



## Towards the **EU FOOD SAFETY FORUM:** shaping together the new collaborative platform

Sustainable food: how to keep it safe?

**15 December 2021**

**ON LINE EVENT**

h. 10:00 - 12:00 CET



Grant Agreement No. 101000613

[www.foodsafety4.eu](http://www.foodsafety4.eu)





# MICROWAVE SENSING FOR FOOD CONTAMINATION MONITORING



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# MICROWAVE SENSING TECHNOLOGY

Physical contamination is still a major issue for food manufacturing companies, with potential severe consequences for consumers' health.

We propose a **novel detection principle** to overcome the intrinsic limitations of existing inspection devices (metal detectors, X-rays), that is the **dielectric contrast** between the potential intrusion and the surrounding medium, at microwave frequencies (2-10 GHz).

Advantages: non-ionizing radiations, low-power emissions, adaptive technology over existing production facilities, real-time processing



The piece of glass found in the chicken and veg pie from Tesco (Image supplied)

Mum's horror as she finds 'shards of glass' in baby food

**Mum's horror as she finds 'shards of glass' in baby food**

'I was just in shock. There are a lot of things that run through your mind as a first-time mum.'

- Prototype validated in a relevant industrial environment even for small dielectric contrast
- Millimetric-sized contamination correctly detected with a machine-learning approach – pattern recognition neural network
- Real-time classification compliant with actual production speed motion
- Patenting process ongoing
- Adaptive architecture tailored to the product to inspect through 3D printing technology for the antennas support





**THANK TO ALL**



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