Detection of hidden objects

**The new RadarImager by Balluff makes the invisible visible**

**Using modern radar technology, Balluff scans packages for completeness and integrity. Customers benefit from greater transparency in quality assurance and control.**

Detecting what is not visible — efficiently, automatically, and without damage: with its RadarImager, the sensor and automation specialist Balluff has developed a new solution for object detection. “Quality assurance and control are decisive factors for companies in achieving the maximum output in their production,“ says Jörg Maier, Strategic Incubation Manager at Balluff. “Our solution takes this to a new level.”  
  
**Making analysis possible using radar**The industrial 3D imaging system is based on radar technology and scans various types of packaging by emitting electromagnetic waves. These are either reflected or absorbed and translated into images using software. The image stacks, a composition of individual image layers, are transferred to the analysis software via a Gigabit Ethernet vision protocol.

Data captured this way is used to detect anomalies and foreign objects, making it possible to check whether packaging is complete and undamaged. In addition, RadarImager can capture surface conditions, check seals, and detect fill levels. "With RadarImager, we support our customers in increasing process reliability and avoiding possible recalls and the resulting costs," says Jörg Maier. "The production process is continuously monitored and the reading is integrated directly into the line. As the RadarImager is positioned above the conveyor belt, this also has a positive effect on the machine length."

**Environment-independent sensor principle**  
RadarImager not only offers an uncomplicated alternative to current costly measures when it comes to scanning products, it also works without harmful radiation and does not affect the material. The advantage of the method lies in the fact that, in the frequency range used, electromagnetic waves can pass through all non-conductive materials such as films, cardboard, and plastics. Metallic objects and particles are still detected. Radar technology is also a robust sensor principle that ensures optimum results even in the presence of dust, smoke, moisture, adverse lighting conditions, and rough surfaces.

**Focusing on various industries**

RadarImager is used in the food and beverage sector as well as the packaging, cosmetics, and pharmaceutical industries, among others. While an enormous variety of packaging types, shapes and applications is characteristic for the food industry, quality assurance plays a crucial role when it comes to medication and supplements, for example.  
  
  
Ein Bild, das Design enthält.

Automatisch generierte Beschreibung***Caption:***  
*With its RadarImager, the sensor and automation specialist Balluff has developed a new solution for object detection. The industrial 3D imaging system is based on radar technology and scans various types of packaging by emitting electromagnetic waves.*

Ein Bild, das Design, Text, Screenshot, Im Haus enthält.

Automatisch generierte Beschreibung ***Caption:***   
*Among others, RadarImager is used in the pharmaceutical industries. Quality assurance plays a crucial role when it comes to medication and supplements.***About the company Balluff**Founded in 1921 in Neuhausen a. d. F., Balluff with its 3900 employees worldwide stands for innovative technology, quality and cross-industry experience in industrial automation. As a leading sensor and automation specialist, the fourth-generation family-owned company offers a comprehensive portfolio of high-quality sensor, identification, network and software solutions. In 2022, the Balluff Group recorded sales of around 567 million euros. In addition to its central headquarters in Neuhausen a. d. F., Balluff has sales, production and development locations around the globe and is represented by 38 subsidiaries and other agencies in 61 countries. This guarantees customers fast worldwide availability of products and a high quality of advice and service directly on site.