressing the



Theo Düppre: “We looked at what the market had to offer and it didn’t take long to see that COMET was the right partner for us.”



Michael Schmid (COMET Sales Manager) with the MXR x-ray tube that meets Wipotec’s needs perfectly.

Wipotec GmbH

Wipotec GmbH is a global innovation leader in the field of intelligent, dynamic weighing technology. The company has made high-precision weighing technology for integration in packing machines viable for industrial use. Under the brand name OCS Checkweighers GmbH, Wipotec develops, produces and markets high-speed precision weighing cells and high-tech weighing systems for dynamic weighing processes in industrial applications. Checkweighers and continuous scales are core products in the ‘Food & Pharmaceuticals’ and ‘Mail & Logistics’ segments. X-ray scanners for detecting foreign bodies complete the product range. Wipotec employs approximately 400 staff, with its headquarters in Kaiserslautern, Germany.

Learn more:
www.wipotec.com and
www.ocs-cw.com

individual needs of customers. As Düppre comments, “This is often the difference between European companies and our competitors in Asia.” When setting up x-ray technology, the decision was made to manufacture as many of the components as possible in-house, including the linear camera and cooling equipment. When it came to the x-ray tubes, however, a solidly reliable partner was needed. “We looked at what the market had to offer and it didn’t take long to see that COMET was the right partner for us,” explains Düppre. “Nothing has changed since, the chemistry was right from the very start. We speak the same language and share the same philosophy. This is reflected in our communications – COMET always calls us back when we have a query, and all questions are answered professionally. You can’t always take that for granted elsewhere.”

With compact MXR-100 x-ray tubes from COMET

Wipotec particularly appreciates the fact that COMET Industrial X-Ray offers customized solutions that are tailored to customer requirements, and that they react quickly if needed. “On the one hand, it is important that we have a supplier manufacturing products of perfect quality and the highest precision for our everyday work. After all, our systems are in operation around the clock on the production lines. On the other hand, we need a partner we

can rely on in any situation, one who pulls in the same direction,” says Theo Düppre. He adds, “In many cases, enhancements are only possible through discussion. COMET takes our input and wishes on board in the best way possible, which we greatly appreciate. This allows us in turn to address the needs of our customers.” For example, Wipotec has subsequently been able to react to increased competition on the market as the company can now rely on specially developed, compact MXR-100 x-ray tubes from COMET. This further development of the MXR-75 x-ray tube, which fits in perfectly with the Wipotec systems, “opens up interesting new perspectives for us” according to Düppre.

Valued UL certification support

Another COMET service valued by Theo Düppre is UL certification support when using the systems in the USA, where Wipotec is the current market leader in Mail & Logistics thanks to its weighing instruments. The company now intends to gain a foothold with x-ray systems for food inspections. “We have to go along with this, as do our suppliers,” explains Düppre. “Although we can prove that our products conform to the standards to a certain extent, our options are limited when it comes to other equipment such as the tubes. Without COMET’s support, we would not be awarded the certificate and would be unable to succeed on the US market.”

A fascination with weighing technology

With its letter scales, kitchen scales and bathroom scales, visitors to Wipotec GmbH in Kaiserslautern can immerse themselves in a fine museum dedicated to weighing technology. Managing director and founder Theo Düppre has spent decades collecting over 1,000 vintage exhibits of all shapes and sizes, lovingly restoring most of them to their former glory by himself. Dotted throughout the company premises, the exhibits have little in common with the fast high-tech weighing systems produced nowadays in the region. "It has become a cherished hobby of mine," admits Düppre.

Where did this fascination for weighing technology and instruments come from? "Well, it's nothing to do with my star sign," says the electrical engineer with a laugh, nipping any speculation in the bud. "It wasn't something I grew up with either." In fact, Düppre's fascination with scales began 35 years ago at university, where he was heavily involved in weighing technology. "Right from the start, I



These vintage scales from a railway station are just one of over a thousand pieces in Theo Düppre's collection.

was fascinated by the movement of the scales. This is a special physical challenge, where many different aspects have to be considered – and it's great fun to boot."

It is 25 years since Theo Düppre founded Wipotec GmbH with Udo Wagner, his former assistant at the university. The company was followed some years later by the subsidiary OCS Checkweighers

GmbH. "We have always produced systems for dynamic weighing, never static scales," he explains. The approach has paid off: "Among other things, we now hold the world record for weighing speeds, with letters being weighed at a speed of four meters per second."

The company is Theo Düppre's life work and also his 'family'. The company is seen as a symbol of

Kaiserslautern's transformation into a high-tech city. Its success is reflected in constant growth. Significant investments are currently being made at company headquarters, where production space is being increased from 17,000 to 25,000 square meters, with an additional 10,000 square meters to follow by the end of 2014. This will create more space for the core business of weighing technology as well as x-ray technology, which is expected to grow further. Aside from core applications in the foodstuffs industry (see the main article), Düppre recognizes the potential for x-ray technology in several other sectors where Wipotec weighing systems are already in use. These include the pharmaceuticals industry (including filling level checks for capsules, syringes and pill jars along with breakage checks on packed tablets and crack detection on vials), mail and logistics (automatic security checks on letters or private post) and the toy industry (non-destructive testing of packaged toys for completeness and damages).