

## Foreign objects in foods – radar technology is helping to track down low-density substances

X-ray methods have become established as first-choice detection methods. However, it is barely possible to detect slivers of glass, wood chips or pieces of plastic using X-rays. The microwave technology implemented by Food Radar Systems is opening up new perspectives for producers of baby food, spreads, soups and sauces. The system is able to detect wood, plastic, seeds and even insects.



The Food Radar is not only able to recognise high-density foreign objects such as metal, glass and stone, for instance, but can also detect low-density foreign objects such as soft plastic, fruit kernels and rubber. (Photo: © Food Radar Systems)

### Suitable for all pumpable products

Each occurrence of foreign objects harms both the manufacturer and the retailer. Low-density materials, in particular, pose a major problem. The reason for this is that plastic, wood or seeds remain invisible to the systems although established inspection procedures such as X-ray technology are constantly being further optimised. Since this can prove very dangerous for consumers, Food Radar Systems has developed a technology that can also detect these contaminants in pumpable foods such as baby food, sauces, soups, fruit preparations and desserts. The sensor system, which operates on the basis of microwave technology, "is not only able to detect wood, plastic and even insects", explains Sven Bodell. "Product defects such as lumps of starch or seasoning can also be effortlessly detected", says the chairman of Food Radar Systems.



The system can not only detect hard pieces of plastic but also fragments of plastic films.  
(Photo: © Food Radar Systems)

### Third generation with flexible architecture

The system consists of three main parts: an operator panel, a sensor unit and a 3-A-conformant non-return valve. All of the components are accommodated in a stainless steel housing and are made of materials that comply with the statutory and hygiene standards. The system is CIP-capable and requires a minimum of maintenance.

The third generation of the technology requires no floor space and is designed to fit wherever the customer needs it. "In view of the enormous advantages for the production process, our customers are constantly surprised by how discreetly and easily the Food Radar can be installed", says Joakim Nilsson, head of development at Food Radar Systems. However, the technology has not only evolved in terms of the physical design of the system. It now also incorporates a range of sensors of different sizes (1.5 inches, 2.0 inches and 2.5 inches), "each of which is suitable for various product types and different production volumes."

The radar can be connected to any PLC system and completely integrated into the production systems on site. The system comes with a user-friendly, digital 18-inch touch screen control system and a new software user interface. This is equipped with improved tools for historic information and analyses, with which the operator can optimise the performance of the food radar.

### System packed full of practical experience

Kraft Heinz was one of the first companies to invest in the food radar. Since then, multiple manufacturers in various countries have installed the detection system from Food Radar Systems. Fratelli Polli, a manufacturer of high-quality Italian food since 1872, describes its experiences with the Food Radar as follows: "It has proved to be a good system and an example

of our ethos of continuous improvement. The system has a very hygienic and flexible design that made it far simpler to commission."

### **Pilot tests for manufacturers at the headquarters in Sweden**

Determining the best solutions and the best support for each user is the key element that drives innovations at Food Radar Systems. Manufacturers that want to test the procedure "are invited to bring along their products that they would like to examine as well as a few foreign objects that normally pose a threat to production, of course", states Sven Bodell. The pilot test takes place over a period of two days at the supplier's headquarters in Göteborg, Sweden.

### **Further information and contact**

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