

Harnessing the power of ozone



A novel technology to prolong the shelf life of food in sealed packaging through the use of ozone.



Project Details

Project partners: Anacail Ltd, Warburtons Ltd, Dawnfresh Seafoods Ltd, Bakkavor Foods Ltd, University of the West of England.

Project investment: KTN investment: £5,000
Innovation UK Investment: £266,729
Total Project Investment: £622,798

The challenge

Total waste in the UK across the food supply chain is 11.3 million tonnes per year. This waste costs the food industry £5 bn p.a. so there is a constant demand for new technologies to increase the shelf life of products and reduce waste.

Anacail, a spin-out from University of Glasgow's astrophysics department, have developed a novel technology which produces ozone in sealed packages. The ozone inside the packaging reduces pathogens and extends the shelf life of the sealed food products. This technology has applications across the food sector from fresh fish to bakery products.

Anacail have used the services offered by the Knowledge Transfer Network

(KTN) to increase their knowledge and network within an unfamiliar sector. This support has led Anacail to be successful in funding and accelerated their business development process.

The results

Although ozone is a well known germicide, its use in industry to date has been restricted as it is difficult to generate. Anacail's proprietary plasma head creates plasma in sealed packaging to convert oxygen into ozone. The Anacail technology was developed in the University of Glasgow's astrophysics department but the food industry were likely to be a major customer for its sterilisation and decontamination

capabilities and therefore a focus for business growth. In 2011 Anacail were awarded an Innovate UK Nutrition for Life feasibility award to develop a prototype that they could use to engage with the food industry.

Following the successful completion of this project, Anacail needed funding to take the prototype to into a real manufacturing environment. Being a spin-out from an astrophysics department meant that Anacail's contacts in the food sector were limited and so they used KTN's food sector network to extend their contacts. Anacail attended one of the KTN-organised consortia building events to publicise Innovate UK's Food Manufacturing and Processing Efficiency competition. These

events give an overview of the competition, give interested parties the opportunity to meet the lead technologists running the competition and to also to meet potential collaborative partners. After pitching their technology to delegates, Anacail identified their first partner for the consortium that Anacail was leading. KTN was also able to introduce Anacail to the other consortium partners and provide guidance throughout the process including a review of their application before submission. The project was successful and was awarded over £246,000 of funding.

Anacail's success with Innovate UK raised their profile generally and with the food industry in particular and led to other commercial opportunities. Using Innovate UK funding and with the assistance of KTN, Anacail have taken their concept out of the laboratory and into the food manufacturing environment.

Next Steps

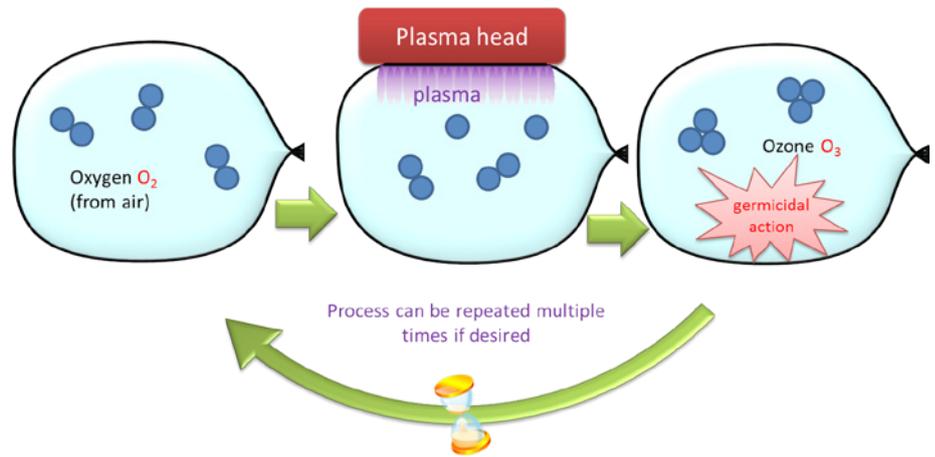
Anacail have continued to use KTN to identify potential partners and to facilitate introductions to key personnel within target companies. Anacail are also working with University of West of England on a KTN SPARK award, a partnership initiated by KTN. They have also been generous in return, presenting at briefing days organised by KTN to help other companies reap the benefit of Innovate UK support.

Contact

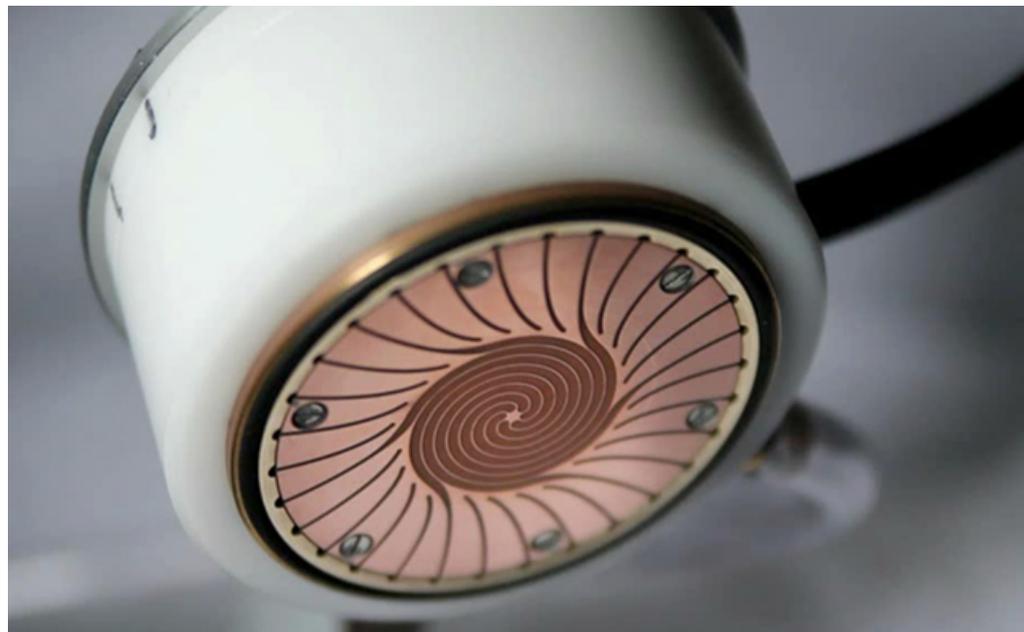
The Knowledge Transfer Network
 E: agrifood@ktn-uk.org
 T: 0131 651 7334

Anacail Limited
 E: ian.muirhead@anacail.com

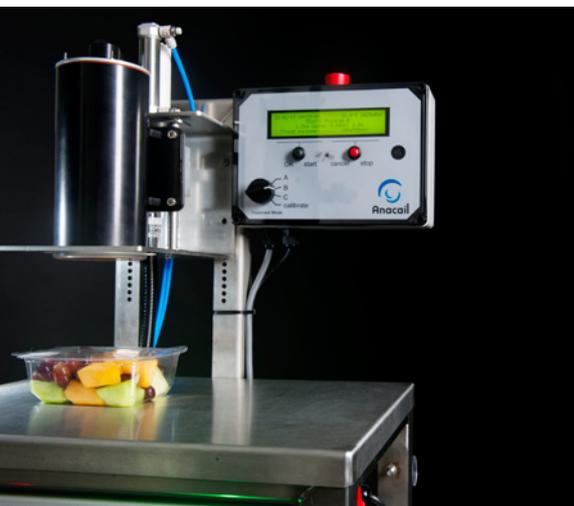
How the technology works



- Created from atmospheric oxygen
- Decomposes back to oxygen
- No residual chemicals



Above: Head of Manufacturing Unit. Left: Full Manufacturing Prototype Unit. Cover: Full Manufacturing Prototype Unit with inset image of plasma generated.



“ KTN have been superb in their services and support to Anacail. Not only have they helped with the grant application process and requests for industry contacts they have also been very proactive in their approach and helped get awareness of Anacail's technology to a much wider audience. I would fully recommend engaging with them, they have been a tremendous support. ”

Ian Muirhead, Chief Executive Officer, Anacail